

**ECONOMICS OF HIGH – RISE APARTMENTS
IN KERALA
*A CASE STUDY OF COCHIN CITY***

by

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FOR THE AWARD OF THE DEGREE OF**

Doctor of Philosophy in Economics

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MAY 2004

DECLARATION

I, C.B. Baby, do hereby declare that this written account titled **“ECONOMICS OF HIGH – RISE APARTMENTS IN KERALA – A CASE STUDY OF COCHIN CITY”**, is a bonafide record of research work done by me under the guidance of Dr.D.Retnaraj, Reader in Economics, University of Calicut.

I also declare that this has not been submitted by me earlier for the award of any degree, diploma, title or recognition.

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**“ECONOMICS OF HIGH – RISE APARTMENTS IN KERALA –
A CASE STUDY OF COCHIN CITY”**, submitted for the award
of the degree of Doctor of Philosophy of the University of
Calicut is a bonafide record of research work done by Smt.
C.B. Baby, under my supervision. No part of this has been
submitted earlier for any other purpose.



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DESIGN THE STUDY

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CHAPTER I

DESIGN OF THE STUDY

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Housing constitutes one of the most universal forms of material culture, being found in all except nomadic societies. Housing also represents an important element in capital formation and the largest single component in the total building efforts of any nation. Housing also has a major part to play in ensuring continuity of community life.

W H O¹ has defined housing as " the physical structure that man uses for shelters and the environs of that structure including all necessary services, facilities, equipments and devices needed or desired for the physical and mental health and social well being of the family and individual".

All over the world, multitudes of people live in housing deprivation. The most extreme housing deprivation is, of course, to have no home, and worldwide, an estimated

¹ The Report of the W H O Expert Committee on Public Health Aspects of Housing (1961), Technical Report Series 225, W H O Geneva, p. 6.

100 million persons are homeless.² Although the second half of the twentieth century was characterised by the greatest technological advances in man's history, there was no country without housing problem.

There has been an enormous increase in the level of urbanisation in the third world in the last four decades. Between 1950 and 1985 the number of people living in urban areas was more than trebled from 300 million to 1.1 billion. It is estimated that this will further increase to 1.9 billion representing two third of world's urban population.³

Urbanisation in India is a complex process that differs in several respects from that of developed countries especially in its economic, cultural and demographic aspects. The proportion of urban population has increased in India from 10.84 per cent in 1901 to 23.31 per cent in 1981, 25.72 per cent in 1991 and 27.78 per cent in 2001.⁴ The

² World Development Report (2000), World Bank, Oxford University Press, New Delhi, pp. 1 - 17.

³ C.L. Chougill. (1995) "Future of planned urban Development in Third world – New Dimensions", in *Housing the Urban Poor: Policy and Practice in Developing Countries*; Edited by Brain.C. Aldrich and Ravindar.S. Sandhu Zed books, London: pp.403-14

⁴ Census of India 2001, Provisional Population Totals, Kerala, Series – 33, Paper – 2, Director of Census Operations, Kerala, p. 108.

metropolitan cities account for 8.4 per cent of total population and 33 per cent of the urban population in the country. Nearly one fourth of the country's population lives in urban areas, which resulted in inadequate housing in cities. In spite of the quantitative growth and qualitative improvements in the housing stock, inadequate housing has become a serious developmental issue. The first phase of urbanisation was mainly confined to the northern parts of India. However, the two South Indian States, Kerala and Tamil Nadu witnessed a distinct and independent process of urbanisation.

In Kerala, the degree of urbanisation was low in the pre-independence period. The degree of urbanisation was only 7.11 per cent in 1901 and it has enhanced to 13.48 per cent in 1951. However the pace of urbanisation increased in the post independence period. In 1981, the level of urbanisation in the state was below the all India average. Kerala's urban population was 7.7 million in 1991, which accounted for 26.39 per cent of the total population of 290-98 lakhs in the state. This was above the all India

average of 25.73 per cent.⁵ In 2001, the population of the state increased to 318.39 lakhs.⁶

Urbanisation in Kerala especially from 1980's onwards has created some spatial imbalances. Urban centres especially class I cities are congested and this give rise to many problems including those of housing, sanitation, water supply and pollution.

Kerala, being a state with high literacy rate and comparatively better socio-economic conditions, availability and general conditions of the residential buildings in the state are considered to be better than in other parts of the country. But it does not mean that the state is free from housing problem. Housing problem exists both in urban and rural areas.

In 1991, there were 55.13 lakh households and 54.59 lakh houses in Kerala. The numerical shortage of

⁵ Census of India, 1991, Final Population Totals, Kerala, Series 12, Paper – 3, Director of Census Operations, Kerala, p. 8.

⁶ Census of India 2001, Provisional Population Totals, Kerala, Series – 33, Paper – 2, Director of Census Operations, Kerala, p. 108.

houses was estimated at 0.54 lakhs.⁷ According to the estimates⁸ nearly 20 per cent houses in Kerala were semi-permanent thatched houses and out of it 5.5 lakh houses were estimated as sub-standard and unhygienic requiring immediate replacement. Similarly, nearly 5 per cent of the existing houses required demolition and reconstruction. Thus the estimated demand⁹ for houses in Kerala in 1991 was 8.74 lakhs.

There were 44.23 lakh households and 42.97 lakh occupied residential houses in the state during 1981.¹⁰ Based on the norm of one house for each household there were 1,26,000 households having no separate houses of their own in Kerala during 1981. Sub standard and dilapidated houses required replacement was 6 lakhs. Thus the total shortage of houses in 1981 was 7.26 lakhs.

⁷ Report of Task Force on Housing 1997 – 2002, Kerala State Planning Board, Government of Kerala, Thiruvananthapuram, p. 2.

⁸ Ibid

⁹ Ibid

¹⁰ Census of India 1981, Final Population Totals, Kerala, Series 10, Part VII, Director of Census Operations, Kerala, p. 5.

During 1981, the population of the state was 254 lakhs, 290 lakhs in 1991 and 318 lakhs in 2001.¹¹ Percentage increase in population during 1991 was 14.2 and 9.7 in 2001. But the occupied residential houses increased to 24.79 per cent and census houses to 28.94 per cent in 1981. Again in 1991 this increase was 27.06 per cent and 37.25 per cent respectively¹². This shows the mismatch between the actual requirement and availability of houses in the state. Huge addition to existing population resulted in increased demand for shelter. In Kerala, the average size of households in 1991 was 5.3 numbers and assuming the same family size, the additional houses required is 14.02 lakhs (projected) and in 2005-06 the estimated demand is 17.66 lakh houses¹³(projected).

1.1 Significance of the Study

Due to high concentration of population in Class I cities, the accommodation problem is so severe. In urban centres apart from numerical shortage of houses,

¹¹ Census of India 1981, 1991, 2001.

¹² Ibid

¹³ Report of Task force on housing 1997 – 2002, Kerala State Planning Board, Government of Kerala, Thiruvananthapuram, p. 3.

innumerable slums exist with insanitary huts of flimsy construction, poorly ventilated and over crowded often lacking essential amenities. The increase in population, shortage of essential building materials and above all inadequate residential land has aggravated the problem in the State. Land in urban areas, especially in cities, is very scarce as its supply is fixed. High population pressure on urban land is the main reason for such a phenomenon of land scarcity. Estimates¹⁴ show that the population in urban centres during 1981 was 18.7 per cent of total population of the State, which in turn increased to 26.39 per cent in 1991 and 25.97 per cent in 2001. High pressure of population and high density in urban centres push up the demand for land, which result in high land prices. Land in the peripheries is cheaper compared to the urban centres, which instigate people to purchase land there and settle down. This enhanced demand in the peripheries pushes up land prices of peripheries also. The percentage increase of land prices in peripheries is higher than the percentage increase in urban centres, which in turn induce people to demand High – Rise Apartments in urban centres.

¹⁴ Census of India 1981, 1991, 2001.

During the past few decades almost all metropolitan cities of India have continued to grow rapidly and are facing formidable problems of lack of basic urban amenities like housing, water supply etc., caused by increase in population. Kerala witnessed rapid urbanisation in the 1990's compared to previous decades¹⁵. It is projected in one of the studies¹⁶ that in 2001, of the 15 highly urbanised states in India, Kerala emerges as the most urbanised state. The rapid pressure of population in urban centres, the scarcity of land and high land values resulted in the shortages of accommodation, which paved the way for the demand of High – Rise Apartments. It is presumed that in anticipation of better facilities, convenience, locational advantages etc., the well-to-do prefer High – Rise Apartments and the majority of them are Non Resident Indians and business magnets. It is also understood that the fascination towards readily built houses is on the increase by the employees to avoid the risk of construction and waste of time. Under these circumstances the need for

¹⁵ Censuses of India 1991, Final Population Totals, Kerala, Series 12, Paper – 3, Director of Census Operations, Kerala, p. 8.

¹⁶ Vinod K. Tewari (1997), "Urbanisation in India: Patterns and Perspectives", Urban India, Vol. 17, No. 1 & 2, p. 24.

High – Rise Apartment is very relevant which we would like to investigate in detail.

In respect of the percentage of urban population to the total population of Kerala State, Ernakulam district ranks first (17.86). This is because the district is situated almost at the middle of Kerala State and has the credit of being the economic nerve centre of the State. It is the most industrially advanced and flourishing district of Kerala compared to other districts. The availability of all types of transport facilities viz road, canal, sea and air is a major factor which is unique in this district to facilitate the phenomenal growth in the field of industry. The development of large-scale industries has paved the way for the establishment of several ancillary units in the small-scale sector. There are adequate facilities for education from the primary to post graduate level and for professional and technical education both in government and private sector. The district has so many places of tourist interest also.

Due to all the aforesaid factors urban population increased tremendously which in turn led to acute housing problem in Cochin City. The non- availability of land to

match with the increased demand for house construction resulted in the development of a large number of High – Rise Apartments in the city.

1.2 Objectives of the study

The objectives of the present study are the following

1. To examine the socio-economic status of inhabitants of High – Rise Apartments.
2. To examine the economics of High – Rise Apartments.
3. To examine the factors that determine the demand for High – Rise Apartments in Kerala.
4. To identify the problems faced by the inhabitants of High – Rise Apartments.

1.3 Hypothesis

1. Socio-economic conditions significantly influence the demand for High – Rise Apartments.
2. The purchase of High – Rise Apartment is economical in the long run.

3. The major determinants of the demand for High – Rise Apartments are savings, income, assets, family size etc.

1.4 Methodology

a) Concepts and definitions¹⁷

It is necessary to discuss briefly the concepts and definitions of the terms used in the study.

1. House:- Every structure, tent, shelter etc., is a house irrespective of its use. It may be used for residential or non-residential purposes or both or even may be vacant.
2. Household:- A group of persons normally living together and taking food from a common kitchen will constitute a household. The members of a household may or may not be related by blood to one another.

¹⁷ Sarvekshana (1988) National Sample Survey Organisation, Vol. 12, No.1, Issue No.36, July.

Sarvekshana (1997) National Sample Survey Organisation, Vol. 20, No.4, Issue No.71, April – June.

Sarvekshana (1999) National Sample Survey Organisation, Vol. 22, No.3, Issue No. 78, January – March.

3. Household size:- The number of normally resident members of a household is its size. It will include temporary stay-ways but excludes temporary visitors and guests.
4. Slum:- A slum is a compact area with a collection of poorly built tenements mostly of temporary nature, crowded together usually with inadequate sanitary and drinking water facilities in unhygienic conditions.
5. Squatter settlement:- An unauthorised settlement with unauthorised structures put up by squatters and not categorised as slum area is treated as squatter settlement.
6. Pucca Structure:- A pucca structure is one which has walls and roofs made of pucca materials such as cement, concrete, oven burnt bricks, stone, stone blocks, jack board, iron and other metal sheets, timber, tiles, slate, corrugated iron, zinc or other metal sheets, asbestos, cement sheets etc.
7. Katcha Structure:- A structure which has walls and roof made non-pucca materials is regarded as a katcha structure. Non-pucca materials include

unburnt bricks, bamboo, mud, grass, leaves, and other thatch.

8. Semi-pucca structure:- A structure which cannot be classified as a pucca a katcha structure as per definition, is a semi-pucca structure. Such a structure will have either the walls or the roof, but not both, made of pucca materials. Walls/roof made partially of pucca materials are regarded as katcha walls/roof.
9. Independent House:- An independent house is one which has a separate structure and entrance which self-contained arrangements.
10. Flat:- A flat is a self-contained housing arrangement many of which may be found to be located in one building. It consists of one or more rooms with normal housing facilities with water supply, bath and toilet for exclusive use of single household.
11. A Chaul/bustee may be described as a building with a number of tenements mostly single-roomed having common corridor and common bathing and toilet facilities.

12. High – Rise Apartments:- High – Rise Apartments are defined as buildings having one plus four floors and above¹⁸.

b) Data and Sample

The study is based on both primary and secondary data. Secondary data were collected from Reports of Town Planning Department, Economic Review of State Planning Board, Statistics for Planning, Census of India Reports of Various years, Report of Task Force on Housing, National sample survey organisation etc., to understand the magnitude of the problem in Kerala. In order to study the various aspects of High – Rise Apartments and other relevant information, a field survey was also undertaken. Information was collected with the help of a survey schedule. A sample of 650 flats was selected for the study from 3228 units. They were divided into four types on the basis of the number of bedroom (like, single bed room, 2 bed rooms, 3 bed rooms and above three bed room.) Samples were selected for each type using random sampling.

¹⁸ National Building Code (1983), Indian Standards Institute

Table: 1.1 Distribution of sampling units according to size of Apartments.

Size of flats in terms of Nu. of bed rooms	Total	Sample
1	696	140
2	1348	270
3	1036	210
Above 3 bed room	148	30
Total	3228	650

The survey was conducted to know the socio-economic characteristics of inhabitants of High – Rise Apartments, to identify the problems faced by the inhabitants of High – Rise Apartments and to know the factors which prompted people to prefer High – Rise Apartments.

c) Tools

Initially bi-variate tables were prepared because bi-variate tables always help to establish associations quickly. Further, in order to analyse the stated objectives arithmetical and statistical tools were used. Arithmetic tools include

percentages and growth rates. In order to test the hypothesis relating to socio-economic characteristics, χ^2 test was used. The determinants of demand for High – Rise Apartments were identified with the support of confluence analysis and ANOVA (RBD type). Graphs and Pie Charts were also used to illustrate and illuminate certain observations.

1.5 Review of Literature

Any seriously attempted research should be based on a detailed literature survey. Very technically the problem or the significance of the study can be finalised only after a careful review of available literature. But in our present study on High – Rise Apartments, very specific studies relating to High – Rise Apartments, were not available and hence it was thought that it is inappropriate to start the preliminary discussions with a detailed review of literature. Hence the same is placed below.

In this section we are discussing the review of the existing studies on High - Rise Apartments. Barring a few studies, which focus on the general housing problems, no study has been conducted about the High - Rise Apartments

in Kerala. So we are presenting existing studies on housing and related problems.

a) *General Studies on Housing*

Sivaramakrishnan (1966)¹⁹ opines that investment in housing has not been recognised in India as a determinant of economic growth. Consequently, public expenditure on house construction has been very meagre and the emphasis has been on house subsidy rather than on house construction. Also rigid attachment to standards of housing has meant that little has been done to provide basic amenities to as vast a population as possible, in the absence of the standard house which is in any case financially beyond their reach. Such neglect of an important problem of urbanisation can only prejudice prospects for orderly social change.

Jewel Bellush and Murray Hausknecht (1967)²⁰ examine the problem of housing in depth in their book "Urban Renewal: People, Politics and Planning." They

¹⁹ K.C. Sivaramakrishnan (1966), "Urban Housing: Challenge and Response", *Economic and Political Weekly*, Vol. 4, No.36, September, p.1443.

²⁰ Jewel Bellush and Murray Hausknecht (1967), "Urban Renewal: People Politics and Planning", Doubleday and Co. Inc. New York.

evaluate the concepts in its historical perspective and discuss about its goals and expectations. Execution problems in the context of U.S.A. cities have been viewed in terms of relocation and rehabilitation of the displaced people due to the urban renewal projects.

As per World Bank Report (1975)²¹ well-planned housing "can increase national productivity, economize on urban space and minimize the cost of urban infrastructure. Improved location of dwellings in relation to jobs leads to reductions in traffic congestion and increased household take home pay by reducing commuting expenses".

William Lim (1975)²² expresses concern over the large disparity in income distribution and the provision of urban facilities between the privileged elites and the majority of the urban population. He discusses the problem with special reference to ASEAN countries and Singapore.

²¹ World Bank (1975), Housing Sector Policy Paper, Washington: World Bank p. 3.

²² William Lim (1975), "Tall Buildings for Urban Centres in Third World Countries", *Ekistics*, Vol. 40, No. 238, pp. 196 – 198.

Bakshi D. Sinha (1976)²³ evaluates investment need of the house building industry as well as the material requirements. The growth of housing increases the employment potential in rural and urban areas. The capital formation and increase in national income that would follow if a planned number of houses were constructed every year reinforces the urgent need for a National Housing Policy.

Mahesh Chand (1976)²⁴ attempts an assessment of the housing condition in India on the basis of several statistical indicators such as per cent of population living in dwellings, per cent of occupied dwellings with three or more persons per room, per cent households occupying dwellings with the facility of piped water, per cent of households occupying dwellings with toilets, average number of persons per room, area of living space per person, households living in bad, dilapidated houses, per cent of katcha/pucca houses etc.

²³ Bakshi D. Sinha (1976), "Housing Growth in India", Arnold Heinemann Publishers (India) Pvt. Ltd., New Delhi.

²⁴ Mahesh Chand (1976), "On Housing Conditions in India", Margin, Vol. 8, No. 4, July, pp. 145 – 154.

Jane Darke and Roy Darke (1979)²⁵ investigate all aspects of the housing crisis. They consider the advantages and disadvantages of the major forms of housing tenure. They look at the building industry and criticise the planners and architects and housing agencies for their limited understanding of the real roots of the housing crisis. They opine that while decent housing for all will not be achieved while the capitalist system exists, there is considerable potential for those in housing need to improve their situation through collective action.

Kirby (1979)²⁶ reviews the historical and socio – economic aspects of sub – standard housing. He examines the nature and role of slum, the process of obsolescence, the establishment of minimum fitness standards, the filtering concept and new building, slum clearance and residential rehabilitation. The study shows how residential renewal has been tackled in Britain and includes an assessment of the changing size and nature of the slum problem.

²⁵ Jane Darke and Roy Darke (1979), "Who Needs Housing?", The Macmillan Press Ltd., London.

²⁶ David A. Kirby, (1979), "Slum Housing and Residential: The Case in Urban Britain", Longman Group Ltd., London.

Mohammad Mohain (1983)²⁷ examines that housing is one of the pressing needs of the country's population. The housing problem is becoming grave mainly because house construction has not kept pace with growing demand.

According to Francis Cherunilam (1986)²⁸ the planned housing can "increase national product ability, economise on urban space and minimise the cost of urban infrastructure". It also makes significant contribution to national income. He also feels that the rate of housing stock has been lagging behind the rate of growth of households that resulting in increased housing shortage.

Dinesh Chand (1986)²⁹ feels that over half of the diseases of the metropolitan areas could be eliminated through proper understanding of the factors affecting health of the community and sound environmental planning of housing. In his article on housing he highlights housing

²⁷ Mohammad Mohain (1983), "L I C and Urban Housing", Published by Aligarh Muslim University, Aligarh.

²⁸ Francis Cherunilam (1986), "This Growing Shortage of Housing", Yojana, Vol. 30, No.18, October 1 – 15, p. 15.

²⁹ Dinesh Chand (1986), "Planning for a Sound Housing", Yojana, Vol. 30, No.18, October 1 – 15, p. 11.

envirionics, planning in accordance with the minimum standards and role of various groups of interest, education media and public health engineers.

Sivaraju (1986)³⁰ says that in Indian cities, the housing crisis has acquired an explosive character. Before housing condition declines even further, all the planners, administrators and policy makers concerned with the housing schemes have to evolve different alternative approaches to solve the housing problem, which may be more realistic and affordable for majority of the urban population.

According to Vashist and Vashist (1987)³¹ the ambitious scheme of providing houses to all by 2000 A.D., demands a concerted effort from all housing sectors – governmental, private, co-operatives etc. Housing is as important as education and health. The government should have the same approach to all these sectors so that no basic requirement is overlooked.

³⁰ S. Sivaraju and Udaya Bhaskara Reddy (1986), "Urbanisation and Urban Problems in India", *Nagarlok*, Vol. 18, No. 3, July – September, p. 28 –34.

³¹ P.D. Vashist, and G.K. Vashist (1987), "Accord High Priority to Housing Now", *Yojana*, Vol. 31, No. 21, November 16 – 30, pp. 9 – 10.

informal manufacturing, trading and service activities. The author in the article is trying to find out how do the large cities in India absorb these poor, unskilled, migrant labourers and how do the cities provide housing, shelter or place to squat to the poor migrant population.

Ashok Ranjan Basu (1988)³⁵ examines the urban squatter problems in the third world countries, approaches being followed by the different countries of the world and approaches being followed in India. The experiences of other third world countries have been drawn to indicate the various problems and their solutions and also other important issues, which should be considered while formulating resettlement policies for the squatters.

Vijay Jaganathan and Animesh Halder (1988)³⁶ point out that among the urban poor the concept of shelter has several dimensions. For some it is a vital factor of production in their economic pursuits, while for some others it is merely a barricade for privacy in a high-congested urban

³⁵ Ashok Ranjan Basu (1988), "Urban Squatter Housing in Third World", Mithal Publications, New Delhi.

³⁶ Vijay Jaganathan and Animesh Halder (1998), "Income Housing Linkages – A Case Study of Pavement Dwellers in Calcutta", Economic and Political Weekly, Vol. 23, No. 23, June 4, p. 1175.

environment. There is also another category of urban poor who live and earn their living with no problem of shelter whatsoever. They analyse the factors influencing the decisions of such truly shelterless persons living on pavements of Calcutta city.

Maurya (1989)³⁷ explains about the various aspects of housing condition in India or its particular regions. It throws light both on rural and urban housing problems in the country. The origin, evolution, pattern, typology of rural settlements on regional basis, housing problems, policy and schemes, demographic structures of urban India etc. are thoroughly examined.

George (1989)³⁸ analyses the housing problem confronting India and presents the strategies to be adopted for promoting sustained development of housing through implementation of National Housing Policy.

³⁷ S.D. Maurya (1989), "Population and Housing Problems in India", Vol. 2, Chungh Publications, Allahabad.

³⁸ K.M. George (1989), "Rural Housing – Problems and Strategies", Yojana, Vol. 32, No. 3, February 15 – 28, p. 19.

Solanki (1989)³⁹ has reviewed the problem of housing in the country. He has come forward with some concrete suggestions, which in his opinion would go a long way in constructing a large number of houses, which are required by emerging homeless millions.

Bhageerathan (1989)⁴⁰ discusses about the housing problem in both rural and urban areas. This acute problem in urban areas and the scarcity of land led to an increase in the construction of multi – storied buildings. Due to the gigantic magnitude of the problem and the limited availability of resources, cost reduction techniques in building construction should be introduced, he opined.

Udaya Bhaskara Reddy (1989)⁴¹ examines the urban shelter crisis in India in terms of growing shortages, deteriorating quality of housing stock, over crowding and congestion, affordability and proliferation of slums and squatter settlements. He says that the shelter situation is so

³⁹ Madhava Singh Solanki (1989), "Houses to be Built for Millions", *Yojana*, Vol. 33, No. 14 & 15, August 15, pp. 12 – 16.

⁴⁰ N.Bhageerathan (1989), "Housing Problem – A Harsh Reality", *The Hindu*, December 22, Ernakulam edition.

⁴¹ Udaya Bhaskara Reddy (1989), "The Urban Shelter Crisis In India", In *Population and Housing Problems in India*, Edited by S.D.Maurya, Vol. 2, Chung Publications, Allahabad.

severe due to the pressure of tremendous increase in population of cities, shortage of developable land, inadequate access to finance, slow pace of construction, various legal and administrative impediments, rise in cost of construction materials and above all the low affordability of people for housing. He suggested some remedies for improving the housing situation in India.

Cedric Pugh (1990)⁴² examines about the possibility of developing accessible, practical and habitable low income housing in India based on the implementation of three sample constructs – affordability, cost recovery and replicability. He criticised the India government's housing policy, the economic reforms and also the failure of land policy in Delhi.

Atulkumar Shrivastava (1990)⁴³ through his paper "Housing Scenario in 2001" presented a pathetic picture. He reminds that it is high time now to adopt suitable policies and enhance allocation to this sector. He calls the attention

⁴² Cedric Pugh (1990), "Housing and Urbanisation", Sage Publication, New Delhi.

⁴³ Atulkumar Shrivastava (1990), Training Co-ordinator, Human Settlement Management Institute (HUDCO), New Delhi.

of private sector to take initiative where the government experiences financial constraints.

Sarala Gopalan (1990)⁴⁴ explains the magnitude of house construction including housing problem in India. She high – lighted the experiences of massive housing programmes and the messages from these programmes.

Meera and Dinesh (1991)⁴⁵ examine the extent of financial deepening and the role of institutional housing finance in urban India. The distribution of funds across various income groups demonstrates that the middle and upper income families are the main beneficiaries of such housing finance efforts. They suggest a range of policies and programmes that can both increase investments in housing as well as serve the needs of the urban poor.

⁴⁴ Sarala Gopalan (1990), "Rural Housing – Problems and Prospects", *People and Development*, October, pp. 26 – 30.

⁴⁵ Meera Mehta and Dinesh Mehta (1991), "Housing Finance System and Urban Poor", *Economic and Political Weekly*, Vol. 26, No. 17, April, pp. 1107 – 1113.

Ramachandran (1991)⁴⁶ argues that the human settlement problems are due to the consequences of uncontrolled population growth, unprecedented rural – urban migration, undirected rural – urban migration and unthinking neglect of the environment. For reducing the problems of housing there is much excellent work being done in the field of low – cost housing technology and innovative housing finance.

Chittalal Chakraborty (1991)⁴⁷ article points out some important and relevant aspects of rural housing in Howrah District. His study also points out some suggestions for improving the housing conditions.

Miglani's (1992)⁴⁸ study about various aspects of housing examines structure of rent, role of rent regulations, housing investment, investment of surplus funds, utilisation of external finance for housing etc., relating to urban house holds of a class I city and considers the structure of housing

⁴⁶ Arcot Ramachandran (1991), "Human Settlements: Problems and Prospects", *People and Development*, September, p. 31.

⁴⁷ Chittalal Chakraborty (1991), "A Few Observations in Rural Housing in the Howrah District", *People and Development*, January, p. 21.

⁴⁸ O.P. Miglani (1992), "Urban Housing in Developing Economy", Deep and Deep Publication, New Delhi.

both in urban and rural areas. Besides housing shortage, investment requirements, elasticity of demand, income generation and capital formation in housing are some of the main areas of interest, which are to be systematically studied.

Singh and Singh (1992)⁴⁹ in their article "Housing Scenario in India" say that the necessity of housing is continuously increasing both quantitatively and qualitatively. They also explain the reasons behind the housing problem.

Umashankar and Girish K.Misra (1993)⁵⁰ emphasised the role of government, private sector and non-governmental organisations in tackling the acute housing problem in the country. These include comprehensive National Housing Policy, Inter – linking shelter, provision of infrastructure, building materials and finance for housing, amendments to regulation and bye – laws which inhibit the development of housing sector, training of professionals for dissemination of technical know – how etc.

⁴⁹ S.P. Singh and S.V. Singh (1992), "Housing Scenario in India: A Review", *Indian Journal of Regional Science*, Vol. 24, No. 2, p. 73.

⁵⁰ P.K. Umashankar and Girish K. Misra (1993), "Public and Private Responsibilities in Urban Housing", Reliance Publishing House, New Delhi.

Mahadeva (1994)⁵¹ argues that it is necessary to raise the real investment in housing to the extent of 20 per cent of the total investment of the economy. The investment in housing has to be increased by over 35 per cent each year in order to realise the goal of elimination of shelterlessness by 2000. Since housing is a state subject, a high level committee should be constituted at each state to estimate probable number of housing units. It is necessary to strengthen the housing finance institutions at the state level by encouraging them to mobilise household savings for housing. Government should take drastic steps as far as land acquisition and its just distribution among all needy persons.

Rao (1995)⁵² brings to light the peculiar situation of deprivation of those who have no access to shelter at all, the homeless unfortunate and argues that there is an urgent need to take stock of this growing phenomenon and incorporate basic needs provisions for them in future programme design. But he had not mentioned a suitable

⁵¹ M. Mahadeva (1994), "Housing Policies in India – An Over View", *Nagarlok*, Vol. 26, No. 2, April – June, p. 53.

⁵² P.S.N. Rao (1995), "Urban Basic Services – Need for Emphasis on Houseless Poor", *Nagarlok*, Vol. 28, No. 4, October – December, p. 24.

clear-cut policy to be followed by the government to provide houses for all.

Mahadeva (1997)⁵³ critically reviews the policy changes that have taken place in the housing sector during the period of economic liberalisation. An attempt has been made by him to highlight the unattended issues such as lack of integration of low income and disadvantaged sections in to over all housing development with a sound housing finance system, stressing for a change in resource mobilisation strategy. He points out the different responsibilities, to be undertaken by the central as well as the state governments and indicates the policy options in the years to come.

Girish and Rakesh (1997)⁵⁴ highlight one of the significant aspects for achieving housing at affordable cost. This pertains to development and adoption of self built housing technology. The high rate of inflation in the economy experienced by the developing countries has

⁵³ M. Mahadeva (1997), "Housing Development in India – Challenges Ahead", *Urban India*, Vol. 17, No. 1 & 2, pp. 117 – 134.

⁵⁴ Girish K. Misra and Rakesh Gupta, (1997), "Urban Housing Affordability", *Nagarlok*, Vol. 29, No. 2, April – June, p. 43.

resulted in unprecedented increase in the cost of housing due to steep rise in the price of land, building materials and labour. Also, speculation in urban land values and real estate properties has entered the market and black money transaction in housing is rampant. The stringent but outmoded building regulations and large byelaws of the local authorities are a great difficulty in the adoption of cost effective new construction technique, materials and design concepts. This has caused a severe constraint on the scarce resources that are available for house construction.

Suresh (1998)⁵⁵ is of the opinion that rapid urbanisation and the resultant rural push urban pull effect brings enormous influx of population into urban areas considering employment/economic development potential available in the cities. Predominantly they belong to the informal sector. Considering the meagre income and other difficulty in competing with the urban market for housing, the shelter for them is only through temporary construction materials. They are quite often looked upon as eyesores in the urban scene, and create a lot of socio-economic and

⁵⁵ V.Suresh (1998), "Strategies and Solutions for Squatter Settlements", Shelter, Vol. 1, No. 3, July – September, p. 2.

related problems in the urban life. They also suggest various alternative solutions to take care of the shelter needs of the slum settlements and each of the solution has to be applied depending upon the prevailing situations and no single solution can be prescribed for all situations.

Massive growth in urban population especially in the metropolitan and large cities raises many questions concerning unemployment, possibility of creating more viable employment, increased demand, increased production and hence increased environmental pollution. One of the striking features of urbanisation process is the ever-growing concentration of urban population in large cities, says Anupama Srivastava (1999)⁵⁶ this growing concentration lead to the formation of slums and squatter settlements there.

Umasankar (2000)⁵⁷ opines that in the last four decades a large number of policies have been initiated in various countries as a means of improving housing and urban services. Of these two strategies have emerged as the

⁵⁶ Anupama Srivastava (1999), "Growing Urban Informal Sector – Uncontrolled Urban Settlement and Government Policy", *Nagarlok*, Vol. 31, No. 2, April – June, p. 41.

⁵⁷ P.Umasankar (2000), "Housing Urban Poor: Problems and Prospects", *Nagarlok*, Vol. 32, No. 1, January – March, p. 1.

most widely accepted-sites and services and settlement upgrading. Here the author examines the success of these two approaches in meeting the needs of the urban poor. It deals with a brief description of these approaches. Here no mention is made regarding the increase in the number of houses with in a limited period of time by using low cost materials.

Gurumukhi (2000)⁵⁸ feels that the phenomenon of rapid urbanisation coupled with industrialisation has brought with it more rapid increase in the growth of urban slums. The condition of slums is very pathetic. Slum upgradation programme which allows a more permanent solution consistent with the principles of affordability, cost recovery, replicability are now been thought by some large cities. Many cities thus should plan to undertake slum upgradation programmes on a large scale for which it may require financing through national and international agencies.

⁵⁸ K.T.Gurumukhi (2000), "Slum Related Policies and Programmes", Shelter, Vol. 3, No. 2, April, p. 57.

Bhoopathi (2001)⁵⁹ explains the results of a research study conducted in Tiruchirappilly urban area in Tamil Nadu at household level. They confront with certain problems starting from location, size and source of finance. The prevalence of adequate infrastructure facilities in the central part of the city influenced the rent and house value significantly. There is dearth for such infrastructure facilities in peripheral areas. Salaried class availed institutional loans more than the non-salaried class, while the non-salaried class depended highly on non-institutional loans. Factors such as proximity to work place, low land values, religious aspects, neighbour friends and relatives were observed to be the factors attributing location of houses. The mean age of the salaried class who constructed own house was found to be 39.4 while it was 45.9 for the non-salaried class.

Mahadeva (2001)⁶⁰ attempts to review the overall policy environment for commercial banks to earmark and provide direct housing finance to individual households,

⁵⁹ S.Bhoopathi and M.Ravichandran (2001), "Urban Housing: A Crucial Social Sector Problem", *Nagarlok*, Vol. 33, No. 1, January – March, pp. 46 – 56.

⁶⁰ M.Mahadeva and Tharabai (2001), "Housing Finance: Can Commercial Banks Meet People's Housing Finance Needs?", *Margin*, Vol. 34, No. 1, October – December, pp. 57 – 67.

indirect term – loans to public housing agencies etc. It also throws light on the sub – targets fixed to spread the benefit of housing allocations to the needy and the neglected sections of the society. There has been a manifold increase in the credit earmarking and lending for housing by commercial banks during the 1970's and 1980's. However, the allocations fell drastically during the 1990's, which is against the overall increase in the total bank credit. Although there has been a corresponding increase in the loan approvals for housing activities, owing to mandatory fulfilment of sub – targets, a large part of housing allocations has gone in the form of indirect loans and investment in bonds and debentures till the mid 1991's. As a result of the direct investment, only around one – fourth part of the allocations has been invested as direct housing loans to individuals. Rural areas have continued to suffer with out adequate investment in housing activities, while urban and semi – urban areas have continued to garner the housing allocations of commercial banks on a large scale. The author suggests to hike the allocations to ensure decent shelter for all and to evolve a need – based resource distribution system. The loan – cost gap needs to be minimised and funds should be lent at lower rates of interest

to stimulate housing activities among low and middle-income groups.

Devendra Mohan (2002)⁶¹ in his article 'Real Potential' points out that in India today some 70 million out of its urban population of 285 million still live in slums. India needs 41 million dwellings at an investment of Rs.2 lakh crores. There is demand for 15 million homes in urban centres alone. Another Rs.250000 crores is needed to provide infrastructure. If the money is available, it could become a strong driving force for the Indian economy.

Basak (2003)⁶² discusses about the urban housing development strategies of the northeastern region of India. This region is one of the least developed regions of the country with low urbanisation level of 13.89 per cent in 1991 and 15.51 per cent in 2001. Since 1951 to 1991, urban centres increased six fold, while urban population increased nearly ten times. Increasing urban population over the years led to the development of many inter related problems in

⁶¹ Devendra Mohan (2002), "Real Potential", Business India, August 19 – September 1, pp. 42 – 48.

⁶² Moni Basak Chand (2003), "Urban Housing Development Strategies of the North Eastern Region of India", Indian Journal of Regional Science, Vol. 35, No. 1, pp. 48 – 52.

urban areas including housing. Out of the total households, 13 per cent to 38 per cent were living in Katcha houses as against all India average of 9.4 per cent. Deficit of housing stock and replacement of dilapidated structure is another major problem affecting almost all urban centres in the region. Basak analyses the dimensions of provision, requirement and shortage of housing stock in the region along with investment in housing sector and suggest a Holistic Approach to housing for all income group including shelter less and the slum dwellers.

b) State Studies on Housing

Krishna Iyer (1980)⁶³ attempts to study the house building programmes in Kerala. His study includes some state sponsored programmes for rural housing and the schemes aimed at improving the housing conditions of the rural poor.

⁶³ S.Krishna Iyer (1980), "House Building Programmes in Kerala", *Yojana*, Vol. 24, No. 5, March 16, p. 25.

Thomas Poullose (1988)⁶⁴ explains the successful story of the voluntary agencies to provide shelter to the houseless poor. The book deals with mainly the one lakh houses scheme of Kerala State. Information given in the books is based on secondary data. The book points out the need for a sense of participation and ownership among the poor in building own house. It also gives importance to the housing condition required for a good standard of living, but failed to analyse the pathetic condition prevailed in the housing colonies of the state.

Gopikuttan (1990)⁶⁵ analyses the housing problem of the Kerala state. The study gives emphasis to the boom in house construction in the state during eighties. It was the effect of inflow of money from abroad and the surplus income generated in the plantation sector. The problems faced by the urban population and their living conditions etc., are not considered in the study.

⁶⁴ Thomas Poullose, K. (1988), "Innovative Approaches to Housing the Poor: Role of Voluntary Agencies", Thiruvananthapuram, Published by Mrs. Mathew, St. Joseph Press, p. 21.

⁶⁵ G. Gopikuttan (1990), "House Construction Boom in Kerala", Economic and Political Weekly, Vol. 25, No. 37, September 15, pp. 2083 – 2088.

Varghese (1991)⁶⁶ draws attention to housing problems and gives a picture about the sources of available housing statistics, housing definitions and their limitations. He argues that cost – reductions and cost controls are essential.

Despite a large number of houses being built every year in Ernakulam, the requirement of housing units is found to be on the increase. Hence it is felt that a massive and organised effort is required to tackle the problem, says Rajan (1991)⁶⁷. The shortage of housing units in Ernakulam is estimated to be 100000 and the landless about 15000. He has put forward several proposals to eradicate the housing problem in the district. No mention is made regarding the construction of High – Rise Apartments to solve this problem.

⁶⁶ K.V. Varghese (1991), "Housing Problem in India: Economic and Social Aspects", Eureka Publications, New Delhi.

⁶⁷ K.R. Rajan (1991), "Houses for All in Ernakulam in Four Years", The Hindu, Ernakulam edition, April 7.

c) Studies on High - Rise Apartments

Daniel Cappon (1972)⁶⁸ examines the problem of mental health in High – Rise. For him High – Rise Apartments certainly appear simpler to define operationally, but its unique, no relations with environment create adverse psychological effect.

Gerda Wekerle and Edward Hall (1972)⁶⁹ examine the High – Rise living whether the same design serve the young and old. They find the high – satisfaction group generally included young tenants who are single or young married couples. On the contrary the low – satisfaction group was composed of older and more stable tenants.

Robert C. Williamson (1978)⁷⁰ examines the socialisation of the High – Rise with the emphasis on choice of specific settings i.e. the preference for given floors, social and community participation, the nature of family relationships and degree of satisfaction or dissatisfaction. He

⁶⁸ Daniel Cappon (1972), “Mental Health in the High – Rise”, *Ekistics*, Vol. 40, No. 196, pp. 192–195.

⁶⁹ Gerda Wekerle and Edward Hall (1972), “High – Rise Living: Can the Same Design Serve Young and Old?”, *Ekistics*, Vol. 40, No. 196, pp. 211 – 213.

⁷⁰ Robert C. Williamson (1978), “Socialisation in the High – Rise: A Cross National Comparison”, *Ekistics*, Vol. 45, No. 268, pp. 122 – 130.

observes that people prefer upper floors mostly with the desire for a view and escape from noise. The High – Rise buildings will have limited appeal to those in the child rearing stage of the life who have strong needs cycle and to those of neighbourliness. He suggests that reduced density and improved design could strengthen tenure.

The council for tall buildings under the chief editorship of Lynn S.Beedle (1981)⁷¹ brings out a significant monograph on High – Rise buildings. In addition to the structural design, they have also studied the planning environmental criteria for High – Rise building. They examine the role of tall buildings in urban habitat and its interaction with urban systems.

Gupta (1995)⁷² deals with factors for location of High – Rise buildings and components for design of industrial High –Rise buildings. Location of High – Rise buildings should be delt carefully with respect to location (sitting with relation to urban planning, environment

⁷¹ Lynn S.Beedle (1981), “Planning and Environmental Criteria for Tall Buildings”, PC of Monograph on Planning and Design of Tall Buildings. ASCE, New York.

⁷² R.G.Gupta (1995), “Shelter for Poor in the Fourth World”, Vol. 1, Shipra Publications, New Delhi, pp. 359 – 365.

planning, traffic and transportation planning) urban design, new construction technologies and systems and management in terms of services and common spaces. Twelve components for design of individual High – Rise buildings are environment planning, structure design, fire, lift, air conditioning, water, sewerage, drainage, power, telecommunication, scavenging and garbage disposal, traffic and transportation problems, community facilities and social infrastructure, shopping facilities, project management, types of plans to be submitted, system of sanction of plans.

Narayana Reddy (1996)⁷³ gives a detailed analysis of the High – Rise building in the historical city Hyderabad with a view to understand the use of the High – Rise space in both for residential and commercial use and also its impact on urban environment. He says that many urban areas in India have already reached the limits of horizontal growth and as a result the only alternative left is vertical development.

⁷³ K.Narayana Reddy (1996), “Urban Redevelopment – A Study of High – Rise Buildings”, Concept Publishing Company, New Delhi.

Mathur (1998)⁷⁴ speaks about cost – effective urban infrastructure for High – Rise development. Since heavy expenditure is required for provision and maintenance of infrastructure, it is important that cost – effective considerations are brought to bear on urban infrastructure development and management. The cost effectiveness in terms of space, time, energy, management, maintenance, quality of environment, sustainability, social benefits etc. need to be considered in an integrated manner to improve the quality of life of the people specially the urban poor. The cost – effectiveness should be an integral part of planning, installation operation and maintenance of urban infrastructure.

In the light of aforesaid review of literature we have gathered information about the condition and structure of houses in the developing countries in general and India in particular. But the discussions revealed that no specific studies are available on the economics of High – Rise Apartments in Kerala. Hence the present study was conducted.

⁷⁴ G.C.Mathur (1998), “Cost Effective Urban Structure for High – Rise Development”, Nagarlok, Vol. 30, No. 4, October – December, p. 100.

1.6 Scheme of Study

The Thesis is divided into seven chapters

The second chapter deals with the housing problem in India and Kerala and also a brief account of High – Rise Apartments in Kerala.

In the third chapter a profile of housing finance is given.

The fourth chapter deals with the socio – economic status of inhabitants of High – Rise Apartments and examines its association.

In the fifth chapter an attempt has been made to analyse the economics of High – Rise Apartments and the problems faced by the inhabitants.

The sixth chapter attempts to identify the determinants of the demand for High – Rise Apartments.

Findings, conclusion, suggestions, policy implications etc. are given in the seventh chapter.

HOUSING KERALA

C.B. Baby “Economics of high - rise apartments in Kerala a case study of Cochin city” Thesis. Department of Economics , Dr. John Matthai Centre Thrissur, University of Calicut, 2004

CHAPTER II

HOUSING IN KERALA

CHAPTER II

HOUSING IN KERALA

Adequate shelter for each and every household is a fundamental prerequisite for a healthy living in any society. Housing is an important economic activity and plays a significant role in the socio – psychological development of the individual.

In developing countries, where nearly two-thirds of the population live below poverty line, about hundred million people are estimated to be shelterless¹. The housing shortage in India has been growing at an alarming rate. The tremendous increase in population aggravated the housing problem in the country.

Table 2.1 indicates the growth of population, total number of households and housing stock in India. When compared to 1951, the population in 2001 increased by 284 per cent. The increase in the number of households has been 261 per cent and that of occupied residences 286

¹ “Rural Urban Divide will Affect Development”, The Economic Times, 21st May 1986.

per cent. The increase in the number of houses has not been in commensurate with the increase in population.

Table: 2.1 Population, households and housing stock in India

(In lakhs)

Census Year	Population	Households	Occupied residential houses
1951	3609	734	644
1961	4392	835	792
1971	5472	972	908
1981	6852	1226	1144
1991	8463	1511	1472
2001	10253	1919	1841

Source: Census of India – 1951, 1961, 1971, 1981, 1991 and 2001, Part IV – B. Housing Tables.

On the welfare front Kerala stands ahead of all the states in India. The physical quality of life indices of the state match even with the standards of developed nations. Despite its developed demographic profile, several sectors in Kerala continue to be weak; such as housing, power and industries.

As far as the housing sector is concerned, Kerala has implemented many innovative schemes and has made remarkable progress in housing. Despite the quantitative and qualitative improvement in housing stock in Kerala, the housing shortage persists.

The problem of housing is a complex one in Kerala. It is quantitatively alarming and qualitatively depressing. The population of the state is 3.18 crores (in 2001)² with a density of 819 per sq. km which is about three times the national average. Naturally, therefore, housing has always been a problem in Kerala. Most of the available accommodation is qualitatively sub-standard mainly as the consequence of rapid growth of population, rapid and haphazard growth of cities and towns, lack of sufficient state or municipal control over building activity, increasing numbers of poor people and the inability of private enterprise to keep pace with growing need for housing, while public resources for investment in housing are not available on an appreciable scale. Though the nature has provided with bountiful air, light and other gifts the people are not

² Census of India 2001, Provisional Population Totals, Kerala, Series 33, Paper – 2, Director of Census Operations, Kerala.

taking advantage of them. Instead they live in dark, congested areas and over crowded katcha houses.

The present chapter discusses the details regarding housing in Kerala. The chapter is divided into two sections. The first section deals with housing demand and housing condition in Kerala and the second section discusses about High – Rise Apartments in Kerala.

2.1 Demand for Housing

Due to the pressure of population in urban areas of Kerala, the demand for houses is on the increase. In this context the following discussion highlights the details of housing demand in Kerala.

Table 2.2 shows the shortage of houses in Kerala during the period 1981 – 1991. In 1981, there were 42.89 lakh households and 41.33 lakh houses in Kerala. In 1991, number of households increased to 55.13 lakhs and houses to 54.59 lakhs. In 1991 the numerical shortage of houses was only 0.54 lakhs as against 1.56 lakhs in 1981.

Table: 2.2 Shortage of houses in Kerala during 1981 – 1991.

Details	Estimated houses (Nu. in Lakhs)	
	1981	1991
House holds	42.89	55.13
Houses	41.33	54.59
Shortage of houses	1.56	0.54

Source: Report of the task force on housing 1997-2002

According to estimates³, nearly 20 per cent houses in Kerala were semi permanent thatched houses, nearly 5.5 lakh houses were estimated as sub standard huts unfit for safe living. Nearly 5 per cent of existing houses required demolition and reconstruction. Considering the above aspects, the demand for houses in 1981 and 1991 were estimated as 9.56 lakhs and 8.74 lakhs respectively. Population of the state increased to 318 lakhs in 2001 from 290 lakhs in 1991. Assuming the family size of 5.3 additional houses required consequent on increase in population is estimated at 14.02 lakhs.

³ Report of Task Force on Housing 1997 – 2002, State Planning Board, Government of Kerala, Thiruvananthapuram.

Table: 2.3 Estimated housing demand during 1981 – 1991.

Details of housing demand	Estimated demand (In lakhs)	
	1981	1991
Shortage of houses	1.56	0.54
Houses to be reconstructed	6.00	5.50
Houses to be repaired	2.00	2.70
Total	9.56	8.74

Source: Report of the task force on housing 1997-2002.

2.2 Housing conditions

Statistical information relating to housing condition is very essential for the formulation of housing policies and programmes. A regular flow of reliable data on housing conditions has assumed greater importance for the government and planning bodies to enable them to give proper attention to various housing problems of the day. The type of structure of households determines the nature of housing condition in an economy.

Table: 2.4 Households by type of structure

Place		Pucca		Semi pucca		Katcha	
		Per cent of households	Proportion in bad condition	Per cent of households	Proportion in bad condition	Per cent of households	Proportion in bad condition
K E R A L A	Urban	73.00	0.43	16.28	12.30	10.72	66.57
	Rural	55.30	0.39	25.74	14.97	18.96	57.25
I N D I A	Urban	73.84	3.44	17.89	18.66	8.27	52.63
	Rural	32.28	2.49	36.00	11.96	31.72	34.91
Kerala		64.15	0.41	21.01	13.63	14.84	61.92
India		53.06	2.96	26.94	15.31	20.00	43.77

Source: Calculated from Sarvekshana Volume 22, Nu.3, Issue Nu.78, January – March 1999.

Table 2.4 shows that in India 20 per cent households live in katcha structures where as it is only 15 per cent in Kerala. More than 64 per cent households in Kerala live in pucca structures against 53 per cent in all India.

The highest proportion of bad structures occurs in katcha category in Kerala and all India. In fact katcha dwellings provide least shelter and are the most susceptible to the ravages of both natural calamities and social upheavals. The proportion of bad structures in the pucca and semi pucca categories is relatively small. The proportion of households living in bad katcha structures is about 9 per cent in India.

In rural India 32 per cent of the households live in katcha structures. But in rural Kerala, the katcha dwellings are below 19 per cent. More than 55 per cent of the households in rural Kerala live in pucca structures, which is very high compared to all India (rural) level (32 per cent). In rural Kerala 26 per cent of the households live in semi pucca structures where as this proportion is 36 per cent in all India (rural). Bad structures in pucca and semi pucca categories are relatively small in rural areas.

Dwellings in the urban sector are predominantly pucca structures and an estimated 74 per cent of the households have their residences in such structures. In urban Kerala 73 per cent of households live in pucca structures,

which means that only a small difference exists in the case of pucca structures between urban Kerala and urban India. In urban India only 8 per cent of the households have katcha dwellings while 18 per cent have semi-pucca dwellings and this estimate is 11 per cent and 16 per cent respectively for urban Kerala.

Type of dwelling is very important to assess the general housing standards and the housing condition of the people.

Housing in Kerala and all India consists predominantly of independent houses. As per table 2.4, 90 per cent of the households in Kerala and 75 per cent of the households in India live in independent houses. The proportion of households with no dwelling is 0.5 per cent and 0.4 per cent respectively for Kerala and all India. Flat, chawl and other dwellings have only a minor role in rural areas of Kerala and India.

Table: 2.5 Households by type of dwellings.

Place		Type of dwelling					
		No dwelling	Independent house	Flat	Chawl	Others	Total
K E R A L A	Urban	5	850	32	10	103	1000
	Rural	4	946	14	10	26	1000
I N D I A	Urban	3	601	134	109	153	1000
	Rural	4	896	19	36	45	1000
Kerala		5	898	23	10	64	1000
India		4	748	76	72	100	1000

Source: Calculated from Sarvekshana Volume 22, No.3, Issue No.78, January – March 1999.

85 per cent of households in urban Kerala and 60 per cent of households in urban India live in independent houses. Compared to rural households, urban households prefer flats to live in, 3.2 per cent of the urban house holds

in Kerala and 13.4 per cent of urban house holds in India live in flats.

Table: 2.6 Area and structure type of dwellings

Place		Slum			Non slum			All		
		Pucca	Semi pucca	Katcha	Pucca	Semi pucca	Katcha	Pucca	Semi pucca	Katcha
K E R A L A	Urban	3	1	20	727	161	88	730	162	108
	Rural	3	0	7	549	257	184	552	257	191
I N D I A	Urban	75	46	33	663	133	50	738	179	83
	Rural	10	19	26	313	341	291	323	360	317
Kerala		3	1	13	638	209	136	641	210	149
India		43	33	30	488	237	170	530	270	200

Source: Calculated from Sarvekshana Volume 22, Nu.3, Issue Nu.78, January – March 1999.

Table 2.6 shows that only 1.7 per cent of house holds in Kerala and 10.6 per cent of house holds in India dwell in slum areas. Out of them 76 per cent in Kerala and

28 per cent in all India reside in katcha structures. The slum dwellers living in katcha structures are predominant in Kerala.

The proportion of households staying in pucca, semi-pucca and katcha structures is by and large equal in rural sector of India, where as about 74 per cent of households stay in pucca structures in the urban sector. In rural Kerala more than 55 per cent of households stay in pucca structures and 26 per cent and 19 per cent in semi pucca and katcha structures respectively. 73 per cent of urban households in Kerala live in pucca structures, 16 per cent in semi pucca and 11 per cent in katcha structures. Only 5.5 per cent of rural households and 15 per cent of urban households dwell in slum areas at all India level and out of them 49 per cent and 22 per cent reside in katcha structures in rural and urban areas respectively. In Kerala only 1 per cent of the rural households and 2.4 per cent of the urban households live in slum areas and out of them 70 per cent and 83 per cent reside in katcha structures in rural and urban areas respectively. Semi pucca structures have only a negligible role in slum areas of urban and rural Kerala.

Table: 2.7 Households by ownership of dwellings

Place	Rural		Urban		All	
	Owned	Hired	Owned	Hired	Owned	Hired
Kerala	92.4	5.4	81.2	13.7	86.8	9.6
India	92.9	4.4	57.3	35.8	75.1	20.1

Source: Calculated from Sarvekshana Volume 22, Nu.3, Issue Nu.78, January – March 1999.

It is evident from Table 2.7 that in rural India most of the households (93 per cent) reside in their own houses, while the corresponding percentage in urban India is 57. In rural Kerala more than 92 per cent of the households have their own houses but the corresponding figure is 81 per cent in urban Kerala. This means that in urban Kerala also majority of the households live in their own houses just contrary to the all India urban figure 57 per cent. People from different rural parts of India usually may come to urban areas for enjoying the facilities available there and as a result of which 36 per cent of households in urban areas are residing in hired accommodation. In rural India, this percentage is negligibly small viz 4.4 per cent and in rural

Kerala it is 5.4 per cent. In urban Kerala 14 per cent of the households live in hired accommodation. Generally speaking, 87 per cent of the households are living in their own houses and 10 per cent are in hired accommodation in Kerala. This corresponding figure for all India is 75 per cent and 20 per cent respectively.

For a clear understanding of the housing Scenario it is very essential to know the type of use of the building.

Table 2.8 shows that 95 per cent of the houses in urban Kerala and 89 per cent of the houses in urban India are serving the residential purpose only. The remaining 5 per cent in urban Kerala and 11 per cent in urban India are serving multipurpose i.e. residence-cum-factory, residence-cum-shop, residence-cum-office etc. 98 per cent of residences in rural Kerala and 93 per cent in rural India are using exclusively for residential purposes. Only very negligible per cent of residences are used for combined purposes. These figures show that 97 per cent of the residences in Kerala and 91 per cent in India prefer houses for residential purpose only rather than multipurpose.

Table: 2.8 Type of use of dwellings

Place		Residential only	Residence -cum- factory	Residence -cum- office	Residence -cum- shop	Residence -cum- factory/ office/ shop	Others	Total
K E R A L A	Urban	953	17	6	10	0	13	1000
	Rural	979	3	1	15	0	1	1000
I N D I A	Urban	889	26	9	46	8	20	1000
	Rural	958	9	2	14	5	40	1000
Kerala		966	10	4	13	0	7	1000
India		909	18	6	30	7	30	1000

Source: Calculated from Sarvekshana Volume 22, Nu.3, Issue Nu.78, January – March 1999.

The floor type of dwellings is an important factor in determining housing condition.

As per Table 2.9, 82 per cent of pucca houses in rural Kerala have cement flooring, 6 per cent mosaic and 10 per cent mud flooring. But in rural India, only 36 per cent

of the pucca houses have cement flooring 46 per cent mud flooring and 2 per cent have mosaic flooring. This shows the improved housing condition of rural Kerala compared to rural India. Majority of katcha houses have mud flooring in both urban and rural areas of Kerala and India. 50 per cent of semi pucca houses in rural Kerala and 88 per cent of semi pucca houses in rural India have mud flooring. In urban Kerala 73 per cent of the pucca houses and in urban India 58 per cent of pucca houses have cement flooring and in urban India 58 per cent of pucca houses have cement flooring. The percentage of pucca houses with mosaic flooring and mud flooring is more or less similar in the case of both urban India and urban Kerala.

The housing condition of Kerala is far better compared to All India. Only 9 per cent of the pucca houses in Kerala have mud flooring where as it is 27 per cent at all India level. 77 per cent of the pucca houses in Kerala have cement flooring where as it is 47 per cent at all India. 43 per cent of the semi pucca houses in Kerala and 73 per cent of the semi-pucca houses in India have mud flooring. The katcha houses with mud flooring in Kerala and all India is 76 per cent and 90 per cent respectively. The houses with other

Table: 2.9 Floor type of dwellings.

Type of floor	Kerala						India						All Kerala			All India		
	Rural			Urban			Rural			Urban			Pucca	Semi-pucca	Katcha	Pucca	Semi-pucca	Katcha
	Pucca	Semi-pucca	Katcha	Pucca	Semi-pucca	Katcha	Pucca	Semi-pucca	Katcha	Pucca	Semi-pucca	Katcha						
Mud	104	498	844	71	364	678	459	880	964	82	579	828	88	431	761	270	730	896
Bamboo/Log	0	5	0	0	0	0	1	6	8	0	4	2	0	2	0	1	5	5
Wood/Plank	1	0	0	4	0	0	8	3	1	3	5	1	2	0	0	6	4	1
Brick/Stone/ Lime stone	12	32	21	35	52	2	147	39	6	166	124	41	24	42	11	157	81	24
Cement	819	460	128	730	557	307	355	60	13	578	261	119	774	509	218	466	160	66
Mosaic Tiles	59	0	0	145	0	0	23	2	0	165	17	4	102	0	0	94	10	2
Others	5	4	7	14	27	13	5	10	8	6	10	4	10	16	10	6	10	6

Source: Calculated from Sarvekshana, Volume 22, Nu.3, Issue Nu.78, January – March 1999.

types of floorings have only an insignificant role in Kerala and all India.

The structure type of houses in Kerala is far better compared to All India. The urban as well as rural housing scenario in Kerala is far ahead compared with other states in India. Majority of the people prefer to live in independent houses whereas only a minority prefers flats and the like.

A very small proportion of households live in slum areas of Kerala compared to all India. A large number of households in India reside in hired accommodation. More than 90 per cent of the people in India and Kerala are using their houses for residential purpose only. More than 77 per cent of houses in Kerala have cement flooring compared to All India figure of 47 per cent, which shows the superior quality of houses in Kerala.

Table 2.10 gives details regarding the roof type of houses of Kerala and India. In rural and urban areas of Kerala majority of the houses have tile roofs (59 per cent in rural India and 50 per cent in urban India). 23 per cent of

Table: 2.10 Roof type of dwellings

Material of roof	Kerala		All Kerala (Per cent)	India		All India (Per cent)
	Rural (Per cent)	Urban (Per cent)		Rural (Per cent)	Urban (Per cent)	
Grass, Thatch, Bamboo, Wood, Mud etc.	11.5	6.6	10.3	27.7	7.0	21.9
Plastic, Polythene	0.9	0.8	0.9	0.4	0.8	0.5
Tiles	59.4	50.2	57.1	37.6	19.7	32.6
Slate	0.1	0.1	0.1	1.1	0.6	0.9
GI, Metal, Asbestos sheets	4.8	3.1	4.3	9.8	16.1	11.6
Brick	0.1	0.2	0.1	5.6	5.6	5.6
Stone	0.1	0.1	0.1	6.3	7.2	6.5
Concrete	22.5	38.2	26.5	11.0	42.4	19.8
Any other material	0.7	0.8	0.7	0.6	0.6	0.6
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Table H – 3A (Appendix) India: Census of India 2001.

the rural houses and 38 per cent of the urban houses have concrete roofs. In rural areas of India 38 per cent of the houses and in urban areas 20 per cent of the houses have tiled roof. But 42 per cent of the urban houses have concrete roof and only 11 per cent of the houses in rural areas are having concrete roofs. But at all India and all Kerala level tile roofs are prominent. 28 per cent of the houses in India have roofs made of grass, thatch, bamboo, wood, mud etc. but this is only 10 per cent in Kerala. The other types of roofs are insignificant.

Table 2.11 discloses the nature of wall of dwellings in Kerala and India. In urban Kerala burnt brick walls and in rural Kerala stonewalls are prominent. 35 per cent of the houses have stonewalls in urban Kerala and 28 per cent of the houses have burnt brick walls in rural Kerala. Mud and unburnt brick walls are also prominent in rural Kerala. 68 per cent of the urban houses have unburnt brick walls in urban India but this share is 34 per cent in rural India. 40 per cent of the houses in rural India have mud and unburnt brick walls and 34 per cent have burnt brick walls. This means in urban Kerala and urban India burnt brick walls are prominent. But if we examine all Kerala and all

India figures we can see that burnt brick walls are prominent in India (43.7 per cent) and stonewalls in Kerala (33.5 per cent).

Table: 2.11 Wall type of dwellings

Material of wall	Kerala		All Kerala (Per cent)	India		All India (Per cent)
	Rural (Per cent)	Urban (Per cent)		Rural (Per cent)	Urban (Per cent)	
Grass, Thatch, Bamboo, Wood etc.	5.3	3.7	4.9	12.6	3.9	10.2
Plastic, Polythene	0.3	0.2	0.3	0.3	0.4	0.3
Mud, Unburnt Brick	27.1	14.0	23.8	39.7	12.8	32.2
Wood	1.3	1.8	1.4	0.9	0.9	0.9
GI, Metal, Asbestos sheets	0.5	0.4	0.5	0.4	1.4	0.6
Burnt Brick	28.4	41.4	31.6	34.2	68.0	43.7
Stone	33.0	35.0	33.5	10.5	6.7	9.4
Concrete	3.0	2.8	2.9	1.2	5.7	2.4
Any other material	1.3	0.7	1.1	0.2	0.2	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Table H – 3B (Appendix) India: Census of India 2001.

Table: 2.12 Floor material of dwellings as per 2001 census

Material of Floor	Kerala		All Kerala (Per cent)	India		All India (Per cent)
	Rural (Per cent)	Urban (Per cent)		Rural (Per cent)	Urban (Per cent)	
Mud	28.6	11.8	24.4	72.3	18.0	57.0
Wood/Bamboo	0.1	0.1	0.1	0.8	0.4	0.7
Brick	0.7	0.9	0.8	2.0	3.0	2.3
Stone	0.9	0.7	0.9	4.5	9.1	5.8
Cement	61.8	66.7	63.1	18.0	48.3	26.5
Mosaic, Floor tiles	7.0	18.1	9.8	2.2	20.5	7.3
Any other material	0.8	1.8	1.1	0.2	0.7	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Table H – 3C (Appendix) India: Census of India 2001

Table 2.12 shows the floor material used by houses in Kerala and India. 63 per cent of the houses in Kerala have cement floor where as this is only 27 per cent at all India level. But majority of the houses in India (57 per cent) have mud floor. 72 per cent of the houses in rural India have mud flooring and 48 per cent of the houses in

urban India have cement flooring. Only 10 per cent of the houses in Kerala and 7 per cent of the houses in India have mosaic and floor tiles as flooring materials. The above discussion indicates the better housing condition of Kerala compared to all India.

2.3 High – Rise Apartments in Kerala

Kerala has been acclaimed for its impressive achievements of quality of human life. It is shelter, which has been recognised as one of the most important determinants of quality of human life. An independent house used to be the dream of most of the Malayalees. But it may be observed that Kerala is a small state, occupies, only 1.27 per cent of the geographical area of India but its share of population in the country is 3.44 per cent. As such there has been an acute shortage of land for residential buildings in the state.

The increasing concentration of activities relating to industries, commercial and institutional organisations at urban towns may draw naturally large inflow of population into urban areas. Such type of flow of population will

increase the density. The urban areas become a permanent place for them to stay and settle themselves. This by the simple logic of law of demand and supply increases the pressure on the urban land and inflates the land price.

The escalation of population concentration in urban centres, infiltration of modern culture in the lifestyle of Keralites, leap frogging of land prices and spurt in material cost of house construction give rise to an unprecedented demand of High - Rise Apartments in Kerala. The first Apartment was constructed in Thiruvananthapuram followed by Ernakulam.

The present discussion purports to deal with High-Rise Apartment in Kerala based on the survey of Town Planning Department of Kerala State. The survey confined to only Apartments in city corporations and municipalities. High - Rise Apartments are defined as buildings having four floors and above. It is learnt from the survey that there are altogether 300 Apartments in the State of Kerala. While examining the Apartments constructed during different periods, it is understood that between 1993 and 1996 more than 100 Apartments were constructed. It is obvious that

the demand for residential flats increased tremendously in the beginning of 90s as the real estate business was in full swing during this time. A lion's share of foreign remittances of gulf Malayalees was diverted into real estate business in anticipation of significant profit from such business. It may be noted that during the period 1984-94 the industrial investments were unattractive and stock market was very dull. From the survey it is observed that Ernakulam tops in terms of number of Apartments constructed (139) and the second place goes to Thiruvananthapuram (116). However, the real estate business has become slack in 1997 and in the beginning of 1998 due to heavy financial crisis cropped up in Kerala. The inward foreign remittances of the Middle East have contributed 27 per cent of the total Net Domestic Product of Kerala. The details of the Apartments constructed during different periods are presented in Table.2.13.

From 1969 to '76 gradual increase in the Apartments construction can be noticed. But during the period 1977-80 no construction activities were there in the state. That must be due to the escalating prices of construction materials, poverty of the people, national emergency imposed by the government and the restrictions

imposed by the new Janatha Government etc. during this period. After that period, there was the revival of the construction activities and upward trend in the number of High-Rise Apartments in the state. It is astonishing to note that more than 11 per cent of the flats are vacant in the state. There are various reasons for low occupancy in recent years, which include parking facilities, water supply and sewage.

Table: 2.13 Apartments constructed during different periods in Kerala

Period	Number of Apartments
1969 – 72	12
1973 – 76	21
1977 – 80	0
1981 – 84	19
1985 – 88	76
1989 – 92	71
1993 – 96	101
Total	300

Source: Residential Flats – 1996. in City Corporations and Municipalities in Kerala, Town Planning Department, Thiruvananthapuram.

Table: 2.14 Apartments constructed during different periods – district wise.

District	1969-72	1973-76	1977-80	1981-84	1985-88	1989-92	1993-96	Total
Thiruvananthapuram	10	1		14	48	27	16	116
Ernakulam	2	20		5	22	29	61	139
Kozhikode					2	5	14	21
Kottayam						1	2	3
Thrissur							6	6
Kannur					4	9		13
Kasaragode							2	2
Total	12	21	0	19	76	71	101	300

Fig. 2.1 Apartments constructed since 1969 in the state

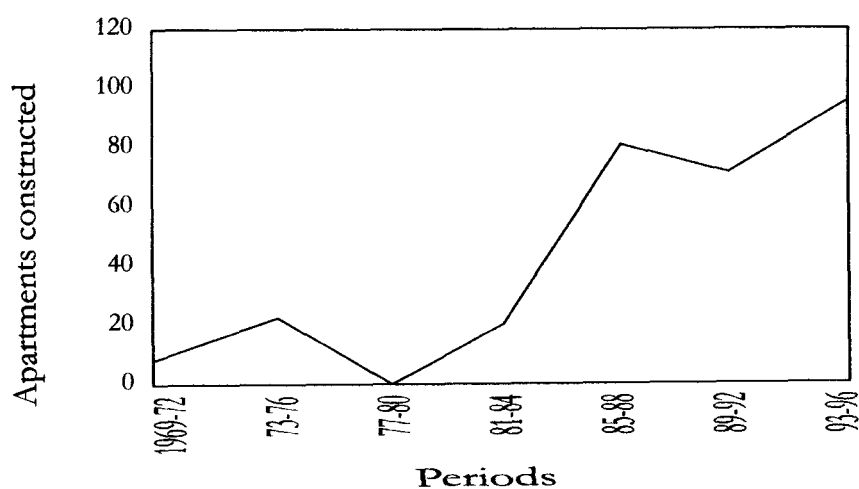


Table: 2.15 Classification of dwelling units according to Nu. of bed rooms – district wise.

	1	2	3	Above 3	Total
Thiruvananthapuram	651	904	342		1897
Ernakulam	697	1347	1036	148	3228
Kozhikode	1	251	184	1	437
Kottayam	4	56	10		70
Thrissur	36	105	56		197
Kannur	208	12			220
Kasargod		28			28
Total	1597	2703	1628	149	6077

Fig. 2.2 Dwelling units – district wise

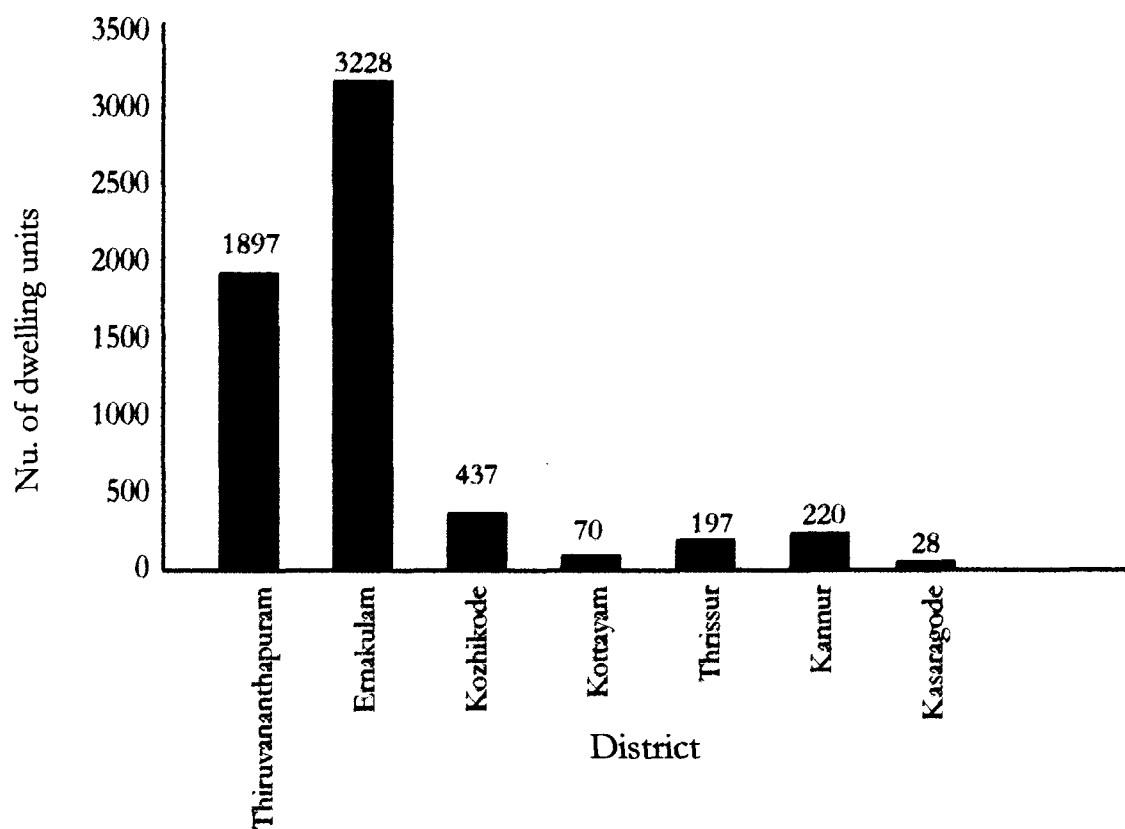


Table: 2.16 Classification of Apartments according to number of floors – district wise.

District	Number of Floors															Total
	4	5	6	7	8	9	10	11	12	13	14	15	16			
Thiruvananthapuram	88	11	5	2	2	3	4	1							116	
Ernakulam	75	11	21	7	4	1	6	7	2	2	1	1	1	139		
Kozhikode	11	2	2	1	2	1		2						21		
Kottayam	2		1											3		
Thrissur	1	1		1		2		1						6		
Kannur	12	1												13		
Kasaragod	1			1										2		
State	190	26	29	12	8	7	10	11	2	2	1	1	1	300		

Fig. 2.3 Nu. of Apartments - district wise.

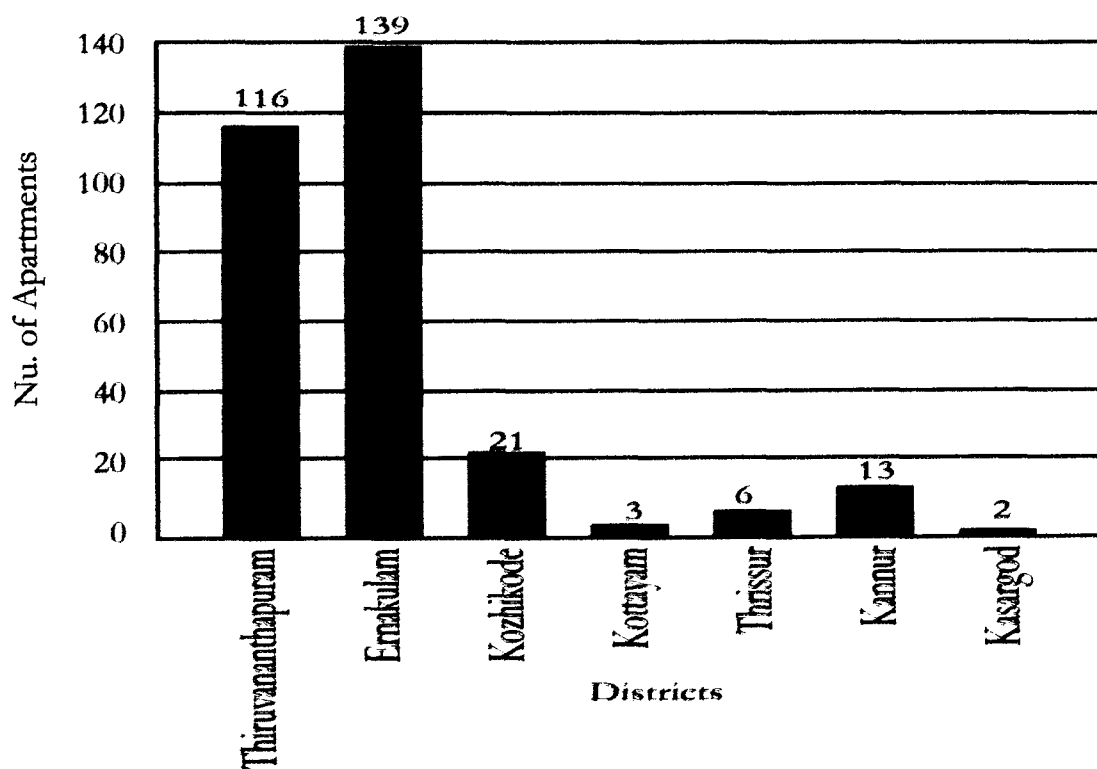


Table: 2.17 Distribution of Apartments – own, rented and vacant

Distribution of Apartments	Per cent
Owner occupied	41.8
Rented	47.1
Vacant	11.1

Source: Residential Flats – 1996. In City Corporations and Municipalities in Kerala, Town Planning Department, Thiruvananthapuram.

Hundred per cent parking facilities are expected for Apartments. Owing to space constraint the problem of parking has been very acute in Kerala. Except Kottayam and Kasaragod, in all other districts the 100 per cent target have not been attained in parking facilities in the Apartments.

The district wise details of parking facilities in the Apartments are given in Table 2.18

Table: 2.18 Parking facilities in the Apartments – district wise.

Districts	Number of Apartments	Apartments having parking facility
Thiruvananthapuram	116	70.7
Ernakulam	139	54.0
Kozhikode	21	90.5
Kottayam	3	100.0
Thrissur	6	83.3
Kannur	13	38.5
Kasaragode	2	100.0
Total	300	63.7

Source: Residential Flats – 1996. in City Corporations and Municipalities in Kerala, Town Planning Department, Thiruvananthapuram.

Table: 2.19 Percentage of parking facilities in the Apartments – district wise.

District	Nu. of Apartments	Apartments having at least the required number of parking units	Per cent of Apartments having parking facility
Thiruvananthapuram	116	82	70.7
Ernakulam	139	75	54.0
Kozhikode	21	19	90.5
Kottayam	3	3	100.0
Thrissur	6	5	83.3
Kannur	13	5	38.5
Kasaragode	2	2	100.0
Total	300	191	63.7

Source: Residential Flats – 1996 in City Corporations and Municipalities in Kerala, Town Planning Department, Thiruvananthapuram.

Fig. 2.4 Percentage of parking facility in Apartments in the state

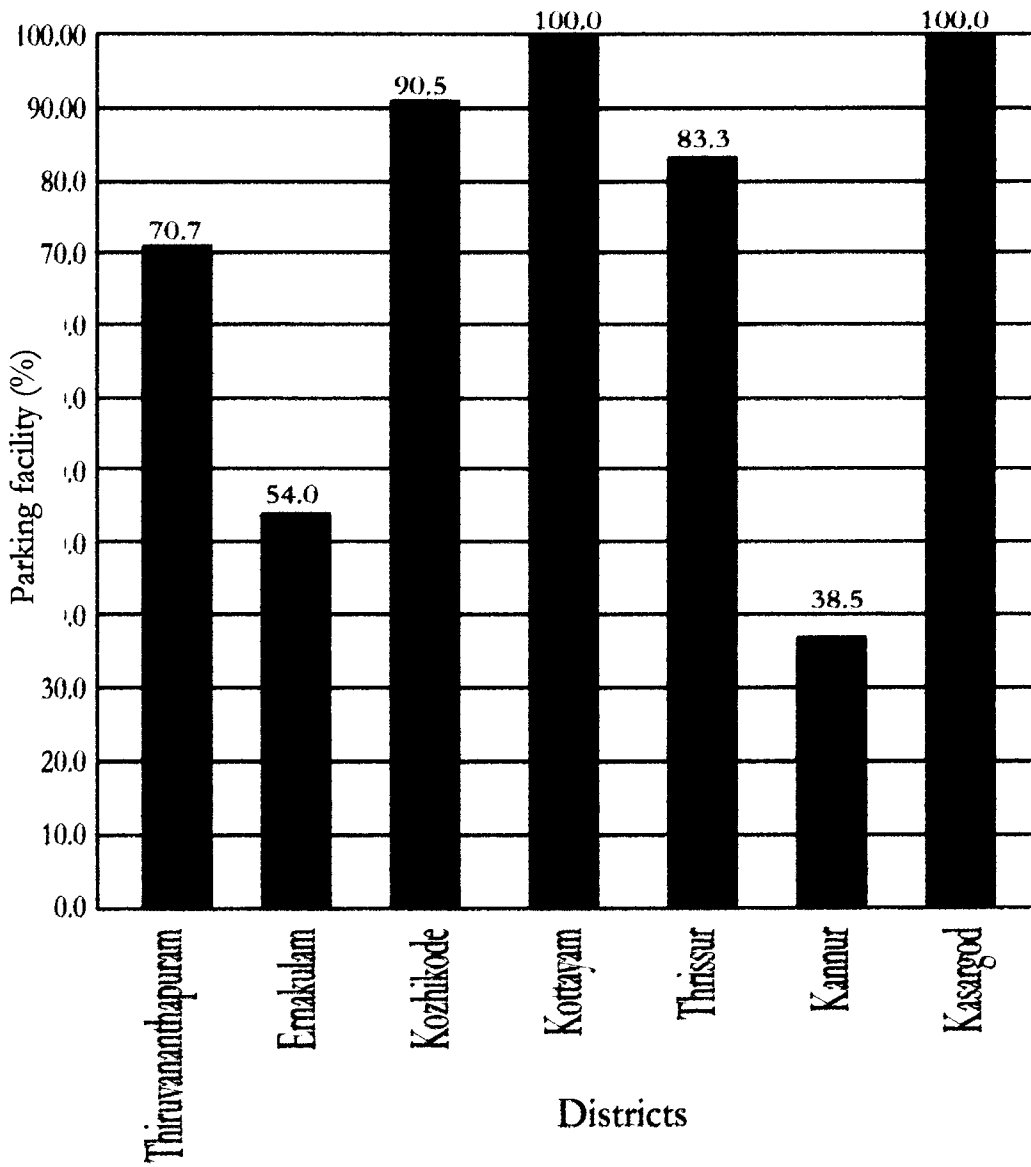


Table: 2.20 Distribution of Apartments by source of water district wise.

Districts	Source of water		
	Kerala Water Authority	Own	Both
Thiruvananthapuram	45	10	61
Ernakulam	94	5	39
Kozhikode	--	6	16
Kottayam	1	1	1
Thrissur	2	1	3
Kannur	--	--	13
Kasargode	--	1	1

Source: Residential Flats – 1996. in City Corporations and Municipalities in Kerala, Town Planning Department, Thiruvananthapuram.

Kerala has been facing an acute problem of water shortage from time immemorial. It is estimated that only 67 per cent of urban population is benefited from the water supply schemes of Kerala government. It is important to note the majority of the Apartments (142) in Kerala are depending on Kerala Water Authority and only 24 Apartments are having their own arrangements for source of

water and 134 Apartment depend on both Kerala Water Authority and have their own arrangements for water supply as shown in Table 2.20.

Table: 2.21 Distribution of Apartments having sewerage facility district wise.

Districts	Sewerage facility	
	Collected city sewerage	Septic tank
Thiruvananthapuram	97	19
Ernakulam	14	125
Kozhikode	--	21
Kottayam	--	3
Thrissur	--	6
Kannur	--	13
Kasaragode	--	2
Total	111	189

Source: Residential Flats – 1996. in City Corporations and Municipalities in Kerala, Town Planning Department, Thiruvananthapuram.

According to the survey, it is observed that except Thiruvananthapuram and Ernakulam, in all other

districts the Apartments are not having the collected city sewerage. Of 116 Apartments in Thiruvananthapuram, 97 are depending on collected city sewerage and only 19 are having septic tank facility. In Ernakulam, of 139 Apartments, 125 Apartments have septic tank facility and only 14 Apartments are availing collected city sewerage. Table 2.21 gives the details of sewerage facility in the Apartments in Kerala.

HOUSING FINANCE IN ERNAKULAM - A SYNOPTIC VIEW

C.B. Baby “Economics of high - rise apartments in Kerala a case study of Cochin city” Thesis. Department of Economics , Dr. John Matthai Centre Thrissur, University of Calicut, 2004

CHAPTER III

HOUSING FINANCE IN ERNAKULAM – A SYNOPTIC VIEW

CHAPTER – III

HOUSING FINANCE IN ERNAKULAM – A SYNOPTIC VIEW

This chapter gives a brief account of the financial institutions, which are engaged in lending for house construction activities. Housing is one of the most important basic necessities of human life and finance is the flesh and blood of a house. Majority of the people depend on financial help from outside source to complete the house construction. Now – a – days a large number of banks and other financial institutions are engaged in providing housing loans to the needy on a competitive basis by offering loans at a very low rate of interest.

There are four types of formal organisations, which provide finance for housing activities. (a) Institutions set up especially for housing finance such as Housing and Urban Development Corporation (HUDCO), National Housing Bank (NHB) etc. (b) Public Sector financial institutions catering to housing as also other sectors, such as the nationalised commercial banks and the Life Insurance Corporation of India (LIC). (c) Private sector institutions,

which are exclusively engaged in housing finance such as Housing Development Finance Corporation (HDFC), Diwan Housing Finance Corporation etc. and (d) Scheduled commercial banks.

There are several financial institutions (both private and public) in Cochin City, which provide housing finance to the people. Life Insurance Corporation, Housing Development Finance Corporation, Federal Bank, Canfin Homes etc. are some of the leading financial institutions in the city. But these financial institutions are not willing to provide necessary data regarding housing loan, as it is their business secret. So State Bank of India, HUDCO Niwas, Dhanalekshmy Bank and Diwan Housing Finance Corporation are taken into account in our present study.

3.1 Housing and Urban Development Corporation (HUDCO)

HUDCO, which was set up in 1970, provides loans for housing and other urban development projects such as land acquisition, basic sanitation and infrastructure development. Apart from an initial grant from the central

government, it has been receiving funds at concessional rates from various public sector financial institutions such as the General Insurance Corporation (GIC), The National Housing Bank (NHB), Unit Trust of India (UTI) and Commercial banks and also from certain International Financial Institutions.

HUDCO today has emerged as the leading public financial institution with the major objective of financing and encouraging housing activity in the country. Till February 2002, through its financial assistance HUDCO had enabled the development of more than 127 lakhs of housing units in the country, thereby alleviating the housing shortage of all groups in rural and urban areas. It has also helped in the development of urban structure of various shades in human settlements. As a part of its objective to reach its beneficiaries directly, HUDCO is offering financial assistance to individual families to enable them to acquire a home of their own through its HUDCO Niwas Scheme.

HUDCO Niwas Scheme offers loans assistance to (a) construct a house (b) buy a house or flat (c) extend or improve the existing house or flat (d) purchase a plot from

public agencies or Co – operative societies of government employees (e) registration of existing housing units including conversion from lease hold to free hold (f) refinancing of existing housing loans taken from other institutions.

The loan applicant must be in-service or engaged in any profession or business with regular income for servicing the loan. The loan amount will not exceed 85 per cent of the cost of housing unit including incidental costs like stamp duty and registration. The loan amount will be determined on the basis of repayment capacity. Repayment capacity takes into account factors such as income, age, qualification, number of dependents, spouse's income, assets, liabilities, stability and continuity of occupation and savings history.

Loan repayment period is normally up to 15 years, but the period will not extend beyond the age of 65 years of the borrower. However HUDCO Niwas will endeavour to determine the repayment period to suit the convenience of the borrower. In case the applicant wishes to extend the period of repayment beyond 15 years, it can be extended up to 20 years. However, in such cases, additional

interest of $\frac{1}{2}$ per cent per annum will be charged over and above the prescribed rate. The interest rate charged will vary as per the changing condition of the economy.

The security for the loan is the first mortgage of the housing unit to be financed normally by way of deposit of title deeds or such other collateral security as may be necessary. In some cases interim security may be required. In all the cases the applicant will be required to provide guarantee of one individual acceptable to HUDCO. In respect of other applicants who have already availed house building advance from their employers, HUDCO may accept second mortgage of housing unit subject to a) Central and State government employees – the assignment of benefit under central/state government group insurance scheme or else the repayment of the loan is completed before superannuation. b) Public sector under taking employees – loan is repaid by the employer through salary deduction/post dated cheques and repayment of loan is completed before superannuation of the employee.

In respect of house or flat purchased on Power of Attorney, HUDCO may extend loan provided alternate

tangible security of adequate value is made available to HUDCO. Alternate Security can be third party mortgage, mortgage of other property owned by applicant or co – applicant, pledge of UTI units, National Savings Certificates, LIC policies etc.

The loan will be disbursed after a full technical appraisal has been made and on completion of all legal documentation and after investment of the applicant's own contribution in full. Own contribution is the total cost of the housing unit less than the loan from HUDCO. The loan will be disbursed in full or in suitable instalments taking in to account the requirements of funds and progress of construction.

Loan will be repayable in Equated Monthly Instalments (EMI) comprising principal and interest. Interest is calculated on monthly reducing balance method. The monthly instalment depends on quantum of loan, interest rate applicable and the term of repayment of the loan. The loan amount will not exceed 85 per cent of the cost of housing unit including incidental costs like stamp duty and registration. The actual loan amount will be

determined on the basis of repayment capacity. Repayment capacity takes into account factors such as income, age, qualification, number of dependents, spouse's income, assets, liabilities, stability and continuity of occupation and savings history.

HUDCO Niwas was started in Cochin in the year 1999 with a view to provide housing loans to the needy applicants. From the beginning in 1999 to 27th July 2003 HUDCO Niwas had sanctioned loan worth Rs.15.18 crores for 726 applicants. About 35 per cent of the applicants are from Ernakulam district. From this 5 per cent is for the flat construction and the remaining 95 per cent for the construction of individual houses. Nearly 50 per cent of the loans are above Rs.3 lakhs in Ernakulam. A few have availed loan worth Rs.10 lakhs and above.

The loan period varies from 1 to 15 years and the interest rate depends up on the loan period, which ranges from 9.5 per cent to 14 per cent. Floating rate of interest shall be adjusted every six months i.e. on 1st April, which will be effective from 1st April to 30th September, and on 1st October, which will be effective from 1st October to 31st

March respectively. 46 per cent of the total sanctioned loan by HUDCO Niwas Cochin is for house construction in semi-urban areas and 54 per cent for house construction in urban areas.

The borrowers have to contribute about 15 per cent of the loan amount and the rest will be supplied by HUDCO Niwas. The loan amount will be released after every stage of construction. As per information given by HUDCO Niwas Cochin till 31st March 2003, out of the total sanctioned amount Rs.14.74 crores, the released amount is Rs.13.5crores. From April 1st to July 27th 2003, the sanctioned amount is Rs.44.2 lakhs for 20 applicants and the released amount is Rs.30.45 lakhs. Majority of the borrowers are the salaried class and business people and majority of the loans are for constructing individual houses. A few loans are for constructing flats at Cochin.

Table 3.1 discloses the nature of housing loan supplied by Housing and Urban Development Corporation of India from the very beginning of the institution in Ernakulam. In the initial years the loan amount and the number of loan beneficiaries are few in Ernakulam District.

Year after year slow improvement in the amount of loan and the number of borrowers can be noticed from Table 3.1. In the year 2002 – 2003 the institution has released Rs.307 lakhs as loan for residential construction purposes.

Table: 3.1 The number of borrowers and the amount of housing loan sanctioned by HUDCO.

(Rs. in lakhs)

Total	Total amount of loan	Number of borrowers.	Average amount
1999 – 2000	89	21	4.2
2000 – 2001	148	51	2.9
2001 – 2002	266	82	3.2
2002 – 2003	307	93	3.3
Total	810	247	3.3

Source: HUDCO Niwas, Ernakulam.

As per Table 3.2, Housing and Urban Development Corporation has distributed more housing loans in the semi urban areas of Ernakulam District. About 58 per cent of the housing loan amount from HUDCO is to semi urban areas of the district. From the very beginning of

HUDCO Niwas in Ernakulam the housing loan availed by the people of semi – urban areas remain more or less similar (55 to 60 per cent). This may be due to the high priority given by HUDCO to less developed regions compared to developed ones.

Table: 3.2 The amount of housing loan sanctioned by HUDCO - urban and semi – urban areas.

(Rs.in lakhs)

Year	Loan amount in urban area	Per - cent	Loan amount in semi-urban area	Per - cent	Total amount	Per - cent
1999 - 2000	27	41.6	52	58.4	89	100.0
2000 - 2001	59	39.9	89	60.1	148	100.0
2001 - 2002	121	45.5	145	54.5	266	100.0
2002 - 2003	127	41.4	180	58.6	307	100.0
Total	334	42.5	466	57.5	810	100.0

Source: HUDCO Niwas, Ernakulam.

Table 3.3 gives a detailed picture of the loan amount given to the construction of residential buildings by Housing and Urban Development Corporation in Ernakulam

Table: 3.3 The amount of housing loan availed and the number of persons, from HUDCO.

Amount Year	Below Rs. 200000		Rs.200000 – Rs.400000		Rs.400001 – Rs.600000		Rs.600001 – Rs.800000		Rs.800001 – Rs.1000000		Above Rs.1000000		Total Nu. of people who availed the loan	Per- cent
	Nu.of people who availed loan	per- cent	Nu.of people who availed loan	per- cent	Nu.of people who availed loan	per- cent	Nu.of people who availed loan	per- cent	Nu.of people who availed loan	per- cent	Nu.of people who availed loan	per- cent		
1999-2000	5	23.8	8	38.2	4	19.0	2	9.5	0	0.0	2	9.5	21	100.0
2000-2001	18	35.3	14	27.4	9	17.6	6	11.8	3	5.9	1	2.0	51	100.0
2001-2002	27	32.9	31	37.9	11	13.4	5	6.1	6	7.3	2	2.4	82	100.0
2002-2003	24	25.8	43	46.2	10	10.8	6	6.4	5	5.4	5	5.4	93	100.0
Total	74	29.9	96	38.9	34	13.8	19	7.7	14	5.7	10	4.0	247	100.0

Source: HUDCO Niwas, Ernakulam.

District. From 1999 – 2000 to 2002 – 2003, total 69 per cent borrowers have availed housing loan upto Rs.4/- lakhs each. Only 17 per cent have availed housing loan above Rs.6/- lakhs. This means that people are availing moderate amounts of housing loans in the area. But the number of people availing housing loan increases year after year. In the year 1999 – 2000 the number of people who availed housing loan is only 21 but it increased to 93 in 2002 – 2003.

Table: 3.4 Housing loan availed by various categories of people from HUDCO.

Category Year	Agri- cultur- ists	Per- cent	Busi- ness people	Per- cent	Pro- fess- ionals	Per- cent	clerks and others	Per- cent	Total	Per- cent
1999-2000	6	28.6	11	52.4	2	9.5	2	9.5	21	100.0
2000-2001	14	27.4	18	35.3	6	11.8	13	25.5	51	100.0
2001-2002	31	37.8	27	32.9	13	15.9	11	13.4	82	100.0
2002-2003	33	35.5	26	27.9	16	17.2	18	19.4	93	100.0
Total	84	34.0	82	33.2	37	15.0	44	17.8	247	100.0

Source: HUDCO Niwas, Ernakulam.

Table 3.4 reveals the nature of housing loan availed by various categories of people from Housing and

Urban Development Corporation in Ernakulam District. Agriculturists and the business people are the major category of borrowers for the construction of residential buildings from HUDCO (67 per cent) 18 per cent of the borrowers during the period 1999 – 2000 to 2002 – 2003 are salaried people (clerks and others). Professionals constitute only 15 per cent of the total borrowers for house construction during this period. But the number of borrowers from all categories of people increases year after year which is evident from Table 3.4. This is an indication of higher construction activity with in the district year after year.

Table 3.5 conveys the details regarding the housing loan given to the construction of independent houses and flats from Housing and Urban Development Corporation in Ernakulam District. Only 9 per cent of the total loan is for the construction of flats and the remaining 91 per cent is for the construction of independent houses in the district. In almost all the aforesaid years the pattern of loan is somewhat similar. That may be due to the preference of the people for individual houses over flats.

Table: 3.5 The number of independent houses and Apartments constructed by availing loan from HUDCO.

Type of house Year	Indepe ndent house	Per- cent	Flats	Per- cent	Total	Per- cent
1999 – 2000	19	90.5	2	9.5	21	100.0
2000 – 2001	46	90.2	5	9.8	51	100.0
2001 – 2002	74	90.2	8	9.8	82	100.0
2002 – 2003	86	92.5	7	7.5	93	100.0
Total	225	91.1	22	8.9	247	100.0

Source: HUDCO Niwas, Ernakulam.

3.2 Nationalised Commercial Bank

Nationalised Commercial Banks give housing loans to individuals on terms fixed by Reserve Bank of India. Prior to nationalisation, a negligible amount was distributed by these banks to housing sector, although they were not prohibited to do so. After nationalisation, a savings linked housing loan scheme was introduced but did

not make much impact on the aggregate disbursement to the housing sector. This scheme remained basically a deposit scheme owing to the difficulties in advancing loans against the mortgage of immovable property. It was extremely difficult for banks to realise the loan amount in case of default. In 1978 an attempt was made by the Reserve Bank of India to increase the housing loan disbursed through commercial banks by acting upon the recommendation of a working group set up for this purpose. However, the allocation of finance to the housing sector did not exceed 0.26 per cent in 1985, 0.28 per cent in 1986 and 0.26 per cent in 1987 against the working group's projection of 0.50 per cent.

The role of commercial banks in housing finance increased with the establishment of special branches and own special agency for granting housing loans to individuals. Majority of the nationalised commercial banks are providing housing loan facilities to people on a competitive basis now.

After the new millennium year 2000, there was a sharp increase in the deployment of bank credit to the housing sector in India. This factor is indent from Table 3.1

Table: 3.6 Deployment of bank credit to housing sector in India.

(Rs. in crores)			
Period	Amount	Variation	Per cent
2000 – 2001	16143	---	---
2001 – 2002	22346	6203	38.4
2002 – 2003	34654	12308	55.1

Source: Report trend and progress of banking in India 2002 – 03.

During the year 2001 – 2002 the deployment of bank credit to the housing sector increased from Rs.16143/- crores to Rs.22346/- crores. This means there was 38.4 per cent increase in the allocation of fund to the housing sector. In the year 2002 – 2003 the bank credit to the housing sector again increased from Rs.22346/- crores to Rs.34654/- crores (55.1 per cent). From this it is clear that the government is giving more priority to the development of housing sector, which is essential for the development of a country.

Being the leading bank in providing housing loans to the people, State Bank of India has been taken as the nationalised commercial bank for the purpose of our study.

Usually State Bank of India gives loans for construction, purchase, repair, renovation and alteration of a house or purchase of a plot meant for construction of a house. Individuals over 21 years of age with a steady source of income are eligible for the loan.

Loan amount is 60 times of net monthly income or 5 times of net annual income for borrowers of age 21 to 45 years or 48 times of net monthly income or 4 times of net annual income for borrowers over 45 years of age. Income of the spouse is considered if property is jointly held. Regular income from all sources including the rental income will be taken into account while determining the loan amount.

For the purchase of land 30 per cent of the total cost; for construction 15 per cent of the total project cost and for repair, renovation etc. 20 per cent, of the project cost should be provided by the borrower.

Loans are available at floating rates and fixed rates. Loans above rupees one crore are available only on floating rates and interest rate are subject to change from time to time.

The repayment period is upto 20 years for borrowers up to 45 years and 15 years for borrowers above 45 years Repayment will begin on completion or 18 months from first disbursal. But overall period will be 15 to 20 years depending up on the age of the applicant.

Disbursement of the loan will be made in different construction stages and after the full investment of margin money.



In the former years interest rate was charged as per the directions of Reserve Bank of India. But due to the changing scenario in the economy and liberalisation, the interest rate has been completely deregulated. Now the Reserve bank of India directed rate is 11 per cent and some changes can be made by the banks in this rate to meet the changing circumstances. So the banks are offering housing loan to the needy on a competitive basis. Now State bank of

India is charging the lowest interest rate on housing loans (2004) and this bank is the provider of maximum housing loan to the people also.

State Bank of India also offers special housing loan schemes to various category of employed people and charges a lower rate of interest from them. For example; Teachers plus, Police plus, Justice plus, Nurses plus etc. are some of the schemes introduced by the bank. The bank charges only 0.25 per cent less than the interest charged from others in this scheme. But in this scheme the repayment of the loan is possible only through salary deduction of the borrowers.

The State Bank of India in Cochin is performing its functions very efficiently. This bank is the provider of maximum credit to the people for housing. They are charging a very low interest from the people (8 per cent) compared to other banks in Cochin. The following table shows the money disbursed by the bank for the last 4 years for house construction to the people in Ernakulam district.

Table: 3.7 The number of borrowers and the amount of housing loan sanctioned from State Bank of India.

(Rs. in lakhs)

Year	Total amount of loan	Borrowers	Average amount
1999-2000	3863	2028	1.9
2000-2001	4978	2975	1.7
2001-2002	6986	3253	2.1
2002-2003	9280	4130	2.2
Total	25107	12386	2.0

Source: State Bank of India, Zonal Office, Ernakulam.

From Table 3.7 it is clear that with the passage of time loan amount and the number of borrowers increased. During the year 1999-2000 the amount of house loan is Rs.3863 lakhs but it increased to Rs.9280 lakhs in 2002 – 2003, which indicates a three-fold increase in 4 years. The number of borrowers has doubled during this time. This means that the loan amount to each borrower has increased considerably and the number of houses constructed also increased at a great pace.

Table 3.8 indicates the details regarding housing loan amount both in urban and semi – urban areas of Ernakulam district. In these two areas the total loan amount increase year after year. But in the urban areas of the district the percentage of loan increase year after year but in semi – urban centres it decrease gradually. From this it is obvious that the importance of housing loan from State Bank of India increases in urban areas of Ernakulam district.

Table: 3.8 The amount of housing loan sanctioned by State Bank of India – urban and semi urban areas.

(Rs.in lakhs)

Year	Loan amount in urban area	Per-cent	Loan amount in semi-urban area	Per-cent	Total amount	Per-cent
1999 - 2000	1740	45.0	2123	55.0	3863	100.0
2000 – 2001	2028	40.7	2950	59.3	4978	100.0
2001 - 2002	3478	49.8	3508	50.2	6986	100.0
2002 - 2003	4890	52.7	4390	47.3	9280	100.0
Total	12136	48.3	12971	51.7	25107	100.0

Source: State Bank of India, Zonal Office, Ernakulam.

Table: 3.9 The amount of housing loan availed and the number of persons, from State Bank of India.

Amount Year	Below Rs. 200000		Rs.200000 – Rs.400000		Rs.400001 – Rs.600000		Rs.600001 – Rs.800000		Rs.800001 – Rs.1000000		Above Rs.1000000		Total Nu. of people who availed the loan	Per- cent
	Nu. of people who availed loan	per- cent	Nu.of people who availed loan	per- cent	Nu.of people who availed loan	per- cent	Nu.of people who availed loan	per- cent	Nu.of people who availed loan	per- cent	Nu.of people who availed loan	per- cent		
1999-2000	1170	57.7	592	29.2	212	10.4	34	1.7	14	0.7	6	0.3	2028	100.0
2000-2001	1318	44.3	846	28.4	553	18.6	157	5.3	73	2.5	28	0.9	2975	100.0
2001-2002	1743	53.6	1012	31.1	245	7.5	110	3.4	102	3.1	41	1.3	3253	100.0
2002-2003	1718	41.6	1388	33.6	596	14.4	292	7.1	90	2.2	46	1.1	4130	100.0
Total	5949	48.1	3838	30.9	1606	12.9	593	4.8	279	2.3	121	1.0	12386	100.0

Source: State Bank of India, Zonal Office, Ernakulam.

Table 3.9 reveals the amount of loan availed by the borrowers for the construction or purchase of dwelling units. Majority of the borrowers have availed up to 4 lakh rupees as loan and a very few have availed loan above 10 lakhs rupees. With the passage of time borrowers increased and the amount of loan sanctioned by the banks are also on the increase. From this it is understood that the house construction activity in the economy is increasing at a faster rate recently compared to previous years.

Table: 3.10 Housing loan availed by various categories of people from State Bank of India.

Category Year	Agri- cultu- rists	Per- cent	Busi- ness people	Per- cent	Pro- fess- ionals	Per- cent	Clerks and others	per- cent	Total	Per- cent
1999-2000	118	5.8	815	40.2	472	23.3	623	30.7	2028	100.0
2000-2001	273	9.2	987	33.2	598	20.1	1117	37.5	2975	100.0
2001-2002	422	12.9	1113	34.2	634	19.5	1084	33.4	3253	100.0
2002-2003	632	15.3	1283	31.1	789	19.1	1426	34.5	4130	100.0
Total	1445	11.7	4198	33.9	2493	20.1	4250	34.3	12386	100.0

Source: State Bank of India, Zonal Office, Ernakulam.

Table 3.10 gives an idea about the nature of people who availed housing loan from State Bank of India for the last four years in Ernakulam District. Business people are the single major category who availed housing loan during this period. Clerks and others (salaried class) are the other major categories that use bank loans for the construction of their houses. But agriculturists are the minor category who use bank loan for the house construction. That may be due to the difficulty in providing adequate securities to the bank for sanctioning the loan. However, about 70 per cent of the people who have availed housing loan for the last four years from the bank are business class and the salaried class and only 20 per cent of the people who availed loan are professionals.

Table 3.11 shows the loan availed from State Bank of India for the construction of independent houses and flats for the last four years. The pattern of loan is somewhat similar over the years. Only 5 per cent of the total housing loan is for the construction of flats during these four years and 95 per cent is for the construction of independent houses. During the year 2001 – 2002 the loan availed for flats construction is the highest (7 per cent) and

in 2002 – 2003 flat construction loan is lowest (2.9 per cent). In all the four years the loan availed for the construction of independent houses are above 93 per cent.

Table: 3.11 The number of independent houses and Apartments constructed by availing loan from State Bank of India.

Type of house Year	Inde- pendent houses	Per- cent	Flats	Per- cent	Total	Per- cent
1999 – 2000	1927	95.0	101	5.0	2028	100.0
2000 – 2001	2777	93.3	198	6.7	2975	100.0
2001 – 2002	3026	93.0	227	7.0	3253	100.0
2002 – 2003	4012	97.1	118	2.9	4130	100.0
Total	11742	94.8	644	5.2	12386	100.0

Source: State Bank of India, Zonal Office, Ernakulam.

The interest on housing loan varies frequently. In the year 2003 itself interest rate changed three times. Upto 31st January 2003 the State Bank of India was charging 9.25 per cent for the housing loans up to 5 years. For the loans

more than 5 years but less than 10 years, the interest rate was 9.75 per cent and for 10 years and above the rate was 10.25 per cent. But from 1st February 2003 onwards the bank was charging 9 per cent for the housing loans up to 10 years and above 10 years the interest was 9.5 per cent. The present interest rate has changed again. Now State Bank of India is charging 8 per cent for the loans up to 5 years. More than 5 years but less than 10 years 8.75 per cent and above 10 years and up to 20 years 9.25 per cent. All the above details are about the variable rate of interest of the bank. The bank has another rate of interest, which is known as the fixed rate and this rate will always be 0.25 per cent higher than the variable rate of interest. Always the bank charges variable rates of interest on long term loans.

As per the information gathered from State Bank of India, Cochin, out of the total loans sanctioned, less than 10 per cent was for the construction or purchase of flats and the remaining was for the independent houses. As the interest rate on housing loan is very low, a large number of people are interested in the construction of houses by availing loan from banks so as to make it a permanent source of income by giving these houses for rent.

3.3 Scheduled Commercial banks

Now-a-days the scheduled commercial banks are playing a vital role in providing housing finance to the needy. In the olden days no such importance was given for providing loans to the people. Until recently scheduled commercial banks considered the provision of house loan as the responsibility of the government and other institutions such as LIC, GIC, HUDCO, HDFC, Can Fin Homes, Nationalised banks etc. Only a few years back, they realised the importance of providing housing loans to the people. Now majority of the scheduled commercial banks are providing loans to the required people in almost all parts of India.

As per Table 3.12 the minimum prescribed housing finance amount for allocation by scheduled commercial banks was Rs.5046/- crores, but the amount actually disbursed was Rs.14746/- crores. So the actual disbursed amount was three times larger than the minimum prescribed amount during the year 2001 – 2002. The disbursed amount Rs.14746/- crores was 52 per cent larger than the previous year. In 2002 – 2003 the minimum

prescribed amount for allocation as housing finance was Rs.8574/- crores, but the actual disbursement was Rs.33841/- crores which was 129.5 per cent higher than the

Table: 3.12 Housing finance by scheduled commercial Banks in India

Period	Minimum prescribed allocation	Percentage change over the previous year	Disbursement	Percentage change over the previous year
2001 – 2002	5046	31.1	14746	51.9
2002 - 2003	8574	69.9	33841	129.5

Source: Report on trend and progress of banking in India 2002 – 2003.

previous year's disbursed amount and 4 times larger than the minimum prescribed allocation. The minimum prescribed amount for allocation during 2001 – 2002 was 31 per cent larger than the previous year and in 2002 – 2003 it was 69.9 per cent larger than the year 2001 – 2002. So the banks in India are increasing their housing finance amount year after

year by taking to account the demand of the people for housing loan.

The Dhanalekshmy Bank Ltd has been taken as the scheduled bank for the purpose of our study, as it is a Kerala based bank promoted by enterprising Thamil Iyers settled in the cultural capital of Kerala long back. The origin of the bank can be traced back to the year 1927, November 14 with the motto of helping the needy.

The Bank has got 159 branches spread over the State of Kerala, Tamil Nadu, Karnataka, Andhrapradesh, Maharashtra, Gujarath, New Delhi and West Bengal. The credit goes to Dhanalekshmy Bank for the first Kerala based bank for having achieved 100 per cent computerisation level in branches as well as administrative offices.

The bank usually gives housing loans for the construction of residential buildings, purchase of residential buildings, flats etc, the extension of house with additional plinth area and also for take-over of existing home loans from other financial institutions.

Individuals, professionals, businessmen, agriculturists, planters etc with an annual income not less than 90000/- are eligible for the advance. But salaried people with net monthly pay of Rs.6000/- (including that of spouse) are eligible for the loan.

Usually the loan amount is 85 per cent of construction cost or purchase value of the house. The maximum loan limit is Rs.20 lakhs in urban/metro areas and Rs.10 lakhs in semi urban and rural areas. The rate of interest varies as per the existing rules and prevailing condition in the country.

The loan period is minimum 5 years and maximum 15 years.

The security demanded by the bank for the housing loan is the mortgage of land with building proposed to be constructed/purchased or the to co - obligancy of spouse.

Out of 159 total branches, 112 are in Kerala State. The bank has got several branches in the study area,

Ernakulam district. Till recently as the bank was not much interested in giving housing loan to the people the total amount distributed, as housing loan in the district was very low.

During the platinum Jubilee year 2002 the bank had announced several new loan schemes to the people. One among them was the Dhanam Platinum Jubilee Home Loan Advantage. Through this scheme the bank has distributed house loan to a large number of people compared to earlier years. In Ernakulam District also the number of people who availed house loans increased considerably during this year.

Table 3.13 gives details about the total amount of loan sanctioned and the number of people who availed loan from Dhanalekshmy bank from 1999 – 2000 to 2002 – 2003. During the year 1999 – 2000 the number of people who availed loan from Dhanalekshmi bank in Ernakulam district is very less i.e. 18 and the amount borrowed is 42 lakhs. But in 2000 – 2001 a slight increase in number of borrowers and amount of loan can be noticed from Table 3.5. In the platinum Jubilee year 2002 – 2003 more than two fold

increase in the loan amount can be seen from the table. This increased trend of housing finance is continuing in Ernakulam District as per the information given by Dhanalekshmy Bank in Ernakulam.

Table: 3.13 The number of borrowers and the amount of housing loan sanctioned from Dhanalekshmy Bank.

Year	(Rs. in lakhs)		
	Total amount of loan	Nu. of borrowers	Average amount
1999 – 2000	42	18	2.3
2000 – 2001	65	25	2.6
2001 – 2002	120	52	2.3
2002 – 2003	286	98	2.9
Total	513	193	2.7

Source: Dhanaleskhmi Bank, Regional Office, Ernakulam.

Table:3.14 The amount of housing loan sanctioned by Dhanalekshmy Bank – urban and semi urban areas.

(Rs. in lakhs)

Year	Amount of loan in urban area	Per-cent	Amount of loan in semi-urban area	Per-cent	Total amount	Per-cent
1999-2000	19	45.2	23	54.8	42	100.0
2000-2001	32	49.2	33	50.8	65	100.0
2001-2002	51	42.5	69	57.5	120	100.0
2002-2003	123	43.0	163	57.0	286	100.0
Total	225	43.9	288	56.1	513	100.0

Source: Dhanalekshmy Bank, Regional Office, Ernakulam.

Table 3.14 shows the pattern of distribution of housing loan in the urban and semi – urban areas of Ernakulam district by Dhanalekshmy bank. In all the four years (from 1999 – 2000 to 2002 – 2003) the amount of loan availed in Semi – urban area is larger than that in urban area. But the difference in the amount is not so amazing. More housing loan amount in Semi – urban areas may be due to

the high – land cost in urban centres. Due to high land cost people may be moving to Semi – urban areas, where the land cost is comparatively low, to construct their houses. Such a shift of population may gradually increase the land cost in Semi – urban areas also.

But the amount of housing loan in both urban and semi – urban areas are increasing gradually over the years. With in four years more than five fold increase in the loan amount can be noticed in urban areas and six fold increase in semi – urban areas of Ernakulam district. The increase in loan amount was very high during the year 2002 – 2003 compared to the former years. This may be due to the introduction of new housing loan scheme by Dhanalekshmi bank during its Platinum Jubilee year 2002.

Table 3.15 gives a clear picture of the loan amount, which people availed from Dhanalekshmi bank, Ernakulam District. During the year 1999 – 2000 no body availed more than Rs.800000/- as housing loan. In the period 1999 – 2000 to 2002 – 2003 majority of the people availed housing loan below Rs.200000/-. More than 71 per cent of the housing loan beneficiaries availed loan up to

Table: 3.15 The amount of housing loan availed and the number of persons, from Dhanalekshmi Bank.

Year	Below Rs. 200000		Rs.200000 – Rs.400000		Rs.400001 – Rs.600000		Rs.600001 – Rs.800000		Rs.800001 – Rs.1000000		Above Rs.1000000		Total Nu. of people who availed the loan	Per-cent
	Nu.of people who availed loan	per-cent	Nu.of people who availed loan	per-cent	Nu.of people who availed loan	per-cent	Nu.of people who availed loan	per-cent	Nu.of people who availed loan	per-cent	Nu.of people who availed loan	per-cent		
1999-2000	8	44.4	5	27.8	3	16.7	2	11.1	0	0.0	0	0.0	18	100.0
2000-2001	12	48.0	6	24.0	2	8.0	3	12.0	2	8.0	0	0.0	25	100.0
2001-2002	27	51.9	11	21.2	5	9.6	3	5.8	4	7.7	2	3.8	52	100.0
2002-2003	43	43.9	26	26.5	11	11.2	8	8.2	7	7.1	3	3.1	98	100.0
Total	90	46.6	48	24.9	21	10.9	16	8.3	13	6.7	5	2.6	193	100.0

Source: Dhanalekshmy Bank, Regional Office, Ernakulam..

Rs.400000/-. During these four years only a few have availed more than Rs.800000/- as housing loan from the bank. Only 2.6 per cent of the total borrowers are in the category of above Rs.1000000/-. It may be noted that the number of borrowers for house construction increases year after year and the loan amount released by the bank as housing loan is also on the increase.

Table: 3.16 Housing loan availed by various categories of people from Dhanalekshmi Bank.

Category Year	Agri- cultu- rists	Per- cent	Busi- ness people	Per- cent	Pro- fess- ionals	Per- cent	Clerks and others	Per- cent	Total	Per- cent
1999-2000	3	16.7	7	38.9	2	11.1	6	33.3	18	100.0
2000-2001	5	20.0	11	44.0	1	4.0	8	32.0	25	100.0
2001-2002	9	17.3	17	32.7	4	7.7	22	42.3	52	100.0
2002-2003	14	14.3	29	29.6	18	18.4	37	37.7	98	100.0
Total	31	16.1	64	33.2	25	12.9	73	37.8	193	100.0

Source: Dhanalekshmy Bank, Regional Office, Ernakulam

Table 3.16 shows the category of people who availed housing loan from Dhanalekshmi Bank in Ernakulam

district for the last four years. Business people are the second largest group who availed housing loan from the bank. Salaried class (clerks and others) come in the first place in the case of housing loan beneficiaries. Professionals and agriculturists have availed only a very small part of the total loan. But the number of borrowers from agriculturists and professionals for house construction increase year after year. This increase is negligible compared to the increase in the number of business people and salaried class.

Table: 3.17 The number of independent houses and Apartments constructed by availing loan from Dhanalekshmi Bank.

Type of house Year	Independent houses	Per-cent	Flats	Per-cent	Total	Per-cent
1999 – 2000	17	94.4	1	5.6	18	100.0
2000 – 2001	24	96.0	1	4.0	25	100.0
2001 – 2002	50	96.2	2	3.8	52	100.0
2002 – 2003	96	98.0	2	2.0	98	100.0
Total	187	96.9	6	3.1	193	100.0

Source: Dhanalekshmy Bank, Regional Office, Ernakulam

As per Table 3.17, only 3 per cent of the flats have constructed by availing housing loan from Dhanalekshmi Bank in Ernakulam district during the period 1999 – 2000 to 2002 – 2003. 97 per cent of the loans availed from Dhanalekshmi bank is for the construction of independent houses during this period. Even though the number of people who are taking loans for the construction of independent houses increase over the years, no such increase could be seen in the case of flat construction. Out of the total housing loan sanctioned in Ernakulam, only 3 per cent is for the construction of flats.

3.4 Private sector housing finance institutions

Private sector financial institutions are mushrooming in India since 1980's. A large number of private finance companies have been started by individuals or a group of individuals for catering the financial needs of the people in the economy. They have been flourishing in the economy by satisfying the demands of the individuals, business houses, construction companies etc.

As a part of their business, these private institutions are giving loans for house construction, home improvements, home extension etc. on the security of mortgage of the dwelling units, extension of mortgage already created on the property financed etc. Some private institutions have been set up exclusively for financing house construction and allied operations. Housing Development and Finance Corporation, Dewan Housing Finance Corporation etc. are some examples for this type of institutions

In the present context the working of Dewan Housing Finance Corporation limited and their operation in Ernakulam district has been taken into account here.

Dewan Housing Finance Corporation Limited started in 1984 is the leading private sector housing finance company. Since 1984 it has been assisting the people to realise their dreams to owning their homes. At present there are 41 branches all over India. There is equity participation by public sector banks and financial institutions.

People can avail housing loan ranging from Rs. 10,000 to 25 lakhs, not exceeding 85 per cent of the cost of property.

The actual loan amount will be determined after taking into account factors like repayment capacity, age, educational qualifications, stability and continuity of income, number of dependents, co-applicant's income, assets, liabilities, saving habits etc. However the maximum loan amount is Rs.50 lakhs.

The repayment term ranges from 3 years to 10 years. The term, however, does not extend beyond the borrower's retirement age or 55 years which ever is earlier.

The repayment of the housing loan is usually in Equated Monthly Instalments. The Equated Monthly Instalment comprises of Principal and Interest components. The size of Equated Monthly Instalment depends on the quantum of loan, interest rate applicable and tenure of the loan. The security for the loan is the first mortgage of the property to be financed, normally by way of deposit of title deeds or any such other collateral security as may be deemed

fit and necessary by Dewan Housing Finance Corporation Limited. Assignment of Life Insurance Policy, if found necessary, will also be required.

The rate of interest depends upon the policy followed by the Reserve Bank of India and the prevailing circumstances in the economy. In the year 1999 – 2000 the rate of interest charged by Dewan Housing Finance Corporation is 12.5 per cent. But it reduced to 11.5 per cent in 2001 and 11 per cent in 2002. Now in 2003 the interest rate slashed to 10 per cent again. As per the details given by Dewan Housing Finance Corporation in Ernakulam, they have distributed Rs.5200 lakhs as house loan in their areas of operation and from this Rs.2600 lakhs is in Ernakulam District during 2002 – 03. This amount was Rs.1900 lakhs, Rs.1600 lakhs and Rs.1400 lakhs during 2001 – 2002, 2000 – 2001 and 1999 – 2000 respectively in Ernakulam District.

Table 3.18 gives the details regarding the amount of housing loan distributed among the people in Ernakulam District by Dewan Housing Finance Corporation during 1999 – 2000 to 2002 – 2003. The number of borrowers and the amount of loan increases over the years. The loan

amount, compared to former years, is very high in 2002 – 2003.

Table: 3.18 The number of borrowers and the amount of housing loan sanctioned by Dewan Housing Finance Corporation.

Year	(Rs. in lakhs)		
	Total amount of loan	Nu. of borrowers	Average amount
1999 – 2000	1400	325	4.3
2000 – 2001	1600	400	4.0
2001 – 2002	1900	475	4.0
2002 – 2003	2600	560	4.6
Total	7500	1760	4.3

Source: Dewan Housing Finance Corporation, Ernakulam.

Table 3.19 shows the disbursement of housing loan by Dewan Housing Finance Corporation during the period 1999 –2000 to 2002 – 2003 in the urban and semi – urban areas of Ernakulam District. 54 per cent of the total loan availed during this period is in the semi – urban areas of the district and 46 per cent is in urban areas. It is

observed that the amount of housing loan in semi urban areas decreases over the years and in the urban area increases. In the year 2002 – 2003 there is equal division of housing loan in the urban and semi-urban areas of the district.

Table: 3.19 The amount of housing loan sanctioned by Dewan Housing Finance Corporation - urban and semi urban areas.

(Rs. in lakhs)

Year	Loan amount in urban area	Per-cent	Loan amount in semi-urban area	Per-cent	Total amount	Per-cent
1999-2000	500	35.7	900	64.3	1400	100.0
2000-2001	750	46.9	850	53.1	1600	100.0
2001-2002	900	47.4	1000	52.6	1900	100.0
2002-2003	1300	50.0	1300	50.0	2600	100.0
Total	3450	46.0	4050	54.0	7500	100.0

Source: Dewan Housing Finance Corporation, Ernakulam.

Table 3.20 clearly brings out the amount of housing loan availed by the various people from Dewan

Table: 3.20 The amount of housing loan availed and the number of persons, from Dewan Housing Finance Corporation.

Amount Year	Below Rs. 200000		Rs.200000 – Rs.400000		Rs.400001 – Rs.600000		Rs.600001 – Rs.800000		Rs.800001 – Rs.1000000		Above Rs.1000000		Total No. of people who availed the loan	Per- cent
	Nu.of people who availed loan	per- cent	Nu.of people who availed loan	per- cent	Nu.of people who availed loan	per- cent	Nu.of people who availed loan	per- cent	Nu.of people who availed loan	per- cent	Nu.of people who availed loan	per- cent		
1999-2000	82	25.2	88	27.1	44	13.5	57	17.6	31	9.5	23	7.1	325	100.0
2000-2001	107	26.8	139	34.7	48	12.0	37	9.3	42	10.5	27	6.7	400	100.0
2001-2002	136	28.6	151	31.8	59	12.4	47	9.9	51	10.8	31	6.5	475	100.0
2002-2003	141	25.2	203	36.2	65	11.6	39	6.9	65	11.6	47	8.4	560	100.0
Total	466	26.5	581	33.0	216	12.3	180	10.2	189	10.7	128	7.3	1760	100.0

Source: Dewan Housing Finance Corporation, Ernakulam.

Housing Finance Corporation for four years starting from 1999 – 2000. 33 per cent of the housing loan beneficiaries have availed loan worth Rs.200000 to Rs.400000 during the period 1999 – 2000 to 2002 – 2003. 27 per cent have availed loan below Rs.200000/- each for house construction. Only 7 per cent have availed more than Rs.1000000/- each during this period. But the total loan amount and the number of borrowers are increasing year after year which is evident from Table 3.20. This increase is very slow during the former years but year after year this increase get momentum.

Table: 3.21 Housing loan availed by various categories of people from Dewan Housing Finance Corporation.

Category Year	Agri- cultur- ists	Per- cent	Busi- ness people	Per- cent	Pro- fess- ionals	Per- cent	Clerks and others	Per- cent	Total	Per- cent
1999-2000	14	4.3	165	50.8	87	26.8	59	18.1	325	100.0
2000-2001	9	2.3	219	54.8	105	26.2	67	16.7	400	100.0
2001-2002	11	2.3	258	54.3	164	34.5	42	8.9	475	100.0
2002-2003	26	4.6	214	38.2	179	32.0	141	25.2	560	100.0
Total	60	3.4	856	48.6	535	30.4	309	17.6	1760	100.0

Source: Dewan Housing Finance Corporation, Ernakulam.

The housing loan availed from Dewan Housing Finance Corporation; Ernakulam by different category of people is depicted in Table 3.21. Only very small portion of the total loan beneficiaries (3.4 per cent) are agriculturists during the four years period – from 1999 – 2000 to 2002 – 2003. 49 per cent of the total housing loan beneficiaries are business people and 30 per cent professionals. Out of the total housing loan beneficiaries 17.6 per cent are clerks and others. This means that the business people and professionals are the major borrowers for the construction of residential buildings from Dewan Housing Finance Corporation, Ernakulam for the last four years.

It is evident from Table 3.22 that the number of flats constructed by availing loan from Dewan Housing Finance Corporation in Ernakulam district during 1999 – 2000 to 2002 – 2003 is negligible. But the number of independent houses constructed by availing loan year after year enhance considerably. 97 per cent of the loan for the last four years starting from the year 1999 – 2000, is for the construction of independent houses. Only 3 per cent of the total housing loan in these four years from Dewan Housing Finance Corporation is for the constructing flats.

Table: 3.22 The number of independent houses and Apartments constructed by availing loan from Dewan Housing Finance Corporation.

Type of house Year	Independent houses	Per - cent	Flats	Per- cent	Total	Per- cent
1999 – 2000	315	96.9	10	3.1	325	100.0
2000 – 2001	388	97.0	12	3.0	400	100.0
2001 – 2002	466	98.1	9	1.9	475	100.0
2002 – 2003	540	96.4	20	3.6	560	100.0
Total	1709	97.1	51	2.9	1760	100.0

Source: Dewan Housing Finance Corporation, Ernakulam.

From the above discussion it is clear that the real beneficiaries of housing finance are the people who are constructing independent houses. Out of the total housing loan beneficiaries only less than ten per cent have availed loan for the construction of flats. State Bank of India is the major provider of housing loan and scheduled commercial banks and private sector financial institutions are improving

their share recently by providing more amount as housing loan to the people.

THE SOCIO - ECONOMIC STATUS OF THE INHABITANTS

C.B. Baby “Economics of high - rise apartments in Kerala a case study of Cochin city” Thesis. Department of Economics , Dr. John Matthai Centre Thrissur, University of Calicut, 2004

CHAPTER IV

A SOCIO – ECONOMIC STATUS OF THE INHABITANTS

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THE SOCIO – ECONOMIC STATUS OF THE INHABITANTS

This chapter analyses the socio – economic status of the inhabitants of High – Rise Apartments in Cochin City. Four categories of High – Rise households have been considered. Cochin City is famous for its high density and concentration of a vast variety of business establishments¹.

4.1 Profile of the study area

Ernakulam district is situated almost at the middle of Kerala state and has the credit of being the economic nerve centre of the state. It is the most industrially advanced and flourishing district of Kerala compared to other districts². The district head quarters is at Kochi, which is a palm green commercial city endowed with one of the finest natural harbours in the world. The harbour is the nucleus around

¹ Census of India (1991), Series 12, Part XII – A & B, District Hand Book, Ernakulam, Director of Census Operations, Kerala, pp. 14 - 64.

² Ibid.

which Kochi and surrounding regions have grown and has become the “Queen of the Arabian Sea”. The hinter lands of the district lying in every direction also have been contributing to its fast trade and industrial development.

Ernakulam district was formed on 1st April 1958 and presently contains seven Taluks, one Corporation and eleven Municipalities. The area covered by the district is about 2407 sq. kms. from east to west.

Agriculture constitutes the most important component of the district’s economy and it is the largest source of employment. About 70 per cent of the area is under cultivation.

Ernakulam district is bestowed with all the geographical features, which help the development of industries and it is in the forefront of all other districts in Kerala in the field of industry. The availability of all types of transport facilities viz road, rail, canal and sea is a major factor which is unique to this district to facilitate the phenomenal

growth in the field of industry. The development of large-scale industries has paved the way for the establishment of several ancillary units in the small-scale sector.

The Kochi Corporation, which came into existence in November 1976, is the biggest of the five Corporations in Kerala. The Greater Cochin Development Authority, which was formed to save the Cochin agglomeration from acute environmental and other problems.

The contribution of Ernakulam district from agricultural sector to Net State Domestic Product is Rs.144144 lakhs, industrial sector's contribution amounts Rs.200758 lakhs and service sector Rs.395196 lakhs. This means the total contribution of Ernakulam districts to the Net State Domestic Product from the three sectors taken together (primary, secondary and tertiary) comes 11.8 per cent³.

The rate of growth of primary sector in Ernakulam district during 1999 – 2000 was 2.3 per cent, secondary sector

³ Economic Review (2000), State Planning Board, Government of Kerala, Thiruvananthapuram, p. S13.

12.7 per cent and tertiary sector 19.8 per cent. This indicates the high growth of tertiary sector compared to the other two sectors.

Ernakulam occupies an important place among the districts of Kerala in the field of literacy and educational standards. There are adequate facilities for education from pre – primary level to post graduate level and for professional and technical education both in the government and private sector.

At the turn of the nineteenth century Ernakulam district had a population of 646235 persons. During the last 100 years Ernakulam district witnessed a remarkable increase in population. According to 2001 census, the population of the district is 3098378 of which 1535881 males and 1562497 females. The rural population of the district is 1621890 of which 895950 are males and 725940 females. Out of 1476488 urban population 729931 are males and 746557 females. The density of population of the district as per 2001 census is 1050, which is very high compared to the state density of 819.

The Net Domestic Product at current price of the district during 1999 – 2000 is Rs.740098 lakhs and per capita income at current price in the year is Rs.23020, which is the highest among the districts in Kerala. Ernakulam district has the rare distinction of having been declared as the first totally literate district in India. The literacy rate of the Ernakulam district is 83.6 percent according to the census of 2001, which is above the literacy rate of Kerala state (80.5 per cent). Ernakulam district with 17.86 per cent urban population ranks first in respect of percentage of urban population to total population of the state⁴.

The places covering a total area of 1.18 sq. km., scattered in various parts of Kochi Corporation and with a population of 7,901 approximately are treated as slum. The proportion of slum population to total population of the city comes to 1.32 per cent. The density of population in the above slum comes to 6,696⁵.

⁴ Census of India 2001, Provisional Population Totals, Kerala, Series 33, Paper-2, Director of Census Operations, Kerala.

⁵ Ibid.

Alwaye, the industrial town is just 15 Kms away from Kochi. The local language is Malayalam and main occupations of people are trading and fishing. Hinduism, Christianity, Islam, Jainism and Judaism are the main religions.

The business community comes under high-income group and majority of the inhabitants of sample High – Rise Apartments are business class. Besides this the occupants are highly educated, highly influential and with high economic conditions. So all these factors influence their socio -economic status.

As a preliminary step the investigator has attempted a socio – economic survey. It seeks to bring about the features like the size of the family, number of earners in the family, occupation, type of house, age and sex composition, educational status, expenditure pattern, sources of income, liabilities of the households, religious pattern etc. The study is mainly under taken with a view to find out the nature and living condition of occupants and to evaluate the social and economic status of the High – Rise households.

Table: 4.1 Age group of heads of sample households.

Age group	Nu. of respondents	Per cent
Below 25	1	0.2
25 – 30	31	4.8
31 – 35	116	17.9
36 – 40	79	12.2
41 – 45	172	26.4
46 – 50	72	11.0
51 – 55	79	12.1
56 – 60	34	5.2
Above 60	66	10.2
Total	650	100.0

Source: Survey

The age group of heads of households is given in Table 4.1. It is observed that more than 26 per cent of the heads of sample households are in the age group of 41 – 45 and about 18 per cent in the age group of 31 – 35; only 0.2 per cent is below the age of 25. From the table it is clear that only 39 per cent of the heads of sample households are above the

age of 45 and 61 per cent below 45. From this we can understand that the youngsters and middle-aged have more attraction to High – Rise living than the aged group.

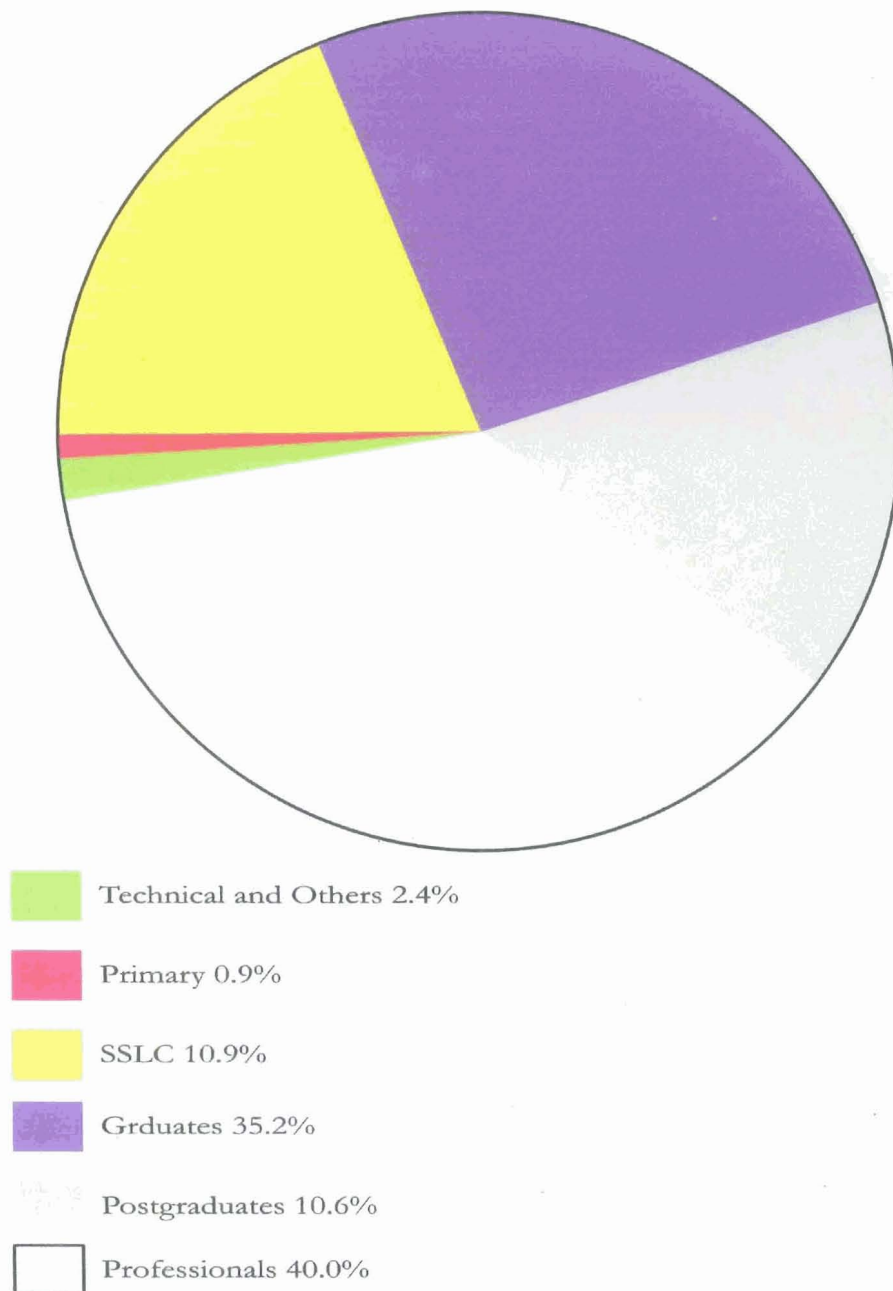
Table: 4.2 Education level of heads of households.

Education level	Nu. of respondents	Per cent
Primary	6	0.9
S S L C	71	10.9
Graduates	229	35.2
Post-graduates	69	10.6
Professionals	260	40.0
Technical	15	2.4
Total	650	100.0

Source : Survey

Table 4.2 reveals the education level of heads of sample High – Rise households. It can be seen that 40 per cent of the heads are professionals and more than 35 per cent are graduates. Post graduates and matriculates account 11 per cent

Fig. 4.1 Education level of heads of households



each. Technically skilled persons constitute only a little more than 2 per cent and 1 per cent has only primary education.

However an analysis of their education level reveals that a significant proportion of the residents are professionals, which generally earn higher income and a high status in the society.

Table: 4.3 Types of heads of sample households.

Heads of households	Nu. of households	Per cent
Male headed	634	97.5
Female headed	16	2.5
Total	650	100.0

Source: Survey

It can be noticed from Table 4.3 that male-headed houses are prominent in sample households. Out of 650 sample households, 634 (97.5 per cent) are male headed and

only 16 (2.5 per cent) are female headed. The reason for female-headed household in the sample area is due to the death of the male head or unmarried female occupancy.

Income is a significant determinant of abilities of people, facilities which people enjoy, nature of expenditure etc. Standard of living, consumption pattern etc are also influenced by income. Primary sector is the major provider of income to the rural folk where as the secondary and tertiary sector (service sector) is predominant in cities.

Table 4.4 illustrates the nature of sources of income of sample High – Rise households. More than 90 per cent of the income of households comes from occupation. Only a negligible amount is constituted by agriculture and other source (10 per cent). To the above 3-bedroom category households, more than 99 per cent of their income is from occupation and nearly 0.5 per cent from agriculture and other sources. The major agriculture income earners are 3 bedroom and single bedroom category households (i.e. 12.51 and 10.77 per cent respectively). The table also shows the difference in occupancy

pattern with difference in income. There is positive relationship between income and the type of houses. For instance, low-income category occupies smaller houses and high-income category occupies larger houses. The variation in income exists because of the difference in the occupation pattern of various groups of sample households.

Table: 4.4 Sources of monthly income of sample High-Rise households.

Type of house	Income from occupation		Income from agriculture		Income from other sources		Total income
	Amount	Per cent	Amount	Per cent	Amount	Per cent	
1 bed room	35375	85.11	4475	10.77	1714	4.12	41564
2 bed room	61909	97.11	867	1.36	974	1.53	63750
3 bed room	98757	85.25	14495	12.51	2590	2.24	115843
Above 3 bedroom	126200	99.53	267	0.21	333	0.26	126800
Total	71066	90.29	6019	7.65	1626	2.07	78712

Source: Survey

$$\chi^2 (0.05) = 2151.6$$

χ^2 test was applied to find whether there is any association between the sources of income and type of house.

H_0 : The attributes the source of income and type of house are independent

H_1 : Association between attributes.

Table: 4.5 Monthly per household income of the sample High – Rise households.

Type of house	Nu. of sample households	Total income (In rupees)	Per household income (In rupees)
1 bed room	140	5819000	41564
2 bed room	270	17212500	63750
3 bed room	210	2432700	115843
Above 3 bed room	30	3804000	126800
Total	650	51162500	78712

Source: Survey

Income is a crucial determinant of living standard. With the increase in income, the facilities and conveniences the households enjoy will be more. As per Table 4.5, the monthly

per household income is ranging from Rs.41564 to Rs.126800. It is the lowest among the one bedroom group and the highest for above 3 bedroom group. The family size of the above 3 bed room household is the smallest (2.6) while the income of this group is the highest. From table 4.5 it is clear that high-income earners occupy larger houses and small income earners small houses. This means that income is an important factor in determining the size of the house. The disparity in income between one bedroom household and the other three types of households are very high.

Table 4.6 gives a clear picture about the income and type of occupation of sample High – Rise households. While examining their occupational structure it is obvious that a significant proportion of the residents are in occupations, which provide relatively higher income. It may be seen that more than 43 per cent of the sample households are engaged in business. The low-income occupation, like clerks, last grade, schoolteachers etc, accounts for nearly 5 per cent of the households. In other words the residents of High – Rise Apartments consist of highly educated professionals, and

Table: 4.6 Distribution of High – Rise households by income and occupational type.

Income Occupation	Below Rs. 20,000		Rs. 20,000- 40,000		Rs. 40,001- 60,000		Rs. 60,001- 80,000		Rs. 80,001- 1,00,000		Above Rs. 1,00,000		Total	
	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent
Business	8	2.8	38	13.6	54	19.3	80	28.6	30	10.7	70	25.0	280	100.0
Engineers	0	0.0	12	17.9	20	29.9	18	26.9	8	11.9	9	13.4	67	100.0
Doctors	0	0.0	12	19.0	12	19.0	26	41.3	9	14.3	4	6.4	63	100.0
Lecturers	0	0.0	7	33.3	3	14.3	10	47.6	0	0.0	1	4.8	21	100.0
School teachers	0	0.0	5	45.5	5	45.5	1	9.0	0	0.0	0	0.0	11	100.0
Officers	10	7.7	42	32.3	36	27.7	21	16.2	12	9.2	9	6.9	130	100.0
Advocates	0	0.0	12	26.7	9	20.0	13	28.9	8	17.8	3	6.6	45	100.0
Clerks	6	33.3	11	61.1	0	0.0	0	0.0	1	5.6	0	0.0	18	100.0
Last grade	2	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	100.0
Abroad	0	0.0	2	15.4	4	30.8	3	23.0	2	15.4	2	15.4	13	100.0
Total	26	4.0	141	21.7	143	22.0	172	26.5	70	10.8	98	15.0	650	100.0

Source: Survey

business men whose income is relatively very high. More than 52 per cent of the sample households are earning more than Rs.60000 per month. Only 4 per cent of the households are earning less than 20 thousand per month. Out of 280 business households, 70 are earning more than Rs.100000 per month.

With a view to get an insight into the economic structure of the sample households the monthly income of the households has been analysed in Table 4.7. It may be sure that the income group Rs.60001-Rs.80000 accounts for a substantial proportion, 26.5 per cent of the sample households. There are a very few households with the monthly income less than Rs.20000 (4 per cent). The income group Rs.40001-60000 accounts for 22 per cent. It is noticed that one-bed room households are comparatively with low income and above 3 bedroom households have higher income groups. This may be due to the fact that the business people with higher income are more in three bedroom households. About 72 per cent of the two-bed room households are with income above Rs.40000 and 81 per cent of the three bedroom households have above Rs.60000.

Table: 4.7 Distribution of sample High – Rise households by income groups.

Income Type of house	Below Rs.20000		Rs. 20000-40000		Rs. 40001-60000		Rs. 60001-80000		Rs. 80001-100000		Above Rs. 100000		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1 bed room	20	14.3	59	42.1	37	26.4	8	5.7	6	4.3	10	7.2	140	100.0
2 bed room	4	1.5	72	26.7	78	28.9	69	25.6	32	11.8	15	5.5	270	100.0
3 bed room	2	0.9	10	4.8	27	12.9	90	42.9	28	13.3	53	25.2	210	100.0
Above 3 bed room	0	0.0	0	0.0	1	3.3	5	16.7	4	13.3	20	66.7	30	100.0
Total	26	4.0	141	21.7	143	22.0	172	26.5	70	10.8	98	15.0	650	100.0

Source: Survey.

$$\chi^2 (0.05) = 273.4$$

Fig. 4.2. Distribution of sample High – Rise households by income groups

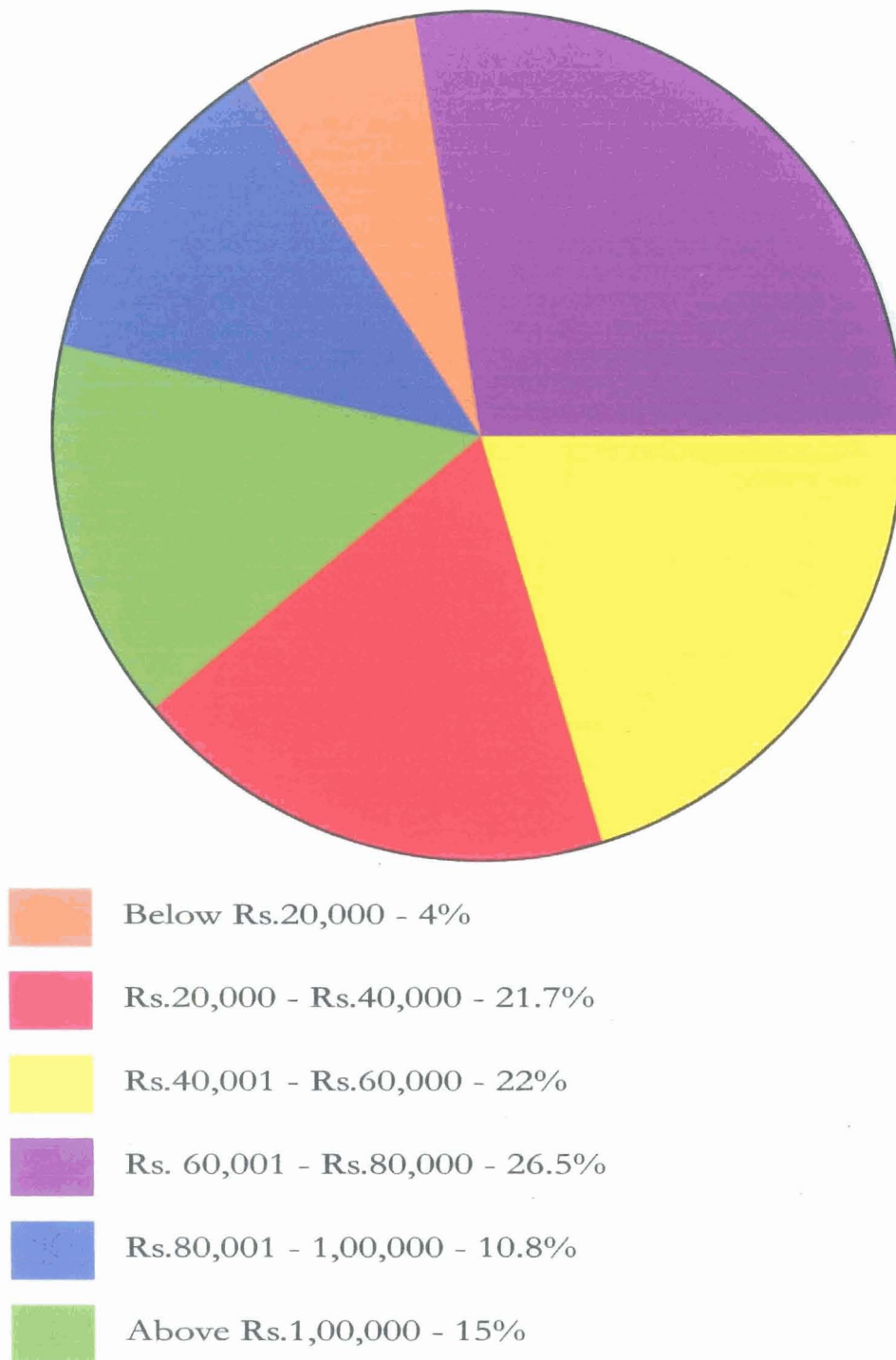


Table: 4.8 Monthly expenditure pattern of sample High – Rise households

Items of expenditure Type of house	Food		Clothing		Travel		Education		Entertainment		Medical and others		Total
	Amount	Per-cent	Amount	Per-cent	Amount	Per-cent	Amount	Per-cent	Amount	Per-cent	Amount	Per-cent	
1 bed room	3832	18.25	2643	12.58	5777	27.51	1910	9.09	4931	23.48	1910	9.09	21003
2 bed room	4663	16.29	3776	13.19	7022	24.53	2541	8.88	8080	28.23	2541	8.88	28623
3 bed room	4184	14.66	3512	12.30	7084	24.81	3267	11.44	7238	25.35	3267	11.44	28554
Above 3 bed room	6517	15.27	4900	11.48	12267	28.75	1767	4.14	15450	36.22	1767	4.14	42667
Total	4415	15.99	3499	12.67	7016	25.42	2604	9.43	7470	27.06	2604	9.43	27608

Source: Survey.

$$\chi^2 (0.05) = 4673.4$$

The living standards of the people can be measured from their pattern of expenditure. It is inferred from Table 4.8 that food is the most important item of expenditure of every household. Clothing, education, entertainment, travel etc are the other major items. The pattern of expenditure of the sample households is illustrated in Table No. 4.8.

16 per cent of the total expenditure of sample High – Rise household is spent for securing food items. Average monthly expenditure on food is the highest for above 3 bedroom households where as it is the lowest for the one bedroom households.

The level of clothing one use is a clear indicator of living standard. From the table it is understood that 13 per cent of the total expenditure of the sample High – Rise households is on clothing. The average expenditure on clothing is the highest among the above 3 bedroom households (Rs.4900). This means that the high-income earners spend a larger amount on clothing.

Travelling expense is indispensable in the modern world. Almost all families have to spend a part of their income on travel. More than 25 per cent of the total expenditure of sample High – Rise household are on travel and the travelling expense is the highest for the above 3 bedroom households. From Table 4.8 it is evident that with the increase in the size of households (in terms of number of bed rooms), the expenditure on journey also increases.

Literacy and education have a good impact on the performance of the people in the economy. Provision of basic education to all is considered as a social obligation of the state. The expenses for books, stationary, uniform, travel expenses etc. have to be met by parents. A small percentage of the household expenditure is used for educating children. More than 9 per cent of the total expenditure of the sample household is spent on educating children as per Table 4.8. The expenditure on education is the highest (11.44 per cent) for 3 bedroom households.

Entertainment and leisure increase pleasure and happiness of the people. Pleasure and happiness strengthen the mental health of the individuals. Modern age is the age of tensions, worries and strain. People get relief from mental tensions and worries when they are engaged in some kind of entertainment activities. Family get together, picnics, parties etc may relieve people to a certain extent, from such tensions and worries. Majority of the households now-a-days spend a major share of their income on such pleasure making trips, cinema, travel etc. More than one fourth of the total expenditure of the sample households is on entertainment. This expenditure is the highest for above 3 bedroom households and lowest for one-bed room households.

The total expenditure of the above 3 bedroom households is the largest and the single bedroom households are the lowest. But 2 and 3 bedroom households have moderate expenditure.

Table: 4.9 Distribution of households in High – Rise Apartments by tenure.

Type of house	Owners	Per cent	Tenants	Per cent	Total
1 bed room	96	68.6	44	31.4	140
2 bed room	171	63.3	99	36.7	270
3 bed room	137	65.2	73	34.8	210
Above 3 bed room	18	60.0	13	40.0	30
Total	422	64.9	228	35.1	650

Source : Survey

A house is one of the basic needs of human beings and the desire to own and live in one's own house is common. Usually one prefers to live in one's own house rather than in a rented one. The proportion of owners and tenants will also help to understand the level of satisfaction in residential locations. The ownership of High-Rise residential units may be for own use or for earning a regular income. The tenure status of the sample High – Rise households is given in Table 4.9. It is observed that more than 65 per cent of the High - Rise

houses are owner occupied and the remaining 35 per cent by tenants. Above 3 bedroom households are characterised by the lowest form of ownership (60 per cent) while the single bedroom category characterised by highest ownership (68.6 per cent). The ownership of 2 bedroom and 3 bedroom households are 63 per cent and 65 per cent respectively. The High – Rise Apartments, which fetch good rent to the owner due to their better location and high demand. The rental value varies depending up on the size and area of the households.

Monthly expenditure pattern of owner occupants and tenants are given in Tables 4.10 and 4.11. The expenditure pattern of owner occupants and tenants on food, clothing and education are more or less the same. On travel the owner occupants spend (25.3 per cent) a little more than the tenants (23.9 per cent). 28 per cent of the total expenditure of the owner occupants are on entertainment, but it is only 23 per cent for tenants. The reduced expenditure on entertainment by the tenants, compared to owner occupants, may be due to the rent payment obligation to them.

Table:4.10 Monthly expenditure pattern of owner occupants of sample High – Rise households

Type of house	Owner Occupants															
	Food		Clothing		Travel		Education		Entertainment		Rent		Medical and others		Total	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
1 bed room	3599	17.5	2591	12.6	5593	27.2	1954	9.5	4894	23.8	0	0.0	1933	9.4	20564	100.0
2 bed room	4642	16.8	3647	13.2	6383	23.1	24.3	8.7	8317	30.1	0	0.0	2238	8.1	27630	100.0
3 bed room	4045	14.5	3515	12.6	7337	26.3	3012	10.3	7337	26.3	0	0.0	2650	9.5	27896	100.0
Above 3 bed room	6321	15.3	4627	11.2	12024	29.1	1446	3.5	15328	37.1	0	0.0	1570	3.8	41316	100.0
Total	4283	16.0	3406	12.8	6754	25.3	2458	9.2	7519	28.2	0	0.0	2274	8.5	26694	100.0

Source: Survey

Table: 4.11 Monthly expenditure pattern of tenants of sample High – Rise households

Type of house	Tenants															
	Food		Clothing		Travel		Education		Enter- tainment		Rent		Medical and others		Total	
	Amo- unt	Per- cent	Amo- unt	Per- cent	Amo- unt	Per- cent	Amo- unt	Per- cent	Amo- unt	Per- cent	Amo- unt	Per- cent	Amo- unt	Per- cent	Amo- unt	Per- cent
1 bed room	3953	18.0	2701	12.3	5755	26.2	1911	8.7	4020	18.3	2260	10.3	1297	5.9	21960	100.0
2 bed room	4612	15.2	3944	13.0	7281	24.0	2639	8.7	7372	24.3	3368	11.1	1123	3.7	30339	100.0
3 bed room	4409	14.8	3515	11.8	6673	22.4	3574	12.0	6643	22.3	3724	12.5	1251	4.2	29789	100.0
Above 3 bed room	6302	14.1	4559	10.2	11173	25.0	1832	4.1	13542	30.3	5721	12.8	1564	3.5	44694	100.0
Total	4509	15.4	3599	12.3	6997	23.9	2755	9.4	6816	23.3	3392	11.6	1221	4.1	29289	100.0

Source: Survey

A major portion of the expenditure of sample households is on entertainment. Both the owner occupants and tenants are spending a lion's share of their income on entertainment. More than 37 per cent of the total expenditure of the above 3 bedroom owner occupied households go to entertainment activities. This item of expenditure to tenants is more than 30 per cent.

Table: 4.12 Distribution of tenants in High – Rise Apartments by rents.

Monthly rent (Rs.) Type of house	Below 2000		2000-3000		3001-4000		4001-5000		Above 5000		Total	
	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent
1 bed room	32	72.7	10	22.7	2	4.6	0	0.0	0	0.0	44	100.0
2 bed room	11	11.1	61	61.6	19	192	8	8.1	0	0.0	99	100.0
3 bed room	0	0.0	11	15.1	38	52.1	19	26.0	5	6.8	73	100.0
Above 3 bed room	0	0.0	0	0.0	1	8.3	3	25.0	8	66.7	12	100.0
Total	43	18.8	82	36.0	60	26.3	30	13.2	13	5.7	228	100.0

Source: Survey

The High – Rise Apartments due to their better location and high demand fetch the owner good rent. The rental value varies depending up on the size and area of the flats. Table 4.12 gives an insight into the rent pattern of High – Rise flats. About 73 per cent of the rented 1 bed room households are earning rent below Rs.2000 and none of the one bed room households are earning the rent above Rs.4000. More than 61 per cent of the rented 2 bed room households are earning Rs.2000 – Rs.3000 as rent. Over 52 per cent of rented 3 bed room sample households get Rs.3001 – 4000 per month as rent. Also it may be noted that 68 per cent of rented above 3 bed room households are earning above Rs.5000 per month.

From the above discussion it is clear that with the increase in the number of bed room the rent also increases. None of the above 3 bed room rented sample households are earning rent below Rs.3000 and no 3 bed room households earn below Rs.2000. So the size of the house may be one of the important determinants of the rent of the houses.

Table: 4.13 Religion – wise classification of sample High – Rise households.

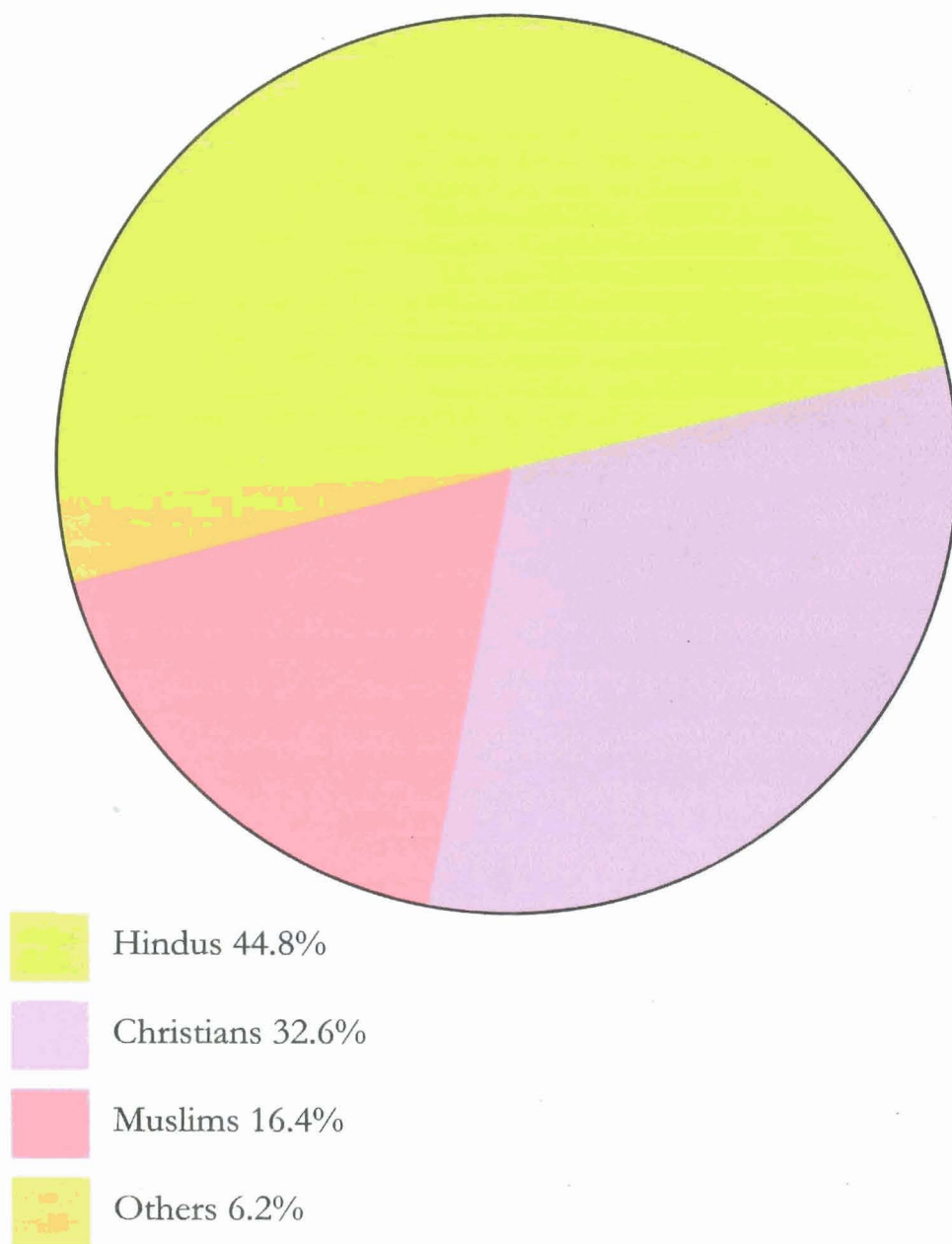
Type of house \ Religion	Hindu		Christian		Muslim		Others		All groups	
	Nu. of households	Per-cent	Nu. of households	Per-cent	Nu. of households	Per-cent	Nu. of households	Per-cent	Nu. of households	Per-cent
1 bed room	58	41.4	42	30.0	28	20.0	12	8.6	140	100.0
2 bed room	123	45.6	78	28.9	51	18.9	18	6.6	270	100.0
3 bed room	97	46.2	81	38.6	22	10.4	10	4.8	210	100.0
Above 3 bedroom	13	43.3	11	36.7	6	20.0	0	0	30	100.0
Total	291	44.8	212	32.6	107	16.4	40	6.2	650	100.0

Source: Survey.

$$\chi^2(0.05) = 15.2$$

Cities are socio – cultural units influenced by religious factors. Like other cities, our study area Cochin City also displays a diversity of religious groups. As seen from Table 4.13, the religious groups in High – Rise Apartments are largely influenced by the mix of different religious groups in the city. It is evident from the Table 4.13 that Hindus form a major proportion (44.8 per cent) of the total sample households. Christians constitute 32.6 per cent and Muslims

Fig. 4.3 Religion-wise classification of sample High-Rise households.



16.4 per cent. Besides these three major religions, other religions constitute only 6.2 per cent of the total sample household. In all the four types of households major occupants are Hindus and the second place goes to Christians.

It is language, which reveals better the nature of heterogeneous and cosmopolitan character of the city. An analysis of linguistic composition of population gives a more representative picture of city's differing cultural association. Among the residents of High – Rise building, different linguistic groups are found which the city contains in general with varied proportions. Table 4.14 reveals the different percentage of the linguistic groups in sample High – Rise houses. Among all the groups, Malayalam speaking households are more. Other language-speaking households constitute only 4.5 per cent of the total sample households. This reveals that only a few migrants from other states prefer High – Rise living. Seven out of 210 three bedroom households and 12 out of 30 above 3 bedroom households are occupied by other language speaking people.

Table: 4.14 Classification of households on the basis of languages

Language Type of house	Malayalam		Hindi		Tamil		Urdu		Telugu		Gujarathi		Other languages	
	Nu. of houses	Per- cent	Nu. of houses	Per- cent	Nu. of houses	Per- cent	Nu. of houses	Per- cent	Nu. of houses	Per- cent	Nu. of houses	Per- cent	Nu. of houses	Per- cent
1 bed room	137	97.9	0	0.0	1	0.7	0	0.0	0	0.0	1	0.7	1	0.7
2 bed room	263	97.4	1	0.4	2	0.7	1	0.4	0	0.0	2	0.7	1	0.4
3 bed room	203	96.6	1	0.5	1	0.5	0	0.0	1	0.5	0	0.0	4	1.9
Above 3 bed room	18	60.0	3	10.0	0	0.0	1	3.0	2	6.7	1	3.3	5	16.7
Total	621	95.5	5	0.8	4	0.6	2	0.3	3	0.5	4	0.6	11	1.7

Source: Survey

Normally migration is considered to be an important factor contributing to the process of urbanisation. But in Kerala only 19 per cent of the urban population are migrants⁶. Though the industrial sector in Kerala is not in a position to accommodate the entire rural migrant labour force, the tertiary sector activities like trade and commerce, transport and communication, services and public administration have largely absorbed rural migrants. Construction sector also provides opportunities to the migrant labour. But it is observed from table 4.15 that 29 per cent of the sample households are migrants. Among them 11 per cent are from rural areas and more than 15 per cent from the other districts. Only 3 per cent are from other states. It is significant to note that there are no sample households with foreign citizen migrants. Also it may be noted that 71 per cent of the sample households are original city dwellers. 27 per cent of the above 3 bedroom households are with migrants from other districts. But 53 per cent of this type of households is with original city dwellers. In majority of the other types of sample households original city dwellers are the major occupants.

⁶ Sarvekshana (1992), National Sample Survey Organisation, Vol. XV, Issue Nu.57, April – June, p. 60.

Table: 4.15 Migration status of sample High – Rise households

Type of house	Original city dwellers		Migrants from rural area		Migrants from other districts		Migrants from other states		Migrants from foreign countries		Total	
	Nu. of households	Per-cent	Nu. of households	Per-cent	Nu. of households	Per-cent	Nu. of households	Per-cent	Nu. of households	Per-cent	Nu. of households	Per-cent
1 bedroom	101	72.2	10	7.1	26	18.6	3	2.1	0	0.0	140	100.0
2 bedroom	184	68.1	38	14.1	41	15.2	7	2.6	0	0.0	270	100.0
3 bedroom	161	76.7	19	9.0	25	11.9	5	2.4	0	0.0	210	100.0
Above 3 bed room	16	53.3	3	10.0	8	26.7	3	10.0	0	0.0	30	100.0
Total	462	71.1	70	10.8	100	15.4	18	2.8	0	0.0	650	100.0

Source: Survey

Table: 4.16 Average family size of sample High – Rise households.

Type of house	Nu. of sample households	Total members of households	Average family size
1 bed room	140	461	3.3
2 bed room	270	954	3.5
3 bed room	210	687	3.3
Above 3 bed room	30	78	2.6
Total	650	2180	3.4

Source: Survey

With the advancement of the society and with the advent of modern views, the concept of joint family system was replaced by nuclear family system. Invention of life saving medicines and eradication of several epidemics resulted in the curtailment of deaths. It is obvious from data on Table 4.16 that average family size of the sample High - Rise household is 3.4. The highest family size is for 2 bedroom households (3.5) and the smallest for above 3 bedroom households (2.6).

The household size is an indicator of social development. Small family size usually represents better social development. The family size of High – Rise households is an indicator of their social advancement and nature of family structure.

Table 4.17 reveals that, there are sample households with members ranging from 1 to 6. There are 18 one member families and 5 six member families. But 283 families are with 3 members and 203 families with 4 members come in the first and second position respectively. This means that barring a few sample households, majority of the families are with parents and one or two children, which is an indication to limiting the size of the family by the present generation. Only 30 families are with above 4 members. 47 per cent of the three bedroom households and 44 per cent of the 1 and 2 bedroom households are with 3 members where as 47 per cent of the above 3 bedroom households having 2 members. This discussion is in conformity with the proposition that increase in the income of the family may result in the decrease in family size.

Table: 4.17 Number of family members of sample High – Rise households.

Type of house \ Nu. of Occupants	1		2		3		4		5		Above 5		Total
		Per-cent		Per-cent		Per-cent		Per-cent		Per-cent		Per-cent	
1 bed room	3	2.14	18	12.86	61	43.57	48	34.29	8	5.71	2	1.43	140
2 bed room	8	2.96	51	18.89	118	43.70	83	30.74	10	3.71	0	0.00	270
3 bed room	3	1.43	33	15.71	98	46.67	66	31.43	7	33.33	3	1.43	210
Above 3 bed room	4	13.33	14	46.67	6	20.00	6	20.00	0	0	0	0.00	30
Total	18	2.77	116	17.85	283	43.54	203	31.23	25	3.85	5	0.76	650

Source : Survey.

$$\chi^2 (0.05) = 43.1$$

Table 4.18 shows the proportion of different age groups of people living in High – Rise Apartments in the city. Seven groups are shown for four different types of sample households. The number of children and old age people are very few. It is observed that one fourth of the members of the sample households are in the age group of 31 – 40 and one fifth of the members are in the age group of 41 – 50. Members above sixty constitute the smallest number (3.1). Except above

Table: 4.18 Age group of the family members of the sample High-Rise households

Age group Type of house	0 – 10		11 – 20		21 – 30		31 – 40		41 – 50		51 – 60		Above 60		Total	
	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent
1 bedroom	53	11.5	65	13.9	82	17.6	116	24.9	80	17.2	47	10.2	22	4.7	465	100.0
2 bedroom	85	8.9	143	15.0	167	17.6	226	23.7	191	20.1	116	12.2	24	2.5	952	100.0
3 bedroom	56	8.0	113	16.4	137	19.9	153	22.2	132	19.2	81	11.8	17	2.5	689	100.0
Above 3 bedroom	6	8.0	7	9.5	9	12.2	15	20.3	19	25.7	13	17.6	5	6.7	74	100.0
Total	200	9.1	328	15.1	395	18.1	510	23.4	422	19.4	257	11.8	68	3.1	2180	100.0

Source: Survey.

$$\chi^2(0.05) = 25.6$$

three bedroom category households, in all other sample households family members in the age group of 31- 40 tops the list.

Table 4.19 reveals the proportion of different age - groups of people living in sample households. Seven groups are shown for four different categories of households. More or less the structure of age groups for male and female are similar for the entire sample High – Rise households. In the age group of 21-30 a major disproportion of male and female ratio is noticed. The percentage of old age people and children are very less. But the proportion of aged females above 60 is much more (4.4 per cent) than males (1.6 per cent). If we observe the male and female ratio also, females are more (54 per cent) than males (46 per cent) in all sample High – Rise households. Out of total 1170 females of sample households 41 per cent (478) are above the age of forty, but males in this age group is only 27 percent (269). 49 per cent (494) of the total males are in the age group of 21 to 40, but females in this age group are only 35 per cent (411).

Table: 4.19 Age - Sex ratio of the residents of sample High – Rise households.

Age group Type of house	0 – 10		11 – 20		21 – 30		31 – 40		41 – 50		51 – 60		Above 60		Total		Total (Per- cent)
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
1 bed room	22 (10.8)	31 (11.9)	29 (14.2)	36 (13.8)	45 (22.1)	37 (14.2)	58 (28.4)	58 (22.2)	29 (14.2)	51 (19.5)	16 (7.8)	31 (11.9)	5 (2.5)	17 (6.5)	204 (20.2)	261 (22.3)	465 (21.3)
2 bed room	37 (8.7)	48 (9.1)	60 (14.1)	83 (15.8)	103 (24.2)	64 (15.1)	112 (26.4)	114 (21.6)	71 (16.7)	120 (22.8)	38 (8.9)	78 (14.8)	4 (0.9)	20 (3.8)	425 (42.1)	527 (45.0)	952 (43.7)
3 bed room	29 (8.5)	27 (7.8)	63 (18.4)	50 (14.5)	83 (24.2)	54 (15.7)	78 (22.7)	75 (21.7)	56 (16.3)	76 (21.9)	29 (8.5)	52 (15.0)	5 (1.5)	12 (3.5)	343 (33.9)	346 (29.6)	689 (31.6)
Above 3 bed room	4 (10.5)	2 (5.6)	3 (7.9)	4 (11.1)	7 (18.4)	2 (5.6)	8 (21.1)	7 (19.4)	8 (21.1)	11 (30.6)	6 (15.8)	7 (19.4)	2 (5.3)	3 (8.3)	38 (3.8)	36 (3.1)	74 (3.4)
Total	92 (9.1)	108 (9.2)	155 (15.4)	173 (14.8)	238 (23.6)	157 (13.4)	256 (25.4)	254 (21.7)	164 (16.2)	258 (22.1)	89 (8.8)	168 (14.4)	16 (1.6)	52 (4.4)	1010 (46.4)	1170 (53.7)	2180 (100.0)

Source: Survey

(Figures in parenthesis are percentages)

Fig. 4.4 Age - Sex ratio of the residents of sample High - Rise households

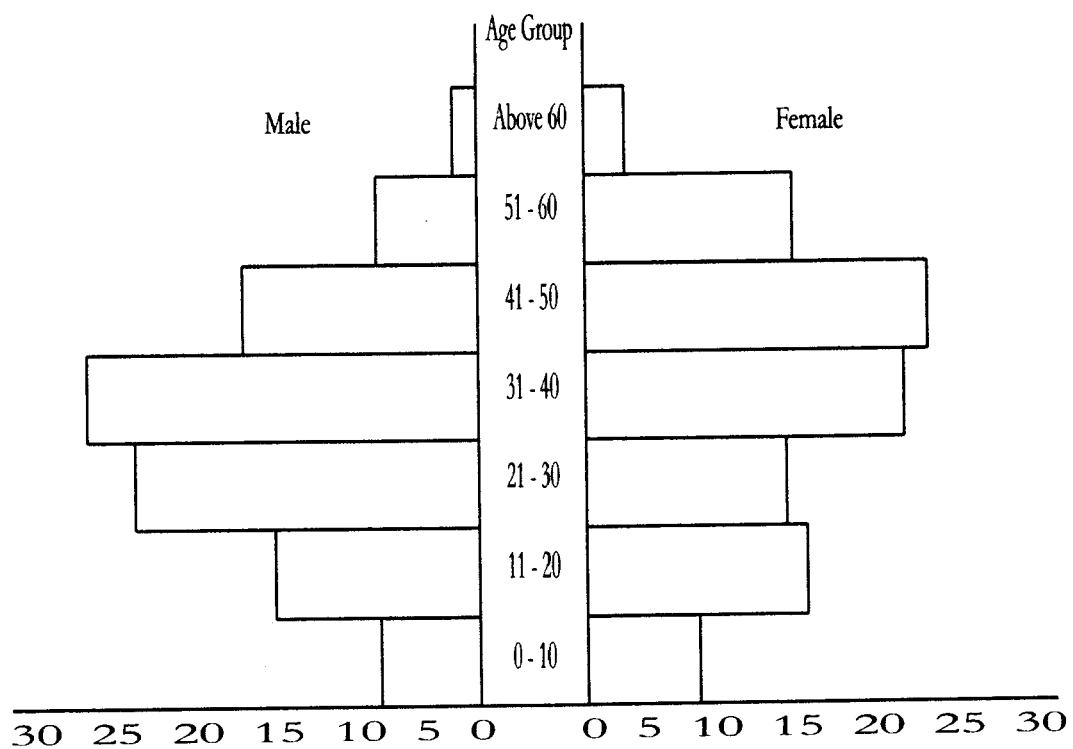


Table: 4.20 Occupational pattern of heads of sample High – Rise households

Age group Type of house	Business		Engineers		Doctors		Lecturers		School teachers		Officers		Advocates		Clerks		Last grade employees		Abroad		Total
	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	
1 bed room	66	47.4	12	8.6	10	7.1	11	7.9	3	2.1	27	19.3	4	2.9	5	3.6	0	0.0	2	1.4	140
2 bed room	113	41.9	27	10.0	27	10.0	7	2.6	3	1.1	52	19.3	22	8.2	9	3.3	2	0.7	8	3.0	270
3 bed room	77	36.7	26	12.4	26	12.4	3	1.4	5	2.4	47	22.4	19	9.1	4	1.9	0	0.0	3	1.4	210
Above 3 bed room	24	80.0	2	6.7	0	0.0	0	0.0	0	0.0	4	13.3	0.0	0.0	0	0.0	0	0.0	0	0.0	30
Total	280	43.1	67	10.3	63	9.7	21	3.2	11	1.7	130	20.0	45	6.9	18	2.8	2	0.3	13	2.0	650

Source: Survey.

$$\chi^2 (0.05) = 49.1$$

Fig. 4.5 Occupational pattern of heads of sample High - Rise households

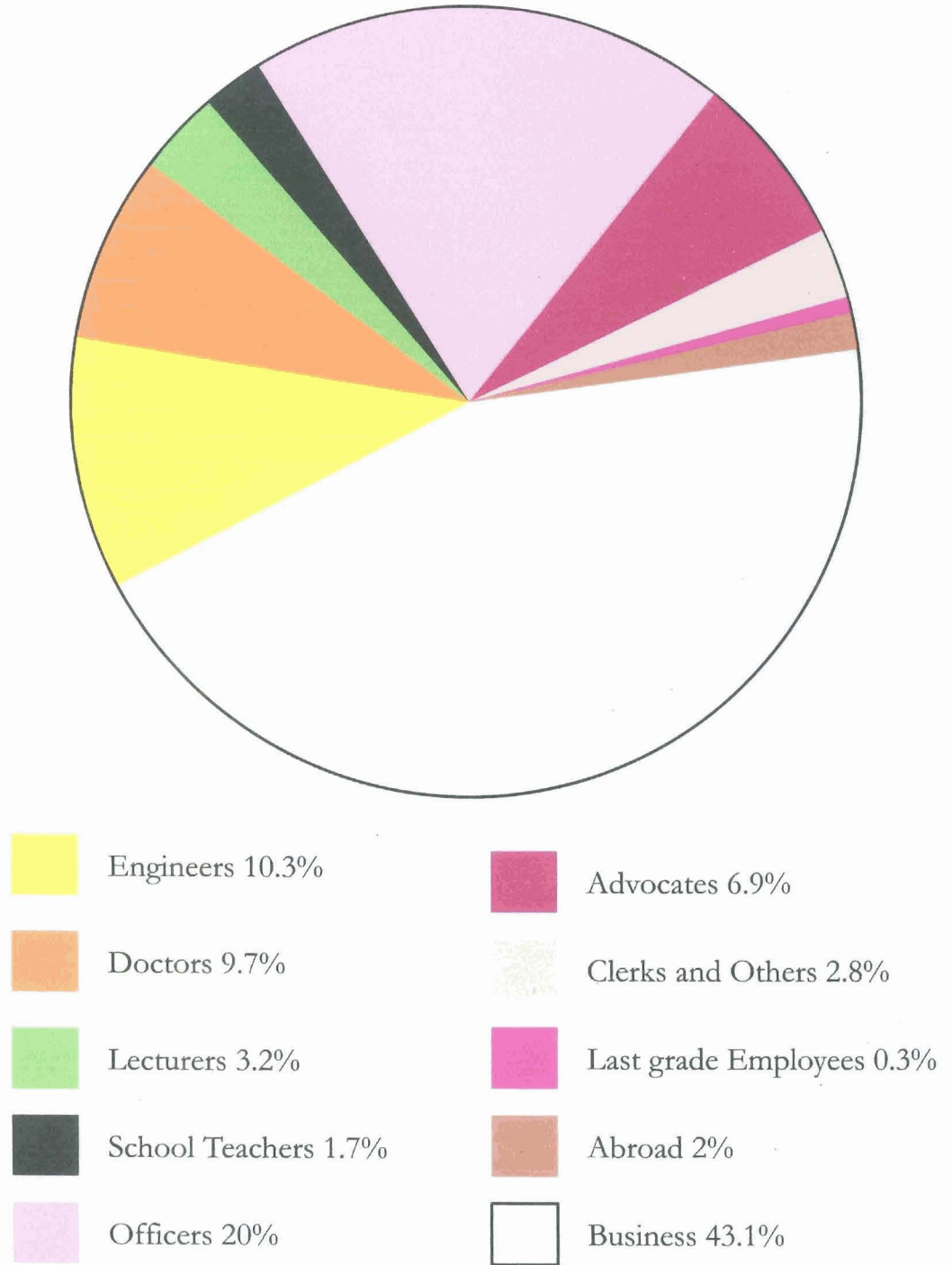


Table 4.20 draws details regarding the occupational pattern of heads of sample households. More than 43 per cent of the households have business heads. Officer heads occupy 20 per cent of the households where as doctors and engineers together account for 20 per cent. Clerks, Schoolteachers, last grade employees etc account for just a little over 6 per cent of heads of households. 7 per cent of the houses are occupied by advocate heads. Only 2 per cent of the heads of sample households are abroad.

In the above 3 bed room category, 80 per cent of the heads are business people and 13 per cent are officers. Other categories occupy an insignificant role. Besides 37 per cent of business heads in 3 bed room category, more than 22 per cent heads are officers. Doctors and Engineers together constitute 25 per cent. Other occupants are insignificant. In one and two bed room category households majority of the heads are business people and officer heads constitute more than 19 per cent. The other occupants are negligible. From this we can infer that business magnets are the prime occupants of sample households.

As far as different types of sample households are concerned, there are no unemployed persons in 2 bed room and above 3 bed room category. Dependents are also negligible in this type. The largest number of students is from one-bed room households (25.2 per cent) and lowest from above 3-bed room (13.5 per cent). 22 per cent of the members of the above 3 bed room households are housewives, where as it is only 7.3 per cent in 2 bed room type.

Table 4.21 gives details of the occupational pattern of the employed members of sample households. Out of 1235 employed members, 592 i.e. 48 per cent are doing business. 172 are Officers and 107 are Engineers. There are 139 Advocates and 84 Doctors, 45 members are in abroad. The number of other employees is insignificant. This means the business people are the most significant occupants of High – Rise houses. They are the major income earners also.

Table: 4.21 Occupational pattern of the employed members of sample households.

Nu. of employed members Type of house	Business	Engineers	Doctors	Lecturers	School teachers	Officers	Advocates	Clerks	Last grade	Abroad	Total
1 bed room	98	16	12	15	6	38	10	9	0	6	210
2 bed room	306	48	40	14	5	71	68	15	5	29	601
3 bed room	152	40	32	8	7	58	61	12	0	10	380
Above 3 bed room	36	3	0	0	0	5	0	0	0	0	44
Total	592	107	84	37	18	172	139	36	5	45	1235

Source: Survey

Since the High – Rise living is centrally located and has become a status symbol it is mostly preferred by the well-educated people. It is found that cent per cent literacy is noticed among these residents and a careful look at the table 4.22 reveals the level of education of the households. Out of total sample households only 1 per cent have primary education. 11 per cent are matriculates and 35 per cent are graduates. The major proportion of people is professionals and they constitute 40 per cent of the sample households.

Table: 4.22 Distribution of High – Rise households based on education

Education Type of house	Primary		S S L C		Graduates		Post-graduates		Professionals		Technical and others	
	Num-ber	Per cent	Num-ber	Per cent	Num-ber	Per cent	Num-ber	Per cent	Num-ber	Per cent	Num-ber	Per cent
1 bed room	2	1.4	6	4.3	79	56.4	13	9.4	38	27.1	2	1.4
2 bed room	3	1.1	39	14.4	125	46.3	26	9.7	74	27.4	3	1.1
3 bed room	1	0.5	24	11.4	21	10.0	27	12.9	127	60.5	10	4.7
Above 3 bed room	0	0.0	2	6.7	41	13.3	3	10.0	21	70.0	0	0.0
Total	6	0.9	71	10.9	229	35.2	69	10.6	260	40.0	15	2.4

Source: Survey

$$\chi^2(0.05) = 134.8$$

86 per cent of the occupants are either graduates or postgraduates or professionals. With this we can infer that the High – Rise living is preferred by well educated people.

4.2 Assets and liabilities of sample households

Material well being has traditionally been judged in terms of the command people have over income and assets. While the money income earned during a particular period is identified as current income, ownership of movable and immovable assets is considered as permanent income. Permanent income may be considered to reflect the economic worth of households and is also an index of economic security.

The household assets determine the level of living of the majority of the population. 79 per cent of households in Kerala have ownership of land.⁷ The proportion of households owning land is strongly associated with the household income. The ownership of house or dwelling structure is very high in

⁷ India Human Development Report (1999), National Council of Applied Economic Research, Oxford University Press, p.53.

Kerala. 93.6 per cent of the households own dwellings in the state.⁸

The ownership of assets like car, motorcycle, television, VCR, washing machine, fridge, computer etc. rises with income as well as the development of the society. The proportion of owning these assets varies widely across the state depending on their general prosperity.

Liabilities also play an important role in determining the standard of living and economic condition of households. Liabilities may be in the form of bank loans, government loans or other types of loans.

In this section a brief attempt has been made to examine the asset and liability position of sample High – Rise households in Cochin City.

⁸ India Human Development Report (1999), National Council of Applied Economic Research, Oxford University Press, p.48.

Table: 4.23 Ownership of houses by sample High – Rise households at native place.

Type of house	Number of households own additional house	Per cent	Number of households do not own additional house	Per cent	Total
1 bed room	92	65.7	48	34.3	140
2 bed room	203	75.2	67	24.8	270
3 bed room	146	69.5	64	30.5	210
Above 3 bed room	23	76.7	7	23.3	30
Total	464	71.4	186	28.6	650

Source : Survey

It is observed from data in Table 4.23 that majority of the sample households own a separate house - this means, one at native place and one in the city. Since High - Rise living is centrally located and has become a status symbol, it is mostly preferred by the people. Usually the households prefer High – Rise living in the city because of the proximity to all facilities – educational, transportation, workplace etc. and availability of

all other modern facilities. Only 29 per cent do not own a house at their native place. Facilities and accessibility may be the factors, which pushed the households from native place to cities. The ownership of an additional house is an important source of income to the households. As the houses fetch good rent to the owner, investment in additional house is really an attraction to the people. As the interest on deposit is very low now-a-days, people are really interested in investing the money in some business ventures or purchasing an additional house for making profit.

Income alone does not determine the status of the households, particularly the households of High – Rise buildings in the city. They belong to higher income group when compared to general population. Hence some measures should be employed to examine the level and status of households. Table 4.24 gives an overall picture of the sample households, which is quite satisfactory. Majority of the sample households are enjoying all the facilities of life. More than 83 per cent of the households have Motor Car and Air Conditioner where as about 98 per cent have Washing

Machine. 66 per cent enjoy the facility of computer and 92 per cent have VCR. More than 90 per cent of 2 bed room, 3 bed room and above 3 bed room sample households possess Motor Car and Air Conditioner where as it is less than 50 per cent in the case of one bed room households.

Table: 4.24 Ownership of assets by sample High – Rise households

Type of assets Type of house	Car		AC		Computer		VCR		Washing machine	
	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent	Num-ber	Per-cent
1 bed room	67	47.9	56	40.0	61	43.6	100	71.4	132	94.3
2 bed room	243	90.0	264	97.8	210	77.8	264	97.8	268	99.3
3 bed room	203	96.7	190	90.5	128	60.9	203	96.7	206	98.1
Above 3 bed room	29	96.7	30	100.0	29	96.7	29	96.7	30	100.0
Total	542	83.4	540	83.1	428	65.9	596	91.7	636	97.8

Source: Survey

The highest asset holders are above 3 bedroom households. Cent per cent households possess Air Conditioner

and Washing Machine and 97 per cent have Car, Computer and VCR.

Saving is an important indicator of economic status. This may be in the form of bank deposits, recurring deposits, chitties, ornaments etc. Usually people have great inclination for depositing their savings with banks due to the great confidence created by the banks in their minds. Table 4.25 shows the nature of saving of sample High – Rise households.

More than 98 per cent of the sample High – Rise households have bank deposits and 97 per cent possess ornaments. But only 62 per cent have savings in the form of Chitties, which is the smallest form of savings by the sample households. Keralites have great fascination for ornaments from the time immemorial. That may be the reason for the possession of ornaments by almost all sample households.

Table: 4.25 Saving of High – Rise households

Liabilities Type of house	Bank deposits		Ornaments		Chitties		Recurring deposits		Other savings	
	Nu. of households	Per-cent	Nu. of households	Per-cent	Nu. of households	Per-cent	Nu. of households	Per-cent	Nu. of households	Per-cent
1 bed room	136	97.1	138	98.6	103	73.6	112	80.0	107	76.4
2 bed room	267	98.9	265	98.1	176	62.9	198	73.3	231	85.6
3 bed room	208	99	203	96.7	110	52.4	161	76.7	187	86.0
Above 3 bedroom	28	93.3	25	83.3	13	43.3	24	80.0	30	100.0
Total	639	98.3	631	97.1	402	61.8	495	76.2	555	85.4

Source: Survey

99 per cent of the 2 and 3 bedroom sample households have bank deposits where as more than 98 per cent of the single and 2 bed room households have ornaments. But cent per cent of the above 3 bedroom households have other types of savings. But it is clear that all the sample High – Rise households possess savings in one form or other.

Table: 4.26 Assets of sample High – Rise households

Type of house	Movable assets		Immovable assets	
	Nu. of houses	Per cent	Nu. of houses	Per cent
1 bed room	134	95.7	123	87.9
2 bed room	259	95.9	234	86.7
3 bed room	208	99.0	193	91.9
Above 3 bed room	30	100.0	29	96.7
Total	631	97.1	579	89.1

Source: Survey

Asset is one of the prime determinants of the well-being of the households. Assets consist movable and immovable assets. Table 4.26 discloses the nature of assets of sample households. 97 per cent of the households have movable and 89 per cent have immovable assets. It is interesting to note that 100 per cent of the above three bedroom households possess movable assets and 97 per cent immovable assets. These households are the largest assets holders among the various types of sample households. Second place goes to 3 bedroom households. The assets

possessed by the 2 bedroom and 1 bedroom households are more or less similar.

Table: 4.27 Liabilities of sample High – Rise households.

Liabilities Type of house	Govt. loan		Bank loan		Other loans		Total	
	Nu. of house holds	Per- cent	Nu. of house holds	Per- cent	Nu. of house holds	Per- cent	Nu. of house holds	Per- cent
1 bed room	32	22.9	65	46.4	12	8.6	109	77.9
2 bed room	52	19.3	73	27.0	44	16.3	169	62.6
3 bed room	43	20.5	68	32.4	35	16.7	146	69.6
Above 3 bedroom	2	6.7	12	40.01	6	20.0	20	66.7
Total	129	19.8	218	33.5	97	14.9	444	68.2

Source: Survey

Generally, a major portion of the common people is living in debt. They have to borrow whenever contingencies arise. The house constructions, marriages etc are performed by availing loans and borrowings. When a debt is repaid, they are also compelled to borrow again for meeting some other unforeseen expenses. Table 4.27 clearly brings out the nature

of liabilities of the sample High – Rise households. More than 68 per cent of the sample households have liabilities in one form or other. 34 per cent of the sample households have bank loans, 20 percent have govt. loans and 15 per cent have other loans. Among different types of High – Rise households, 78 per cent of the single bed room households have liabilities in one form or other. The other types of households, which are having liabilities, are below 70 per cent. This points out the fact that small households stand ahead in the case of liabilities.

From the above discussion it is evident that the socio – economic condition of the High – Rise residents is quite high. They are enjoying all the modern facilities of life due to situational advantage. Income level, level of education and employment, ownership of assets, expenditure pattern, family size etc. of the sample households reveal the high socio – economic status of this High – Rise dwellers. In order to test this a priori belief, χ^2 test was performed (see Tables 4.4, 4.7, 4.8, 4.13, 4.17, 4.18, 4.20, 4.22) and found that in all cases, the calculated χ^2 are greater than the theoretical values and

hence the hypothesis that “socio-economic conditions significantly influence the demand for High – Rise Apartments” may be accepted.

ECONOMICS HIGH- RISE APARTMENTS

C.B. Baby “Economics of high - rise apartments in Kerala a case study of Cochin city” Thesis. Department of Economics , Dr. John Matthai Centre Thrissur, University of Calicut, 2004

CHAPTER V

**ECONOMICS OF HIGH – RISE
APARTMENTS**

CHAPTER V

ECONOMICS OF HIGH – RISE APARTMENTS

In the present chapter it is intended to examine the economics of High-Rise Apartments. The speculative increase in land price and rising cost of construction is a real problem to the people to own a house of their own.

Tremendous increase in urban population, high density and scarcity of land resulted in high land values. In fact the rising land value and increasing demand for houses resulted in the construction of High-Rise Apartments. This vertical development or High-Rise Apartments satisfy the housing needs of the people by utilising the available scarce land to the maximum possible extend.

The economic analysis conventionally includes discussions on cost, benefits and returns. But in the case of Apartments normally the cost is not directly incurred by the present owner. The High-Rise Apartments are normally constructed by the construction companies and the occupants readily purchase it. Hence for a cost analysis, we have to depend on the information furnished by the

construction companies. The cost incurred by the owner can be assessed only in terms of purchase value or monthly instalments. Similarly, the benefits arise in the form of financial and non-financial. Hence the methodological approach followed is examining the cost provided by the constructors in terms of purchase value, monthly instalments and benefits in terms of instalments and the consequent decline in money value, income tax rebate, other non-financial benefits etc. Even though the methodology is crude, this is the only option available.

The construction process of a building is divided into six parts. They are sub-structure super structure, joineries, finishing works, electrification, water supply and sanitary works. The total construction expenditure of a building is the expenditure incurred for the construction of the above-mentioned six processes. Tables 5.1 and 5.2 give details of local and public works department construction expenditure of a 2000sq.ft house (As the rate of construction are different for local and public works department, separate tables have given). For the construction of sub structure, electrification, water supply and sanitary works public works department rate and local

rate of expenditure are more or less similar. Public works department construction rate (35.3 per cent of the total expenditure) of super structure is slightly higher than the local rate of construction (33.9 per cent). Joineries cost more (14.5 per cent) in local construction than public works department (PWD) construction (10.5 per cent) But finishing work cost more (22 per cent) in public works department construction compared to local construction expenditure (20.4 per cent). Unforeseen contingencies expenditure is the same for both the parties.

As far as the sq.ft construction cost of a house is concerned, local cost is slightly higher (Rs.409) than the PWD cost (Rs.390). The total cost of construction of a 2000 sq.ft locally constructed, moderate house is Rs.818520/- and PWD constructed house is Rs.779552/-.

Table: 5.1 2000sq.ft. House-Local construction expenditure

Sl. Nu.	Stages of construction	Local amount (in Rs.)	Per cent
1	Sub-Structure	76030	9.3
2	Super Structure	277290	33.9
3	Joineries	118800	14.5
4	Finishing works	166800	20.4
5	Electrification	65000	7.9
6	Water supply and sanitary works	75000	9.2
7	Unforeseen contingencies	39600	4.8
Total cost		8,18,520	100.0

$$\text{Cost per sq.ft.} = \frac{\text{Rs. } 818520/-}{2000} = \text{Rs. } 409/-$$

Fig. 5.1 2000 sqft House local construction expenditure

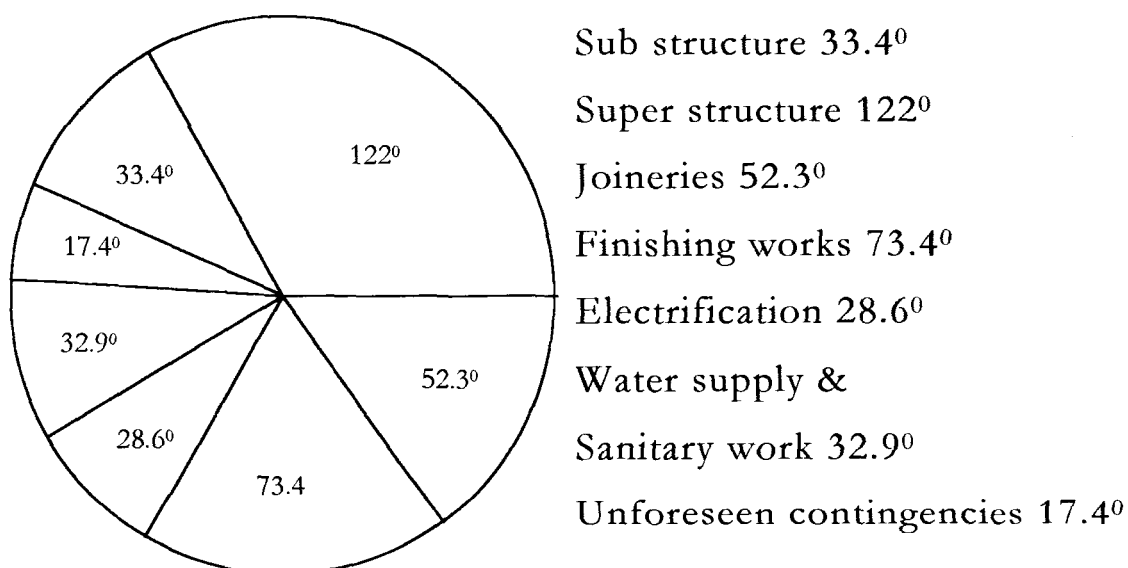
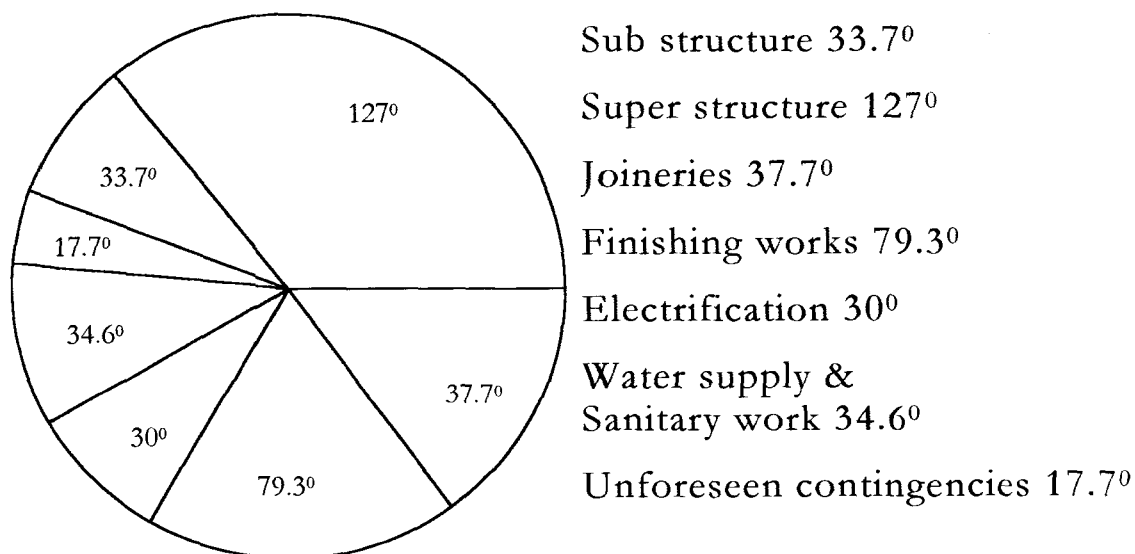


Table: 5.2 2000sq.ft. House-PWD construction expenditure

Sl. Nu.	Stages of construction	PWD amount (in Rs.)	Per cent
1	Sub-Structure	72934	9.4
2	Super Structure	274979	35.3
3	Joineries	81704	10.5
4	Finishing works	171635	22.0
5	Electrification	65000	8.3
6	Water supply and sanitary works	75000	9.6
7	Unforeseen contingencies	38300	4.9
Total cost		7,49,552	100.0

$$\text{Cost per sq.ft.} = \frac{\text{Rs. } 779552/-}{2000} = \text{Rs. } 390/-$$

Fig. 5.2 2000 sq. ft. House PWD construction expenditure



Tables 5.3 and 5.4 illustrate the construction expenditure of a 1000 sq.ft house (both PWD and local). Just like 2000sq.ft.house the expenditure on sub structure, water supply and sanitary works and electrification are somewhat uniform for both PWD and local construction of a 1000 sq.ft. house. But some variation exists in other items of expenditure (super structure, Joineries, finishing works etc).

The sq.ft cost of local construction (Rs.492/-) and PWD construction (Rs.463/-) of 1000sq.ft house is much higher than the sq.ft. cost of 2000sq.ft. house (local sq.ft. cost Rs.409 and PWD cost Rs.390-). As per the information furnished by the engineers, construction companies and contractors this cost reduction is due to the economy in large scale purchase of materials required for construction.

Table: 5.3 1000sq.ft. House-local construction expenditure.

Sl. Nu.	Stages of construction	Local amount (in Rs.)	Per cent
1	Sub-Structure	43717	8.9
2	Super Structure	159442	32.4
3	Joineries	88200	17.9
4	Finishing works	95909	19.5
5	Electrification	37375	7.6
6	Water supply and sanitary works	44775	9.1
7	Unforeseen contingencies	22770	4.6
Total cost		4,92,188	100.0

$$\text{Cost per sq.ft.} = \frac{\text{Rs. } 492188/-}{1000} = \text{Rs. } 492/-$$

Fig. 5.3 1000 sq. ft. House local construction expenditure

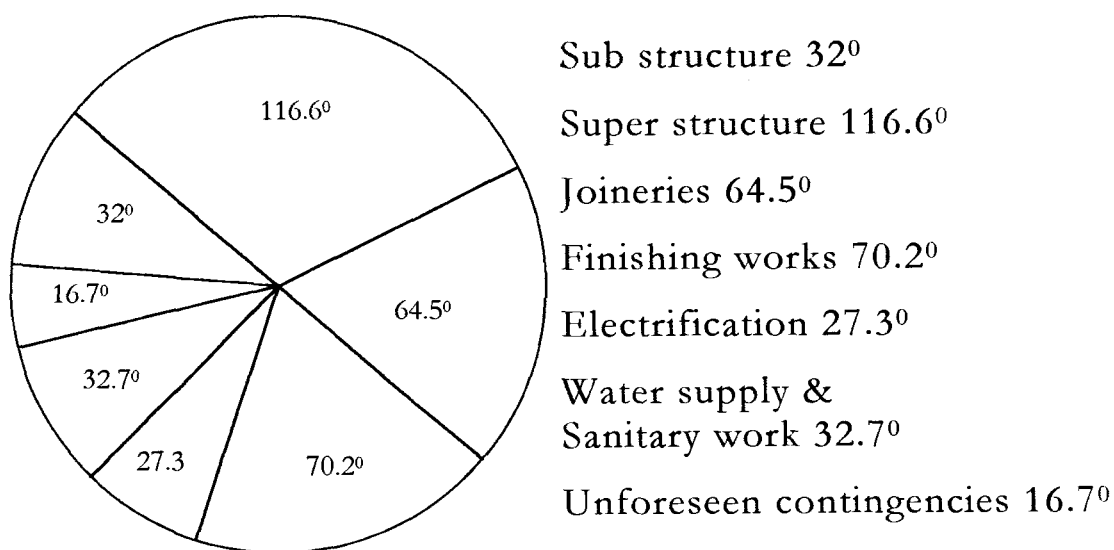
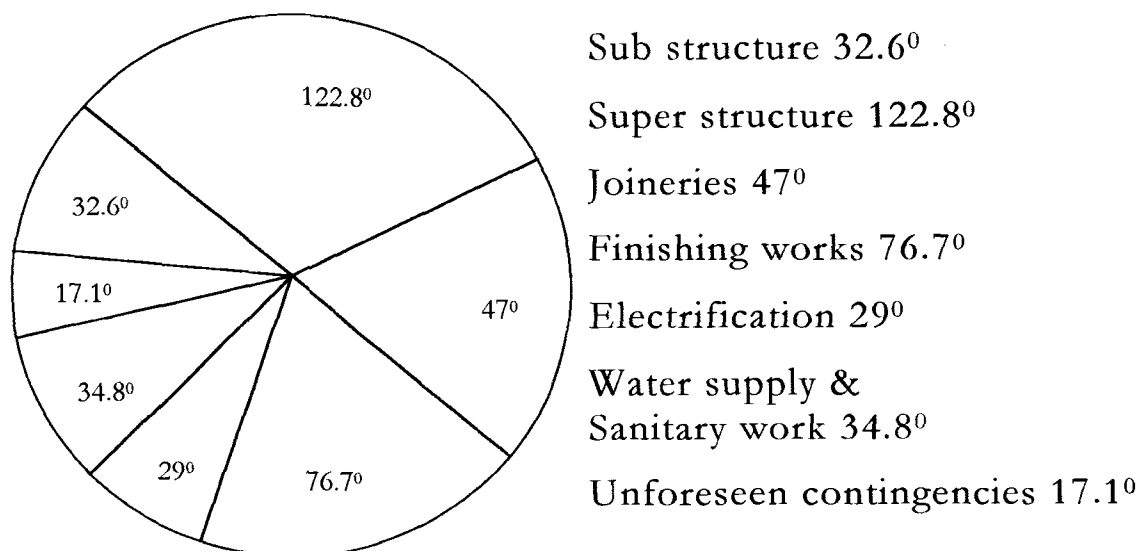


Table: 5.4 1000sq.ft. House- PWD construction expenditure

Sl. Nu.	Stages of construction	PWD amount (in Rs.)	Per cent
1	Sub-Structure	41936	9.1
2	Super Structure	158110	34.1
3	Joineries	60437	13.0
4	Finishing works	98688	21.3
5	Electrification	37375	8.1
6	Water supply and sanitary works	44775	9.7
7	Unforeseen contingencies	22022	4.7
Total cost		4,63,343	100.0

$$\text{Cost per sq.ft.} = \frac{\text{Rs. } 463343/-}{1000} = \text{Rs. } 463/-$$

Fig. 5.4 1000 sq. ft. House PWD construction expenditure



The construction cost details of 2000 sq.ft flat and 1000 sq. ft flat are given in Tables 5.5 and 5.6 respectively. The sub structure construction cost of flat is much higher than the sub structure construction cost of independent houses (both local and PWD) 15 per cent of the total cost is for the construction of substructure of flat compared to 9to9.5 per cent of the total cost to independent houses. As the multi-storeyed Apartments have to be constructed on a strong foundation, which require huge quantity of steel, cement, sand, metal etc, sub structure need a very high construction cost.

Table: 5.5 2000 sq.ft. flat construction expenditure

Sl. Nu.	Stages of construction	Construction cost (in Rs.)	Per cent
1	Sub-Structure	119625	15.0
2	Super Structure	299000	37.5
3	Joineries	95700	12.0
4	Finishing works	139560	17.5
5	Electrification	47850	6.0
6	Water supply and sanitary works	60500	7.6
7	Unforeseen contingencies	35265	4.4
Total cost		797500	100.0

$$\text{Cost per sq.ft.} = \frac{\text{Rs. } 797500/-}{2000} = \text{Rs. } 399/-$$

Fig. 5.5 2000 sq. ft. Flat construction expenditure

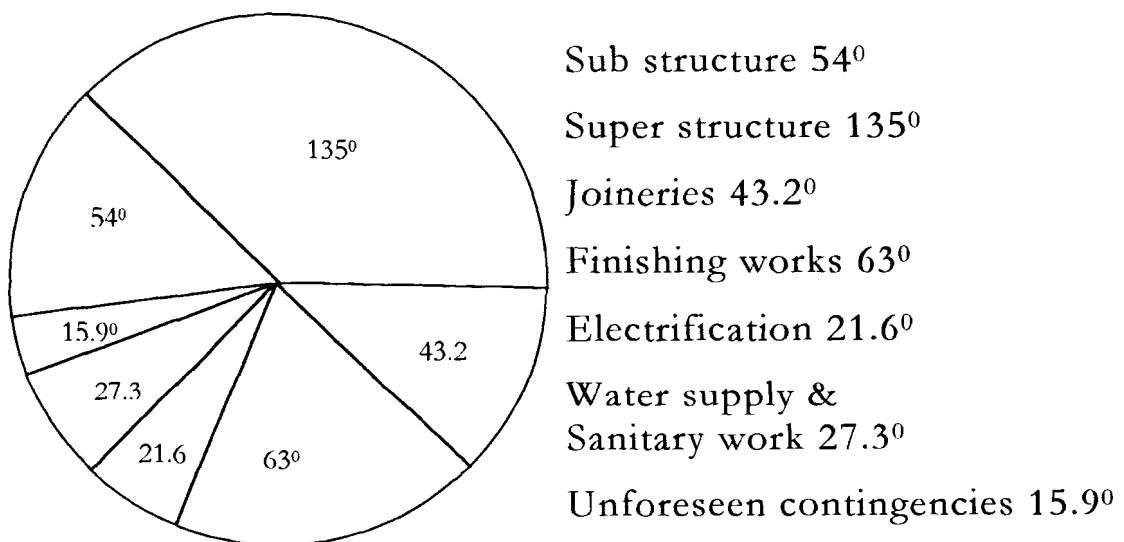
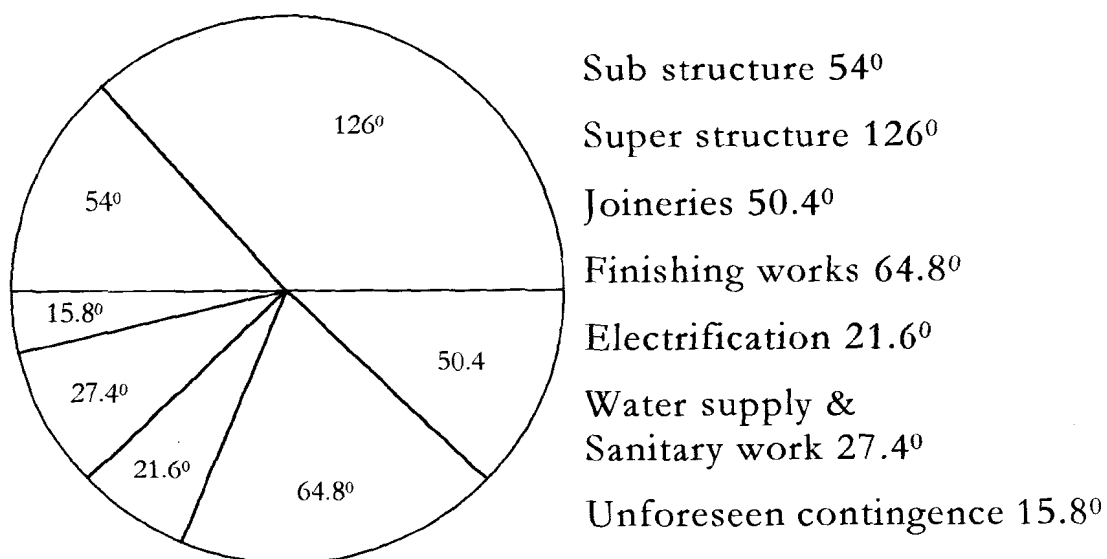


Table: 5.6 1000 sq.ft. flat construction expenditure.

Sl. Nu.	Stages of construction	Construction cost (in Rs.)	per cent
1	Sub Structure	60900	15.0
2	Super structure	142100	35.0
3	Joineries	56840	14.0
4	Finishing works	73080	18.0
5	Electrification	24360	6.0
6	Water supply and sanitary works	30856	7.6
7	Unforeseen contingencies	17864	4.4
	Total Cost	406000	100.0

$$\text{Cost per sq.ft} = \frac{\text{Rs. } 406000/-}{1000} = \text{Rs. } 406/-$$

Fig. 5.6 1000 sq. ft. Flat construction expenditure



Super structure of flats also costs more due to the construction of beams and columns compared to independent houses. For a 2000sq.ft.flat super structure construction cost is 37.5 per cent of the total cost compared to 34-35 per cent cost of independent houses.

The construction expenditure of flats on finishing works, joineries, electrification, water supply and sanitary work are much less compared to independent houses. This is due to the economies of large Scale construction and large-scale purchase. The constructors, who are engaged in flat construction, can manage to give employment to the workers for a few month's or years continuously. As a continuous employment provider, the constructors offer fewer wage to the workers compared to the prevailing wage rate. Besides this, due to the bulk purchase of paints, sanitary items, electrical goods, cement, wood etc. cost reduction benefit is available to the construction company. So the sq.ft. cost of 2000 sq.ft flat is Rs. 399/- and 1000 sq.ft. flat Rs. 406/-.

Here pure construction cost of independent houses and flats have been taken into account. As the construction cost increases with the increase in the height of

the building, the economy in large-scale purchase of materials are offset by the increase in construction cost as far as the flats are concerned.

To construct an independent house at least 5 cents of land is required. One cent land in the city has an average cost of Rs.2 lakhs. This means at least 10 lakhs are required to purchase 5 cents land. For a locally constructed moderate independent 2000 sq.ft. house, an individual or a family has to spend nearly Rs. 18 lakhs and PWD constructed house costs Rs. 17.5 lakhs. But for a 2000 sq.ft. flat only Rs. 14 lakhs is required i.e. Rs. 700 per sq.ft. (Construction cost-plus land cost).

One important point to be taken into account here is that the recurring cost of maintaining the necessary common services in the High – Rise Apartments will be more compared to independent houses. The maintenance cost incurred by the High – Rise households varies from Rs.250-Rs.500. per month.

Besides these economic advantages, there are some non-economic disadvantages the High – Rise

households have to face. Due to power failure or mechanical defects of lifts, children and old people have to under take vertical travel, which is very tedious as these people are concerned. Absence of playground may adversely affect the character of the children. Lack of privacy is a very important disadvantage of the High – Rise houses compared to independent houses. The benefit of enjoying charm of private garden cannot be obtained by the residents. They are always afraid of calamities such as earthquakes, fire etc. Waste disposal problem and social alienation are the other disadvantages of these residents.

In the house construction strategy, selection of location is highly significant. Locational advantage leads to economy in money, time and energy. All those people who are living in cities can avail these advantages easily.

The study area, Cochin City, is a highly developed and urbanised city in Kerala state where all the facilities are available. Inorder to examine the locational advantage the households enjoy, the households, which are situated in three different locations have been taken into account here.

- a) The households located in Cochin city
- b) The households, which are situated within 5 to 15 kms from the city.
- c) The households, which are located beyond 15 kms from the city.

Certain assumptions have to be made before estimating the locational advantage of these households.

1. 75 per cent of the households are rented.
2. Husband and wife in the household are employed.
3. Each family has two children – one studying in a college and the other one is school going.
4. All the modern facilities are available in the city.

5.1 The households, which are located in Cochin city

The households which are situated in Cochin city means that those households which are located within 5 kms radius of the city. Due to high level of urbanisation and high density, housing problem is so acute in the city. Those who use space in the city are willing to pay higher prices rather than at others. The rent that users of the space are

willing to pay for particular site represents their behaviour in the urban land market. The most important consideration that influences the decision is accessibility of the site. Location at accessible site entails lower money outlays for commuting. Accessibility also means lower psychic costs from commuting. When commuting costs are positively correlated with distance, households will pay for sites that are accessible and will pay more for more accessible sites. The rent and costs of movement are correlated with distance.

The amount of rent is very high in the city. The households in Cochin City, due to their situational advantage and high demand, pay an average amount of Rs.5000/- as rent per month. Though these households are paying high rent, the commuting cost they have to bear is negligible compared to others. This is due to nearness to the place of work, educational institutions, market, library, hospital, cinema theatre, railway station, bank, bus stop etc. Walkable distance to all these centres is really a blessing in disguise to the city dwellers. Accessibility reduces the time of travel and the city dwellers need not spend enough time and energy by travelling long distance to avail all these aforesaid

facilities. Though the rent is very high in the city, the residents in the city are enjoying economy in money, time and energy by availing all these facilities in the city.

Frequent strikes and harthals are a new phenomenon in Kerala. It hinders the whole activity in the state. Sudden and unexpected bus strikes and harthals cause tensions and worries in the minds of the people especially ladies who are coming from far away places to attend the office in the city. Some times these bus strikes may prolong two or three weeks. During this time some private vehicles like vans, mini buses, tempo travellers etc. may start their services by charging multiples of the actual bus fare. This is actually an economic loss to them. But to the employed city dwellers this bus strike is not a problem as they need not take much tension and worries and need not spent extra money to reach their residence as their abode is near to the office or the place of work.

Even though government declared power cuts are applicable in the city, there are no unauthorised power cuts or frequent power failures. If there is an unexpected power failure, that will be restored immediately by the electricity

board with out causing much inconvenience and economic loss to the people and the business establishments which are situated there.

As the 24 hours ATM services are there in the city, people of the city need not worry about keeping money in their houses. In this age of theft and robbery, this service is a great blessing to the city dwellers as it provides security to the people there.

Accessibility to hospitals is a great blessing in the city as majority of the multi speciality hospitals are concentrated in the city. City dwellers need not be panic when they are sick. So mental tension, to a certain extend, can be reduced due to this facility.

The existence of help line (the organisation to remit current charge, water charge, electricity bill, land tax, telephone bill etc. etc.) is really a great blessing to the city dwellers. As majority of the people are employed, they will not have enough time to go and remit these charges in the respective offices. But the help line do all these services promptly by accepting only a nominal amount for their

services from the households in the city. This saves money, time and energy of the households.

5.2 The households, which are situated 5 to 15 kms from the city.

Due to high rent in the city and transport facility from the city, some people prefer to live away from the central part i.e. within 5 to 15 kms from the city. With the increase in distance from the city, the rent amount decreases. The prevailing rent in the area is low compared to the city. The households, which are situated in this area, are paying an average rent of Rs.3000/- per month.

As the husband and wife are employed in the city, travel is unavoidable to reach the work place. They can travel either by bus or by car or by a two-wheeler. If they are going by bus it will take Rs.20/- as bus fare and two hours journey per day to reach the destination. If they prefer two wheeler journey, it will take Rs.30/- as petrol cost and one hour journey per day and by car Rs.60/-as fuel cost and forty five minutes journey.

During the peak hours of the day in Cochin City, due to traffic jam, buses will take much more time to reach the destination. But the cars and two wheelers can manage to go through pocket roads where there is no traffic control and traffic jam. So these vehicles take comparatively less time to reach the destination.

Even though family is living 5-15 kms away from the city, the two children are studying in the city. The eldest one is a college student and the second child is school going. For the eldest one, parents have to spent Rs.500/- per month as travel expense, cost of food etc. The younger one is not so grown up to travel in a line bus. So parents have to arrange school bus for which at least Rs.300/- has to be given per month.

Modern families are very much interested in all types of recreations especially cinema, site seeing, pleasure giving trips etc. Every weekend these families engage in some pleasure giving activities. For this purpose they have to spent Rs.100/- (as petrol cost or car rent) per week i.e. at least Rs.400/- per month.

The families today are very much concerned with the health of the family members. Even though majority of the epidemics are eradicated from the country, some minor epidemics occur occasionally. So for the treatment, these families have to depend on hospitals in the city, which cause an average of Rs.100/- as commuting cost per month.

Now majority of the families have real faith in god. They are very particular to attend prayers at least once in a week. So to visit the place of worship (temple, mosque, church) once in a week will take at least Rs.50/- per family. This means the family has to spent Rs.200/- per month as commuting cost to attend the prayers.

Modern generation is genuinely interested in reading and acquiring knowledge. Their knowledge can be enhanced by visiting libraries and reading different newspapers, modern books, journals etc. Advanced modern libraries are an important peculiarity of the city. The visit to library at least during holidays or twice in a week cost Rs.50/- per month as travel cost or commuting cost.

Shopping is an important duty as the modern families are concerned. At least twice in a month they have to purchase grocery and vegetables and hire an auto to reach the house with these entire luggage. For this the families have to spend at least Rs.100/- per month for this journey from market to residence.

As the railway station, transport bus stand, bank etc are located away from these households, they have to spent an average of Rs.50/- per month as commuting cost to reach these destinations.

5.3 The households, which are located beyond 15 kms from the city.

Households, which are located beyond 15 kms from the city, are taken into account here. As the cost of land and density of population decreases with increase in distance from the city, the rent in those areas are very low compared to cities. By taking into account this reduced rent, some people may prefer to live in those places. They are paying only Rs.1750/- per month as rent. In such a situation

they are saving Rs.3250/- per month compared to those people who are residing in the city.

As the husband and wife are employed in the city, they have to travel long distance every day. So they have to wake up sufficiently early to prepare food and all other personal and household duties. This is a real cost as far as the households are concerned. If both are travelling by bus, they have to spend Rs.50/- per day. If they are using two-wheeler, they have to spend Rs.75/- per day and by travelling in a car to office costs Rs.120/- per day. Besides this long distance journey, they have to spend their precious time for travel. During the peak hours of the day buses will take at least two hours to reach the destination. Travelling by car and two-wheeler will take one hour and one and a half hours respectively.

Tremendous increase in the number of vehicles on the road, especially during the peak hours, the travel is so risky that accidents may occur every now and then. In such a situation the tensions and worries the passengers suffer during the course of journey to attend the office, whether travelling by bus or car or two-wheeler, is beyond our

explanation. This means that the real cost of such travel is very high.

After heavy and tedious work in the office and long journey, the husband and wife may come too late. So to help them in their household duties, appointment of a servant is necessary. This may cost at least Rs.750/- per month plus dress, food and accommodation.

The education of children is an important problem of those who are accommodated in far away places from the city. Standard educational facilities will not be available in these areas. So they have to depend on educational institutions in the city for children's education. The college going one has to stay in the hostel, as the long day-to-day journey by bus will adversely affect the studies and health. For this purpose parents have to spend hostel fees plus an extra amount, which may be worth Rs.2000/- per month. For education of the young child, either they have to arrange special conveyance or boarding facility. Special conveyance will cost Rs.600/- per month and boarding will cost at least Rs.1500/- per month. If parents

are not arranging special conveyance, for long distance journey, health and study will be adversely affected.

After the continuous one-week work, each family wishes to enjoy the weekend. But the facilities for enjoyment like cinema theatres, amusement parks etc. are available only in the city. Travel by car with family from such a long distance will cost at least Rs.250/- per week, which means Rs.1000/- per month for enjoying the weekend!

Frequent visits to libraries in the city may cost an additional amount to the households from distant locations. The curiosity is the main factor, which attract modern generation to libraries. Such a long distance travel to city library will cost money time and energy to the people.

Concentration of multi speciality hospitals in the city attracts people from distant places to take treatment from such hospitals. So the households have to incur some money as travel cost per visit.

Frequent unauthorised power cuts and power failures in sub - urban and villages incur economic loss to the households. The inability to use power driven devices like mixer, grinder, washing machine, electric heater etc. creates problems in the households. Food articles, which are kept in the refrigerators get decayed due to the power cuts and power failures.

The arrival of certain trains in the railway station during late midnight causes heavy economic loss to the passengers who live away from the railway station. Due to the absence of bus service during midnight, these passengers have to hire a taxi car or an auto rickshaw to reach their destination. Usually these vehicles charge a high rent during night compared to daytime. But as the city dwellers are concerned, this is not a problem as they are located in the nearby areas of the railway station.

.) In the above paragraphs we were trying to make a descriptive comparison of living under three different environments. Even though, the assumptions were narrow and flimsy, from the above discussion it is clear that the households in cities are paying a high rent compared to

those households, which are situated distant places from the city or away from the city. Nearness or accessibility to all facilities exempts the households in cities from paying a high commuting cost. Those households, which are situated at different distant locations pay low rent compared to the city households, the commuting cost they have to bear is very high. Besides this, the long distance travel waste time and energy of the members of these households. From this we can conclude that living in cities are more economical rather than living at different distant locations.

Land is the most important factor in building activity. The scarcity of land in the city results in high land values. In fact the rising land value and increasing demand for houses resulted in High – Rise development. The unit cost of built up space is much cheaper in these buildings. Family accommodation in High – Rise building is very cheap compared to single dwelling units of comparable space and quality. So relative cost effectiveness and accessibility are the two important points to be given stress while discussing the economics of High – Rise Apartments.

Vertical expansion results in curtailment of cost of various services such as water supply, transport, electrification, drainage etc. So lesser cost has to be incurred by each household (flats) for these services.

To achieve most of the goals that human beings have, 'cluster' is more efficient than 'scatter'. The cost of getting together is less, and this includes the time spend on going from one of the separate plots of the ground to another, the cost of making roads and stringing telephone wires or power lines. The savings from this to the High – Rise households is considerable.

5.4 Relative financial gains and losses

In the above section we have discussed the cost structure of various houses and also the relative gains and losses (financial and non-financial). It is also interesting to note that behind the construction of a house, there is a discounting approach also. Construction of houses may be a costly affair initially but over the years, the owner may be getting certain financial advantages like tax rebate etc. It is also true that repayment may be a burden initially but after

some period it becomes rather convenient because of a consistent rise in salaries and other benefits. These trends suggest that there is scope for performing cost-benefit analysis of economics of High – Rise Apartments coupled with discounting. But such an approach is difficult because the methodology is complex and measurement problems are numerous. Thus in this section an attempt is made to assess the relative gains and losses under a set of assumptions. The set of assumptions is definitely a limitation but we do not have immediately a better alternative with the available data. Thus a crude attempt is made to examine the gains and losses.

Assumptions

1. During the year 2001 the interest rate charged on housing loan was 12.5 per cent.
2. The houses, which we were taken into account for the purpose of our study, are:
 - a) 1 bed room house with 700 sq. ft.
 - b) 2 bed room house with 1200 sq. ft.
 - c) 3 bed room house with 1800 sq. ft.
 - d) Above 3 bed room houses with 3000 sq. ft.

3. The construction cost per sq. ft. is Rs.400/-
4. 75 per cent of the construction cost is met by housing loan. As Cochin Corporation is the major Corporation in Kerala, the houses in Cochin manage to get high rent. As per survey conducted among the High – Rise households in Cochin City, the details regarding rent are given below.
 - a) 1 bed room house average rent Rs.2000/-
 - b) 2 bed room house average rent Rs.3000/-
 - c) 3 bed room house average rent Rs.4500/-
 - d) Above 3 bed room house average rent Rs.6500/-
5. The rent of the houses, which are situated in semi urban areas of Cochin, are the following.
 - a) 1 bed room house average rent Rs.1000/-
 - b) 2 bed room house average rent Rs.1750/-
 - c) 3 bed room house average rent Rs.2500/-
 - d) Above 3 bed room house average rent Rs.3500/-

Table: 5.7 Financial gains and losses of High – Rise Apartments – 10 years loan period (averages).

Type of house	Area of house	Cost per sq.ft Rs/-	Total cost of construction Rs/-	Period of loan	Interest rate (per cent)	Loan amount Rs/-	Loan repayment per year			Tax benefit due to housing loan repayment per year		
							Interest Rs/-	Prin- cipal Rs/-	Total amount Rs/-	Interest Rs/-	Prin- cipal Rs/-	Total amount Rs/-
1 bed room	700sq.ft	400	280000	10 years	12.5	210000	14436	21000	35436	4331	4200	8531
2 bed room	1200sq.ft	400	480000	10 years	12.5	360000	24756	36000	60756	7427	7200	14627
3 bed room	1800sq.ft	400	720000	10 years	12.5	540000	37128	54000	91128	11138	10800	21938
Above 3 bed room	3000sq.ft	400	1200000	10 years	12.5	900000	618841	90000	151884	18565	18000	36565

For a one bedroom house the construction cost as per our estimate Rs.280000. Those who are availing housing loan can manage to get 75 per cent of the total construction cost from the banks or other financial institutions engaged in housing finance. So the loan amount will be Rs.210000/- and the interest rate charged by the bank is 12.5 per cent. If the period of repayment of loan is 10 years, then the yearly repayment amount will be Rs.35436/- (interest Rs.14436/- and principal Rs.21000/-). The total interest amount for the year is allowed to minus from the gross income of the housing loan beneficiary, which is equal to 30 per cent tax deduction for that amount. 20 per cent (now reduced to 15 per cent) tax rebate is allowed on the principal repayment. As the income slab of the sample households of High – Rise Apartments in Cochin City is very high, 30 per cent tax deduction on the interest payment will be available to the person concerned. This means Rs.4331/- as tax deduction (i.e. 30 per cent on interest amount) and Rs.4200/- (20 per cent on principal repayment) as tax rebate. Then the actual repayment of loan will be much less than the prescribed effective repayment (i.e. Rs.35436 - Rs.8531 = Rs.26905).

For a 1200 sq. ft. 2 bed room house the estimated construction cost in Rs.480000/- and so the permitted housing loan amount will be Rs.360000/- with 12.5 per cent interest and 10 year repayment period. In this case the yearly repayment will be Rs.60759/- (Interest Rs.24756/- and principal Rs.36000) The tax deduction on interest will be equal to Rs.7427/- and tax rebate on principal Rs.7200/- Then the actual repayment will be equal to Rs.46129/- (Rs.60756 – Rs.14627).

In this context for a 3 bed room house with 1800 sq. ft. the construction cost will be Rs.720000/- and the loan amount Rs.540000/- Here also the prescribed repayment Rs.91128/- per year (Interest Rs.37128/- and principal Rs.54000/-) is higher than the actual repayment amount Rs.69190/- Tax deduction worth Rs.11138/- and tax rebate worth Rs.10800/- is available to the housing loan beneficiary. (Rs.11138 + Rs.10800 = Rs.21938)

For a 3000 sq. ft. above 3 bed room house the permissible loan amount will be Rs.900000/- (75 per cent of the estimated cost Rs.1200000/-). The actual repayable amount per year Rs.115319/- will be much less than the

prescribed amount Rs.151884/-. The tax deduction Rs.18565/- and tax rebate Rs.18000/- together constitute Rs.36565/-.

Now we have to take into account a situation with 15 years repayment period. In this case as the repayment period is 15 years, the person who has borrowed Rs.210000/- has to repay Rs.28000/- yearly (Rs.14000/- as interest and Rs.14000/- as principal). As the interest on housing loan is allowed to deduct from the gross income (which is equal to 30 per cent tax deduction) and 20 per cent tax rebate on principal, Rs.4200/- as tax deduction and Rs.2800/- as tax rebate is available to the borrowers. So the repayable loan amount will be equal to Rs.210000/- (Rs.280000/- Rs.70000/-)

In the case of 1200 sq. ft. houses, the permitted loan amount is Rs.360000/- so the yearly repayment will be Rs.48000/- (Rs.24000/- as interest and Rs.24000/- as principal). Tax deduction and tax rebate together constitute Rs.12000/- (Rs.7200 + Rs.4800). So the repayable amount will be Rs.360000/- (Rs.480000 - Rs.120000).

Table: 5.8 Financial gains and losses of High – Rise Apartments – 15 years loan period.

Type of house	Area of house	Cost per sq.ft. Rs/-	Total cost of construction Rs.	Period of loan	Interest rate (per-cent)	Loan amount Rs/-	Loan repayment per year			Tax benefit due to housing loan repayment per year		
							Interest Rs/-	Principal Rs/-	Total amount Rs/-	Interest Rs/-	Principal Rs/-	Total amount Rs/-
1 bed room	700sq.ft	400	280000	15 years	12.5	210000	14000	14000	28000	4200	2800	7000
2 bed room	1200sq.ft	400	480000	15 years	12.5	360000	24000	24000	48000	7200	4800	12000
3 bed room	1800sq.ft	400	720000	15 years	12.5	540000	36000	36000	72000	10800	7200	18000
Above 3 bed room	3000sq.ft	400	1200000	15 years	12.5	900000	60000	60000	120000	18000	12000	30000

For the construction of a 1800 sq. ft. 3 bed room house the permissible loan amount is Rs.540000/- and the annual repayment amount is Rs.72000/- (Rs.36000/- as interest and Rs.36000/- as principal). By way of tax deduction and tax rebate Rs.18000/- is available to the borrower and so the actual repayable amount per year will be equal to Rs.54000/-

Above 3 bed room houses with 3000 sq. ft. area manages to get Rs.900000/- as housing loan. The repayment amount of this loan per year is Rs.120000/-. (Rs.60000 + Rs.60000). But due to tax deduction and tax rebate an amount equal to Rs.30000/- can be deducted from the prescribed repayment amount Rs.120000/-. This means that the loan beneficiary has to repay only Rs.90000/- per year.

Table 5.9 gives details regarding repayment amount, actual repayable amount, interest on loan, principal amount to be paid etc. if the loan period is 20 years. A person who avails a housing loan worth Rs.210000/- (for one bedroom house construction) has to repay Rs.24288/- per year. But due to tax deduction and tax rebate (Rs.4136/-

Table: 5.9 Financial gains and losses of High – Rise Apartments – 20 years loan period.

Type of house	Area of house	Cost per sq.ft. Rs/-	Total cost of construction Rs.	Period of loan	Interest rate (per cent)	Loan amount Rs/-	Loan repayment per year			Tax benefit due to housing loan repayment per year		
							Interest Rs/-	Principal Rs/-	Total amount Rs/-	Interest Rs/-	Principal Rs/-	Total amount Rs/-
1 bed room	700sq.ft	400	280000	20 years	12.5	210000	13788	10500	24288	4136	3150	7286
2 bed room	1200sq.ft	400	480000	20 years	12.5	360000	23628	18000	41628	7088	3600	10688
3 bed room	1800sq.ft	400	720000	20 years	12.5	540000	35436	27000	62436	10631	5400	16031
Above 3 bed room	3000sq.ft	400	1200000	20 years	12.5	900000	59064	45000	104064	17719	9000	26719

as tax deduction + Rs.3150/- tax rebate) the loan beneficiary is actually paying only Rs.17002/- per year.

The housing loan beneficiaries of 2 bed room houses have to pay Rs.41628/- per year. But they will be paying only Rs.30940/- actually as Rs.10688/- is available to them by way of tax deduction and tax rebate (Rs.7088/- tax deduction + Rs.3600/- tax rebate)

In the case of 3 bed room houses the prescribed loan repayment amount will be Rs.62436/- per year but actually they will be paying only Rs.46405/-, as Rs.16031/- is available to them by way of tax deduction and tax relief (Rs.10631/- tax deduction and Rs.5400/- tax relief.

3000 sq. ft. above 3 bed room houses will have to repay Rs.104064/- annually but the actual repayment will be equal to Rs.77345/-, as Rs.26719/- is available to them by way of tax deduction and tax rebate.

Those who are availing Rs.210000/- as housing loan for a period of 10 years have to repay Rs.35436/- annually but if the loan period is 15 years the repayment

instalment will be Rs.28000/- and 20 years loan period require Rs.24288/- as yearly instalment.

In the case of Rs.360000/- loan amount, 10 years repayment period require Rs.60756/- as repayment amount per year and 15 years repayment period require Rs.48000/- per year as repayment amount and 20 year period Rs.41628/- per year.

Those who availed Rs.540000/- as loan for 10 years have to repay Rs.91128/- annually but if the loan period is 15 years the loan amount will be Rs.72000/- and 20 years period require Rs.62436/- per year.

Housing loan worth Rs.900000/- for a period of 10 years insist on Rs.151884/- repayment annually. But if the loan is for 15 years the repayment amount will be Rs.120000/- and if the loan is for a period of 20 years, the yearly repayment will be Rs.104064/-.

The difference between the prescribed repayment amount and actual repayment amount show the tax benefit

accrue to the housing loan beneficiaries from availing the housing loan.

People who are living in rented houses in cities may be paying very high rent per year. As per Table 4.1 the occupants of sample High – Rise households are high-income earners and the tenants are paying a high rent also (Table 4.10). So those occupants who are high income earners and living in rented houses may be affected by high – income tax and high rent if they haven't availed a housing loan.

The tenants in the villages may not be paying high rent and these households may not be high – income earners also. So in this case, the income tax benefit will not be high to the people who are living in rented houses in the villages.

In this section an attempt was made to examine the relative gains and losses from the purchase of High – Rise Apartment. It would have been better if this analysis were done after applying discounting. But such an attempt failed due to data problem. However, the analysis broadly indicates that the possession of High – Rise Apartment is

beneficial in the long run and hence the hypothesis that the purchase of High – Rise Apartment is economical in the long run.

DETERMINANTS OF DEMAND FOR HIGH RISE - APARTMENTS

C.B. Baby “Economics of high - rise apartments in Kerala a case study of Cochin city” Thesis. Department of Economics , Dr. John Matthai Centre Thrissur, University of Calicut, 2004

CHAPTER VI

DETERMINANTS OF DEMAND FOR HIGH – RISE APARTMENTS

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DETERMINANTS OF DEMAND FOR HIGH – RISE APARTMENTS

This chapter examines the factors that determine the demand for High – Rise Apartments. As the High – Rise Apartments are mostly concentrated in Ernakulam district, especially in Cochin city, the sample households are drawn from Cochin city to examine the factors that determine the demand for different types of houses or flats in the Apartments. As per the survey of Town Planning Department (1996), there are 3228 dwelling units in 300 Apartments in Cochin City. From this the total sample taken for our study are 650 units on the basis of number of bedrooms – 140 one bedroom households, 270 two bedroom households, 210 three bed room households and 30 above three bedroom households.

The socio – economic changes that have taken place in the last decade has an important bearing on the demand for High – Rise Apartments and these changes have macro and micro dimensions. High population growth, rapid urbanisation, high density, high land value, changing

family structure, facilities, accessibility, affordability, safety, security, etc have contributed to the growth of High – Rise phenomenon.

6.1 Population growth

Table 6.1 shows district wise distribution of population in Kerala. Among the districts in Kerala Malappuram has the highest number of population (11.4 per cent) and Wayanad has the lowest number of population. Thiruvananthapuram and Ernakulam districts have the 2nd and 3rd position respectively in the case of population of the state. Kerala has 1.27 per cent of the total land area of India but she has to support 3.9 per cent of the total population of the country, which is really a great problem to the state. Due to this high density of population, the accommodation problem is so severe in the state. High degree of urbanisation increased the intensity of urban accommodation problem in the state especially in Ernakulam district, which has the largest number of urban population. High demand for accommodation and fixed supply of land led to demand for High – Rise Apartments in the district.

Table: 6.1 District-wise population of Kerala (2001) census.

District	Persons	Males	Females	Per cent total population
Thiruvananthapuram	3234707	1571424	1663283	10.2
Kollam	2584118	1248616	1335502	8.01
Pathanamthitta	1231577	588035	643542	3.09
Alapuzha	2105349	1012572	1092777	6.7
Kottayam	1952901	964433	988468	6.1
Idukki	1128605	566405	562200	3.6
Ernakulam	3098378	1535881	1562497	9.7
Thrissur	2975440	1422047	1553393	9.3
Palakkad	2617072	1265794	1351278	8.2
Malappuram	3629640	1759479	1870161	11.4
Kozhikode	2878498	1398674	1479824	9.0
Wayanad	786627	393397	393230	2.5
Kannur	2412365	1154144	1258221	7.6
Kasaragod	1203342	587763	615579	3.8
KERALA	31838619	15468664	16369955	100.0

Source: Census of India, 2001.

Table: 6.2 Growth of population in Kerala state and Ernakulam district from 1901-2001.

Year	Kerala	Growth index	Ernakulam	Growth index
1901	6396000	--	646261	--
1911	7148000	111.8	735297	113.8
1921	7802000	109.1	789343	107.3
1931	9707000	124.4	982769	124.5
1941	11032000	113.6	1172335	119.3
1951	13549000	122.8	1393730	118.9
1961	16904000	124.8	1698575	121.9
1971	21347000	126.3	2163674	127.4
1981	25454000	119.2	2535294	117.2
1991	29011000	114.0	2812306	110.9
2001	31839000	109.7	3098378	110.2

Source: Census of India, Final Population Totals, Kerala, various years.

The rapid growth of population in Kerala state and Ernakulam district is depicted in Table 6.2. From 1901 to 1921 the population growth was slow compared to the later years. From 1921 onwards the growth of population increased considerably. In 1961-71 Kerala state and Ernakulam district witnessed rapid increase in population growth index (i.e. 126.3 and 127.4 per cent respectively). But from 1971 onwards a gradual decline in the growth rate has been noticed (Table 6.2). During the period 1991-2001 the growth index was low in Kerala state (109.7) compared to Ernakulam district (110.2).

6.2 Population density

The density of Kerala state and Ernakulam district is given in Table 6.3. Kerala is one of the most densely populated states in India. Despite significant out-migration and fall in fertility in recent years, Kerala's population has grown more rapidly than Indian's during the 20th century. As a result the density of population recorded in 2001 census was 817. But Ernakulam district has high density compared to the state density. From 1901 to 2001 the density of Ernakulam is far ahead the state density (817),

which is clear from Table 6.3. This high density may be due to the concentration of industries, business establishments and all other facilities in the district.

Table: 6.3 Population density in Kerala state and Ernakulam district.

Year	Kerala	Ernakulam
1901	165	268
1911	184	305
1921	201	328
1931	245	408
1941	284	487
1951	349	579
1961	435	706
1971	549	899
1981	655	1053
1991	747	1162
2001	817	1050

Source: Census of India, Final Population Totals Kerala, various years

6.3 Trends in urbanisation

Table: 6.4 Growth of urban population in India

Census	Total urban population (millions)	Level of urbanisation (per cent)	Annual growth rate of urban population (per cent)
1901	25.6	11.0	--
1911	25.6	10.4	0.0
1921	27.7	11.3	0.79
1931	33.0	12.2	1.77
1941	43.6	14.1	2.82
1951	61.6	17.6	3.52
1961	77.6	18.3	2.34
1971	107.0	20.2	3.26
1981	156.2	23.7	3.86
1991	212.9	26.1	3.15
2001	285.0	27.78	3.60

Source: Census of India, various years.

Table 6.4 represents the urbanisation experience of India since 1901. While the total urban population increased eleven fold between 1901 and 2001, the number of urban settlements only tripled. This shows the high rate of growth of urban population and the consequent effect of this population growth in housing scenario.

Table 6.5 provides the growth rate of urban population in Kerala in each size class from 1981 – 2001. While the number of urban agglomerations has increased from 16 in 1991 to 17 in 2001, the number of statutory towns has decreased to 60 from 65 in 1991. The decadal growth rate during 1981 – 1991 was 60.97 per cent, which reduced to 7.64 per cent in 1991 – 2001. A size class – wise analysis of percentage of urban population in 2001 reveals that it is the highest in class I towns (68.82 per cent), followed by class III towns (14.05 per cent). The same trend was visible in 1981 and 1991 censuses showing thereby more concentration of population in class III towns than in class II towns. The percentage of urban population in size class I has witnessed steady increase from 1981 onwards while in size class II and V the percentage of urban population has decreased in 1991 and again increased in 2001. In size class

Table: 6.5 Growth of urban population, 1981 – 2001.

Size class of UA*/City/Town	Number of UAs/Towns			Population			Per cent of population in each size class			Per cent decadal growth	
	1981	1991	2001	1981	1991	2001	1981	1991	2001	1981- 1991	1991- 2000
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
All classes	85	109	98	4771275	7680294	8267135	100.00	100.0	100.00	+60.97	+7.64
Class – I	8	14	14	2535462	5095524	5689738	53.14	66.35	68.82	+100.97	+11.66
Class – II	7	9	14	454017	554571	936193	9.52	7.22	11.33	+22.15	+68.81
Class – III	49	46	35	1520399	1465006	1161553	31.86	19.07	154.05	+3.64	-20.71
Class – IV	17	34	26	227871	520663	411808	4.78	6.78	4.98	+128.49	-20.91
Class – V	4	6	9	33526	44530	67843	0.70	0.58	0.82	+32.82	+52.35
Class – VI	--	--	--	--	--	--	--	--	--	--	--

Source: Census of India 2001, Provisional Population Totals, Kerala.

* Urban Agglomeration

III there has been a steady decreasing trend since 1981 in respect of percentage of urban population.

The percentage decadal growth during 1981 – 1991 was highest in class IV town (128.49 per cent) followed by class I town (100.97 per cent). The lowest percentage decadal growth for 1981 – 91 has been observed in class III town. During 1991 – 2001 the percentage decadal growth rate in all the size class other than class II and class V were less than that during 1981 –1991. The decadal growth rate has been negative in the case of class III and class IV towns during 1991 – 2001.

In Table 6.6, the districts in Kerala have been arranged according to its rank in respect of urban population in 2001 in the first column. The corresponding rank in 1991 census is given in the fifth column. In 2001, Kannur district has the first rank in respect of percentage of urban population. Wayanad has the lowest rank. Kollam and Kottayam districts have been relegated to 8th and 9th rank respectively from 7th and 8th rank with regard to percentage of urban population in 2001 census. While Kasaragod district has been elevated to rank 7 in 2001 from rank 9 in

Table: 6.6 Ranking of districts by percentage of urban population, 1991 and 2001.

Rank in 2001	District	Per cent of urban population		Rank in 1991
		2001	1991	
(1)	(2)	(3)	(4)	(5)
1	Kannur	50.46	50.87	1
2	Ernakulam	47.65	48.74	2
3	Kozhikode	38.25	38.34	3
4	Thiruvananthapuram	33.78	33.88	4
5	Alapuzha	29.36	30.46	5
6	Thrissur	28.21	26.31	6
7	Kasaragod	19.42	16.45	9
8	Kollam	18.03	18.53	7
9	Kottayam	15.35	17.55	8
10	Palakkad	13.62	15.72	10
11	Pathanamthitta	10.03	13.05	11
12	Malappuram	9.81	9.12	12
13	Idukki	5.07	4.72	13
14	Wayanad ¹	3.76	3.41	14

Source: Census of India 2001, Provisional Population Totals, Kerala.

1991. Ernakulam district has got 2nd rank in 1991 and 2001 census, but this district with 17.86 per cent urban population ranks first in respect of percentage of urban population to total population of the state. Kannur district takes the second position with 14.72 per cent urban population while the lowest rank is held by Wayanad district with 0.36 per cent urban population.

Table 6.7 deals with trends in urbanisation in Kerala for 1901 to 2001. The percentage of urban population to total population increased from 1901 to 1991 but witnessed an abrupt decline in 2001. The decennial growth of urban population was the highest (60.97 per cent) during 1981 – 91 and the lowest (7.64 per cent) during 1991 – 2001. From 1901 - 1911 to 1921 – 1931, the decennial growth rate of urban population has shown a steady increase. It has shown a fluctuations trend from 1931 –1941 to 1961 –1971.

Table: 6.7 Trends in urbanisation in Kerala, 1901 – 2001.

Census Year	Total population	Total urban population	Per cent of urban population	Decennial growth	
				Absolute	Per cent
(1)	(2)	(3)	(4)	(5)	(6)
1901	6396262	454499	7.11	--	--
1911	7147673	524661	7.34	70162	+15.44
1921	7802127	680900	8.73	156239	+2978
1931	9507050	916330	9.64	235430	+34.58
1941	11031541	1195550	10.84	279220	+30.47
1951	13549118	1825832	13.48	630282	+52.72
1961	16903715	2554141	15.11	728309	+39.89
1971	21347375	3466449	16.2	912308	+35.72
1981	25453680	4771275	18.74	1304826	+37.64
1991	29098518	7680294	26.39	2909019	+60.97
2001	31838619	8267135	25.94	586841	+7.64

Source: Census of India 2001, Provisional Population Totals, Kerala.

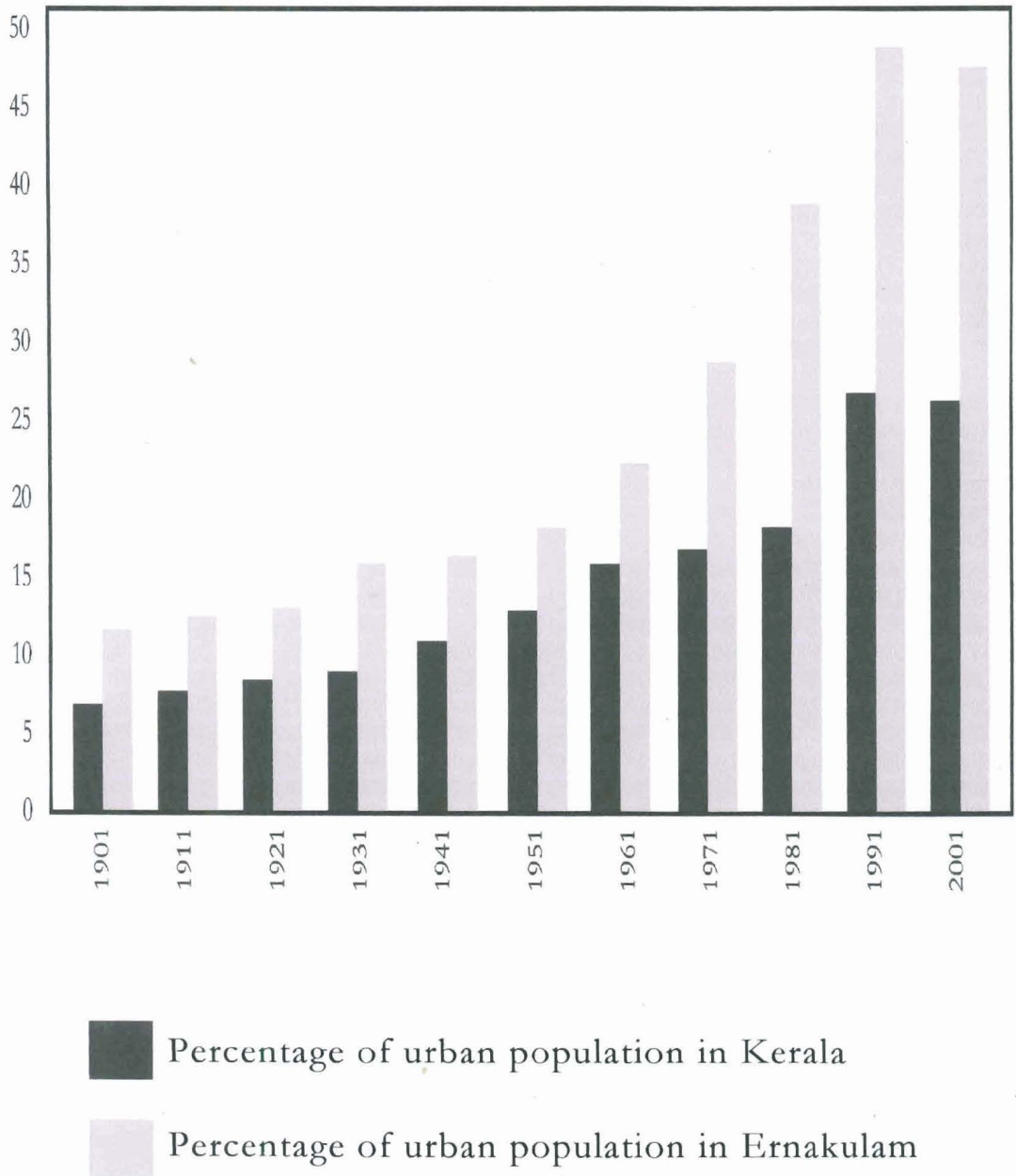
Table: 6.8 Urbanisation trends in Ernakulam district and Kerala state from 1901 to 2001.

Year	Kerala	Ernakulam
1901	7.10	11.48
1911	7.34	11.88
1921	8.73	12.22
1931	9.64	15.32
1941	10.84	16.19
1951	13.45	18.79
1961	15.11	23.27
1971	16.24	29.39
1981	18.74	39.56
1991	26.39	48.78
2001	25.97	47.65

Source: Census of India, Final Population Totals, Kerala, various years.

Table 6.8 gives details of urbanisation trend in Kerala state and Ernakulam district. In the year 1901, only 7.1 per cent of the population lived in urban areas of the state. A gradual increase in urbanisation over the years can be seen from Table 6.3. During the year 1901 urbanisation

Fig. 6.1 Urbanisation trends in Ernakulam district and Kerala state from 1901 to 2001.



rate was 11.5 per cent in Ernakulam district, which was higher than the state level. Till 1941 a gradual increase and after that a sudden spurt in urbanisation is visible from table 6.8. In the year 2001, 47.7 per cent of the total population of Ernakulam district were living in urban areas compared to 26 per cent in Kerala state. Though Kannur district (50.46 per cent) has the first rank in respect of percentage of urban population in 2001, Ernakulam district with 17.86 per cent urban population ranks first in respect of percentage of urban population to total population of the state.¹

Rapid growth of population and high degree of urbanisation have attributed to a high pressure of population on land especially in urban areas of Ernakulam district compared to other districts in the state. This population pressure enhanced the demand for land in urban centres, which in turn pushed up the land price over the years. Urbanisation in Ernakulam district is increasing year after year and so the demand for land in Ernakulam especially in Cochin city increases at a tremendous rate. Table 6.4 shows the land price in Cochin city for the last 10 years.

¹ Census of India 2001, Provisional Population Totals, Kerala, Series 33, Paper. 2, Director of Census Operations, Kerala.

6.4 Land price

The concentration of population in the city increased the demand for land, which in turn pushed up the land price. Due to the concentration of business establishments and industrial units in Ernakulam, the inflow of population to the district is increasing tremendously over the years.

As per information collected from construction companies and the real estate business people from the study area the average price of land in Cochin City from 1991 to 2001 is given in Table 6.9. Over the past ten years Cochin City experienced tremendous increase in land value, which is evident from the Table 6.9. Really it is a shocking experience to the people who wish to purchase land for constructing houses in Cochin. Construction of independent houses in Cochin City is a herculean task to common man today. Hence there is no other alternative for the people but to rely on High – Rise Apartments.

Table: 6.9 Average land price in Cochin city from 1991-2001.

Year	Average price of land (per cent)	Growth index
1991	Rs. 1,25,000	--
1992	Rs. 1,35,000	108.0
1993	Rs. 1,50,000	111.1
1994	Rs. 2,20,000	146.7
1995	Rs. 2,25,000	102.3
1996	Rs. 2,50,000	111.1
1997	Rs. 2,75,000	110.0
1998	Rs. 2,75,000	100.0
1999	Rs. 2,50,000	90.9
2000	Rs. 2,50,000	100.0
2001	Rs. 3,30,000	132.0

Source: Survey

Change in family structure has also influenced the demand for High-Rise houses. In the olden days majority of the families were joint families with large number of members living together, eating together, and working together by sharing happiness and unhappiness. But with the disintegration of joint family system, the number of

households increased, which in turn, led to tremendous increase in the demand for houses. But the scarcity of land and high land cost in cities may be reasons for the demand of High - Rise Apartments. Thus it is well accepted that population pressure and high land price lead to excessive demand for High – Rise Apartments.

In the choice of residential location, work place of the households plays a vital role. The work place residence relation ship among the sample High – Rise households has been studied to gain an understanding of their daily movement and also to verify the fact that the house holds prefer High-Rise living because of the proximity to their work places. Although the residential locations depend on many factors like transportation costs, income, house rents etc. the High – Rise Apartments because of their central location, are preferred for various reasons like less travel time, better transport facilities etc. Data on Table 6.10 clearly brings out the close relationship between work place and the residence of inhabitants of High-Rise Apartments.

Table: 6.10 Work place-residence relationship of sample High – Rise households.

Distance to work place Type of house	Less than 3 Km		3 – 6 Km		7 – 9 Km		10 – 12 Km		Above 12 Km		Total	
	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent
1 bedroom	35	25.0	53	37.9	49	35.0	2	1.4	1	0.7	140	100.0
2 bedroom	70	25.9	84	31.1	44	16.3	37	13.8	35	12.9	270	100.0
3 bedroom	68	32.4	80	38.1	38	18.1	18	8.6	6	2.8	210	100.0
Above 3 bed room	11	36.7	10	33.3	7	23.3	2	6.7	0	0.0	30	100.0
Total	184	28.3	227	34.9	138	21.1	59	9.1	42	6.5	650	100.0

Source: Survey

It is observed from Table 6.10 that workplace is one of the prime determinants of residential location for High – Rise dwellers as more than 63 per cent households work within the radius of 6 Kms. The proportion of households declines as distance increases. About 21 per cent of sample households work within a distance of 7 – 9 Kms and 9 per cent within 10 – 12 Kms. The proportion is about 7 per cent when the distance is more than 12 Kms. From the table it is clear that about 35 per cent of the sample households are residing within a distance of 3 – 6 Kms. from the workplace. This indicates that 3 – 6 Kms is the most accepted distance from residence to workplace by the households. From this it is evident that proximity to workplace is an important determinant of the demand for High – Rise Apartments in Cochin City.

Table 6.11 gives a clear picture of the workplace distance based on occupational type of sample High – Rise residents. 63 per cent of the sample households are residing within 6 kms from their workplace. More than 80 per cent of the business people, engineers, doctors, lecturers etc are residing within 9 Kms from their place of work. Only a few are working beyond that distance. This shows that majority

Table: 6.11 Work – place residence relationship of High – Rise residents by occupational type.

Type of house \ Occupation	Business		Engineers		Doctors		Lecturers		School teachers		Officers		Advocates		Clerks		Last grade		Abroad		Total	
	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent
Less 3 kms	72	25.7	13	19.4	18	28.6	7	33.2	4	36.3	43	33.1	15	33.3	7	38.9	1	50.0	4	30.8	184	28.3
3 – 6 kms	99	35.4	26	38.8	20	31.8	6	28.6	5	45.5	47	36.2	13	28.9	4	22.2	1	50.0	6	46.1	227	34.9
7 – 9 kms	59	21.1	17	25.4	16	25.4	6	28.6	1	9.1	26	20.0	9	20.0	3	16.7	0	0.0	1	7.7	138	21.2
10 – 12 kms	31	11.0	7	10.5	4	6.3	1	4.8	1	9.1	6	4.6	5	11.1	3	16.7	0	0.0	1	7.7	59	9.1
Greater than 12kms	19	6.8	4	5.9	5	7.9	1	4.8	0	0.0	8	6.1	3	6.7	1	5.5	0	0.0	1	7.7	42	6.5
Total	280	100.0	67	100.0	63	100.0	21	100.0	11	100.0	130	100.0	45	100.0	18	100.0	2	100.0	13	100.0	650	100.0

Source: Survey

of the employees of sample households are living near to their work place by avoiding long distance travel. As per table 6.8 the employees who travel more than 10 Kms to reach their work place are clerks. More than 22 per cent of the clerks of sample households have to travel more than 10 Kms per day to attend their office.

Work place is one of the prime determinants of residential location of High – Rise dwellers. Only 42 employees of sample households are travelling more than 12 Kms per day to reach their place of work. Usually High – Rise Apartments are located in the central parts of the city and the easy availability of various amenities may be the reason for choosing residential location in these High – Rise buildings.

Income of the households has also a significant impact on the work – place residence locations. Usually the High – Rise residents belong to upper middle or higher income groups. The higher income group people want to locate their residences in High – Rise buildings because of their central location. It is observed from table 6.12 that large proportion of the households with short distance work

Table: 6.12 Workplace residence relationship of High – Rise residents by income

Distance from work place	Monthly income (Rs)		Below 20000		20000-40000		40001-60000		60001-80000		80001-100000		Above 100000		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Less than 3 kms	5	2.7	34	18.5	44	23.9	56	30.4	9	4.9	36	19.6	184	100.0		
3 – 6 kms	11	4.9	60	26.4	54	23.8	55	24.2	22	9.7	25	11.0	227	100.0		
7 – 9 kms	3	2.2	29	21.0	19	13.8	37	26.8	22	15.9	28	20.3	138	100.0		
10 – 12 kms	6	10.2	10	16.9	15	25.4	14	23.7	9	15.3	5	8.5	59	100.0		
Greater than 12 kms	1	2.4	8	19.0	11	26.2	10	23.8	8	19.1	4	9.5	42	100.0		
Total	26	4.0	141	21.7	143	22.0	172	26.5	70	10.8	98	15.0	650	100.0		

Source : Survey

place is among the middle income group. 54 per cent of the households residing within less than 3 Km from the work place are in the income group of Rs.40001 to Rs.80000. 48 per cent of the households residing within 3 – 6 Kms from the work place are also in the income group of Rs.40001 to Rs.80000. The low-income group of the sample households tend to locate their residences away from the work place. Only 21 per cent of the households residing within less than 3 Kms from the work place are with income upto Rs. 40,000.

Table: 6.13 Travel facility index of High – Rise residents

Distance Type of house	Less than 5 km		5km to 10 km		11km to 15km		Above 15km		Total	
	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent
1 bedroom	15	10.7	125	89.3	0	0.0	0	0.0	140	100.0
2 bedroom	137	50.7	111	41.1	22	8.2	0	0.0	270	100.0
3 bedroom	20	9.5	73	34.8	99	47.1	18	8.6	210	100.0
Above 3 bed room	14	46.7	15	50.0	1	3.3	0	0.0	30	100.0
Total	186	28.6	324	49.9	122	18.8	18	27	650	100.0

Source: Survey

Travel Facility Index (TFI) = $1/\text{Distance to workplace} + 1/\text{Distance to Education institution} +$

$1/\text{Distance to market} + 1/\text{Distance to park} + 1/\text{Distance to bus stop} + 1/\text{Distance to place of worship}$.

Facility is an important determinant of demand for High – Rise Apartments. People usually wish to own a house where all the facilities are available. Table 6.13 shows the travel facility index of Sample High – Rise households. Distance to work place, educational institutions, market, park, bus stop, place of worship etc is taken into account while preparing the Travel facility index. 29 per cent of the total sample households are living within a radius of 5km with all these facilities. More than 78 per cent are within 10kms with the facilities mentioned above. The proportion of households declines as distance increases. Only 21.5 per cent of the sample households are travelling more than 10km to avail these facilities. So from the above index it is understood that facility is an important determinant of location of households.

Majority of the sample High – Rise households expressed high level of satisfaction over the amenities provided by the Apartments. Cent per cent of the Apartments have electricity, water supply and water closet.

Table: 6.14 The level of satisfaction of sample households on amenities in High – Rise Apartments.

Type of house	Electricity		Water supply		Lift		Water closet		Watchman		Parking facility		Play ground		Firefighting devices		Garbage disposal		Earthquake protection	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1 bed room	140	100.0	140	100.0	137	97.9	140	100.0	136	97.1	128	91.4	123	87.9	127	90.7	112	80.0	0	0.0
2 bed room	270	100.0	270	100.0	268	99.3	270	100.0	268	99.3	254	94.1	244	90.4	261	96.7	187	69.3	0	0.0
3 bed room	210	100.0	210	100.0	207	98.6	210	100.0	206	98.6	196	93.3	196	93.3	198	94.3	172	81.9	0	0.0
Above 3 bed room	30	100.0	30	100.0	29	96.7	30	100.0	30	100.0	30.0	100.0	24	80.0	28	93.3	20	66.7	0	0.0
Total	650	100.0	650	100.0	641	98.6	650	100.0	640	98.5	608	93.5	587	90.3	614	94.5	491	75.5	0	0.0

Source: Survey

More than 98 per cent of the households have lift and Watchman facilities. 90 to 95 per cent have parking facilities, play ground and fire fighting devices. This means a high level of satisfaction is realised by the sample households.

In this modern age, facility is the most important requirement of the people. Facilities provide satisfaction to the people. The level of satisfaction is very high for the sample High – Rise households due to a large number of facilities provided by the Apartments. Really these facilities attract large number of people to own a house/flat in High – Rise Apartments.

Safety and security is really another important attraction of High – Rise Apartments. The High – Rise Apartments in Cochin City provide security to its residents by appointing round the clock watchman. 99 per cent of the sample High – Rise households have watchmen for their security.

Besides this, as the High – Rise Apartments provide accommodation to a group of households in one

building, these house holds feel safe and secure. This must be one of the most important reasons for demanding the flats in High – Rise Apartments by the people.

Table: 6.15 The level of satisfaction of High – Rise residents on housing conditions.

Housing conditions \ Type of house	One bed room	Two bed room	Three bed room	Above three bed room	Total
	Per cent	Per cent	Per cent	Per cent	Per cent
Location	92.9	98.9	99.0	100.0	97.7
Accommodation	97.9	96.3	94.8	93.3	96.0
Neighbourhood	91.4	86.3	97.1	93.3	91.2
Sanitary facilities	96.4	87.4	95.7	86.7	92.0
Water supply	89.3	78.1	90.0	70.0	84.0
Garbage disposal	80.0	63.3	81.9	66.7	75.5
Roads	100.0	100.0	100.0	100.0	100.0
Public transportation	94.3	96.7	96.2	100.0	96.2
Shopping facilities	96.4	99.3	96.7	100.0	97.8
Recreational facilities	94.3	99.3	97.1	93.3	97.2
Educational facilities	100.0	100.0	100.0	100.0	100.0
Health facilities	100.0	100.0	100.0	100.0	100.0
Parking facilities	91.4	94.1	93.3	100.0	93.5
Index of satisfaction	94.2	92.7	95.5	92.6	93.9

Source: Survey

The housing condition is an important determinant of demand for houses. Location, accommodation, educational facilities, health facilities, neighbourhood, sanitary facilities etc. are some of the variables, which determine the housing condition.

The level of satisfaction of sample of High – Rise residents on housing condition is given Table 6.15. The overall level of satisfaction is very high among the sample High – Rise households. All the sample households expressed their satisfaction over the education facilities, health facilities and roads. More than 95 per cent of the households are satisfied with location, accommodation, public transportation, shopping facilities, recreational facilities etc. 91 to 93 per cent are satisfied with neighbourhood, sanitary facilities and parking facilities. So the calculated index of satisfaction (94 per cent) indicates an excellent housing condition, which may fascinate people to own a house/flat in High – Rise Apartments.

The demand for High-Rise Apartments is influenced by many factors. The major factor include income, expenditure pattern, family size, age group,

occupation pattern, education, savings, migration, assets etc. These factors were already discussed in chapter IV (see Tables 4.4, 4.7, 4.8, 4.13, 4.17, 4.18, 4.20, 4.22). In the coming discussion, we attempt to analyse the demand for High – Rise Apartments using some important parameters namely savings (V_1), religion (V_2), language (V_3), assets (V_4), migration (V_5), liability (V_6), family size (V_7), age group (V_8), ownership of house (V_9), activity status (V_{10}), ownership of assets (V_{11}), income (V_{12}) and expenditure (V_{13}).

Initially simple regression was tried and it was seen that variables such as assets, migration, family size and activity status were statistically significant. In order to examine further the individual and cumulative influence of these factors on the demand for High – Rise Apartments, confluence analysis was performed. The equation elaborated adding variable by variable (Table 6.16) and it is seen from the results that when we add variables further, V_1 , V_4 , V_5 , V_6 , V_7 , V_{10} , V_{12} and V_{13} are statistically significant. From this we may infer that savings, assets, migration, family size, activity status, income and expenditure considerably influence the demand for type of house. In other words, the

demand for High – Rise Apartments is not casual but decided by well-defined parameters.

Table: 6.16 Determinants – Confluence analysis

Model	α	V ₁	V ₄	V ₅	V ₆	V ₇	V ₁₀	V ₁₁	V ₁₃
1.	20.53	3.97*	1.64						
2.	15.38	1.47*	0.98*	2.28*					
3.	27.98	3.59	2.73	0.37*	0.61*				
4.	32.64	6.94*	5.57	1.31	0.01	1.11			
5.	17.54	2.94*	4.32	1.17	0.03	1.54	1.18		
6.	32.87	1.18	2.87*	0.37	3.84*	1.18*	0.58	2.11*	
7.	49.94	1.25	4.93*	0.24	2.98*	1.13	0.97*	3.89*	4.57*

* indicates significance at 0.05 level.

In all cases $R^2 \geq 0.60$.

A popular statistical method called ANOVA RBD** type was used to know the multiple interactions among the variables.

** Analysis of variance Randomised Block Design.

Table: 6.17 ANOVA RBD type Hetre group variations

Sl. Nu:	Particulars	F Ratio Treatment
1	Savings (V ₁)	5.84 *
2	Religion (V ₂)	3.72
3	Language (V ₃)	0.62
4	Assets (V ₄)	17.64 *
5	Migration (V ₅)	23.78 *
6	Liability (V ₆)	18.57 *
7	Family Size (V ₇)	55.87 *
8	Age group (V ₈)	6.51 *
9	Owner ship of house (V ₉)	3.59
10	Activity Status (V ₁₀)	27.27 *
11	Ownership of Assets (V ₁₁)	32.54 *
12	Income (V ₁₂)	23.86 *
13	Expenditure (V ₁₃)	37.94 *

Note: Type of house is treated as treatments

* significant at 5 per cent level.

$$\text{Correction factor (CF)} = \frac{(GT)^2}{rt}$$

$$\text{Where } GT = \sum_i \sum_j Y_{ij}$$

$$\text{Total sum of squares} = \sum_i \sum_j Y_{ij}^2 - CF$$

$$\text{Sum of Squares due to treatment} = \sum \frac{T_i^2}{r} - CF$$

From the analysis it is seen that except religion, language and ownership of houses, all other factors significantly influence the choice of type of house and hence the relevant hypothesis is accepted. Further, assets, migration, family size, activity status, ownership of assets have revealed very high values. At the same time the relation between liabilities and the preference for type of house are also significant. Also it is significant to note that higher liabilities are attached with large size of house. Hence the results of RBD analysis clearly established the fact that the demand for High – Rise Apartments is significantly related to selected parameters.

$$\text{Sum of squares due to replications} = \sum_j R_j^2 - CF$$

$$\text{Sum of squares due to error} = \text{TSS} - \text{treatment S.S.} - \text{Block S.S}$$

Y_{ij} = Value of the variate for the i^{th} treatment in the j^{th} block

$$T_j^2 = \sum_i Y_{ij}^2 - R_j^2$$

The last objective of the present study is to identify the major problems of High – Rise Apartments. Even though, the problems are touched upon occasionally in the discussions, the succeeding section systematically explain the major problems identified.

6.6 Problems of inhabitants of High – Rise Apartments

Living in High – Rise Apartment has become a common and growing phenomenon. In most of the developed cities, a large proportion of urban population lives in High – Rise Apartments. The High – Rise living has become most popular and acceptable in industrialised countries due to changes in household structure. The change from large, combined family to the contemporary nuclear family is the consequence of shift from agrarian to an industrial way of life.

In Indian cities the High – Rise residence is fast growing since last three decades. High - Rise residential construction has become very popular in large cities. It is presumed that the urbanisation is an inducing factor for this urban phenomenon of High – Rise living. The demand for space due to the pressure of urbanisation has resulted in

High – Rise Apartments to with stand the high densities in these areas.

The development of High – Rise residence depend up on the attitude of the residents. The High – Rise living is mostly alienated and compartmentalised. This may put the residents into many problems. These problems have to be identified and checked to make the living in High – Rise houses more preferable and comfortable.

Here in this section an attempt is made to identify the major problems faced by the residents due to High – Rise living.

People living in High – Rise Apartments have to face different types of environment, which in turn create specific problems to them. Different cultural attitudes towards density, space, privacy, security, social interaction etc of the individual and family may result in varied problems. Usually tall buildings are some times accused of

being dehumanising because they create compartmentalised living and working spaces².

A general complaint about High – Rise living is social alienation i.e. distance in personal relation. Social alienation depends upon culture as well as individual personality. But for many, one strong opinion about the living in High – Rise Apartments is the sense of isolation the inhabitants feel. Amick and Kviz³ observe in their study that the social alienation increased with density and high per cent of alienation is found among High – Rise residents. Social anonymity is one of the urban characteristics and this is high in High – Rise living which leads to the alienation.

A mixed reaction is noticed when the people living in High – Rise Apartments are asked about their opinion on social alienation. Table 6.18 shows the opinion of the sample households regarding social alienation. The level of alienation is found to be 37 per cent among the sample households. 1 bed room sample households

² Copperman, D (1977), "Social Research and Tall Habitant", Academic press, New York, pp. 65 - 97

³ Amick D.J and Kviz F.J (1975), "Social Alienation in Public Housing: The Effects of Density and Building Types", Ekisties, Vol. 43, No. 231, February, pp. 118-120.

expressed less alienation (19.3 per cent) compared to 2 bed room (35.6 per cent), 3 bed room (49.5 per cent) and above 3 bed room (43.3 per cent) households.

Table: 6.18 Opinion on alienation among High – Rise residents.

Type of house	Nu. of sample households	Nu. of positive responses	Per cent
1 bed room	140	27	19.3
2 bed room	270	96	35.6
3 bed room	210	104	49.5
Above 3 bed room	30	13	43.3
Total	650	240	36.9

Source: Survey

It is often believed that the High – Rise buildings are not good for normal living because the residents feel imprisoned and isolated from people and other living things. Mental illness among High – Rise dwellers, particularly women who live on upper floors and stay at home are more prone to loneliness, especially those who do not go out to work because of children and domestic affairs. Table 6.19

shows the result of the survey conducted by the researcher regarding the psychological problems of High – Rise dwellers.

Table: 6.19 Response of sample High – Rise dwellers regarding the psychological problems connected with High – Rise occupancy.

Type of house	Nu. of households	Nu. of positive responses	Per cent
1 bed room	140	24	17.1
2 bed room	270	41	15.2
3 bed room	210	37	17.6
Above 3 bed room	30	14	46.7
Total	650	116	17.8

Source: Survey

Out of 650 sample High – Rise households, 116 expressed positive answer to psychological problems. The psychological problems are found to be very high among above 3 bedroom households. As per survey more than 53 per cent of the housewives are unemployed in above 3 bedroom households. After their routine work, they have to

remain idle for long hours. That may be the reason for such psychological problems among them.

High – Rise Apartments have to provide certain amenities to all the households. In the absence of such amenities certain problems may arise. Adequate parking space, proper vertical elevator system, fire fighting devices, good maintenance etc are essential for Apartments. The civic amenities like power, water supply, garbage disposal facility etc have to be provided. The inadequacy and improper maintenance of these essential amenities will not only put the households into difficulties but also cause friction among the households. The opinion of sample High – Rise households on existing level of lack of amenities is documented in Table 6.20.

Table 6.20 shows the level of dissatisfaction of sample households on amenities in Apartments. Although the over all level of satisfaction on different amenities is very high, a few households expressed their unhappiness as they have to face certain problems during their stay in the Apartments. For a few households, (9/650) parking facility is the main problem. They have to pay and park their

Table: 6.20 The level of dissatisfaction of sample High – Rise households on amenities in Apartments. (Nu. of households lacking amenities are given in the table)

Amenities Type of house	Lift		Watchman		Parking facility		Play ground		Fire fighting devices		Garbage disposal		Earthquake protection	
	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent
1 bed room	3	2.1	4	2.9	12	8.6	17	12.1	13	9.3	28	20	140	100.0
2 bed room	2	0.7	2	0.8	16	5.9	26	9.6	9	3.3	83	30.7	270	100.0
3 bed room	3	1.4	4	1.9	14	6.7	14	6.7	12	5.7	38	18.1	210	100.0
Above 3 bed room	1	3.3	0	0.0	0	0.0	6	20.0	2	6.7	10	33.3	30	100.0
Nu. of households lacking amenities	9	1.4	10	1.5	42	6.5	63	9.7	36	5.5	159	24.5	650	100.0

Source: Survey

vehicles in nearby areas. Some Apartments are lacking fire-fighting devices and play ground. To one fourth of the sample households, garbage disposal is another problem. Above all, no sample High – Rise Apartments have earthquake protection.

The level of dissatisfaction of residents on housing conditions is given in Table 6.21. Water supply and garbage disposal facility are recorded for less satisfaction of residents comparing to other indicators. Even though water supply connection is provided to cent per cent residents in the sample households, it is very difficult to get water for the residents in upper floors during summer. So they have to spend extra amount to get adequate water for their use. Garbage disposal is an important problem faced by inhabitants. It affects majority of the occupants of upper floors.

Table: 6.21 The level of dissatisfaction of High – Rise residents on housing conditions.

Housing conditions \ Type of house	1 bed room	2 bed room	3 bed room	Above 3 bed room	Total
	Per cent	Per cent	Per cent	Per cent	Per cent
Location	7.1	1.1	1.0	0.0	2.3
Accommodation	2.1	3.7	5.2	6.7	4.0
Neighbourhood	8.6	13.7	2.9	6.7	8.8
Sanitary facilities	3.6	12.6	4.3	13.3	8.0
Water supply	10.7	21.9	10.0	30.0	16.0
Garbage disposal	20.0	36.7	18.1	33.3	24.5
Roads	0.0	0.0	0.0	0.0	0.0
Public transportation	5.7	3.3	3.8	0.0	3.8
Shopping facilities	3.6	0.7	3.3	0.0	2.2
Recreational facilities	5.7	0.7	2.9	6.7	2.8
Educational facilities	0.0	0.0	0.0	0.0	0.0
Health facilities	0.0	0.0	0.0	0.0	0.0
Parking facilities	8.6	5.9	6.7	0.0	6.5
Index of dissatisfaction	5.8	7.3	4.5	7.4	6.1

Source: Survey

The surrounding areas i.e. neighbourhood of the High – Rise Apartments may also affect the well – being of the occupants. The response of occupants has been obtained on different variables relating to the

neighbourhood, which will help in assessing their well – being. Under the physical disadvantages traffic, noise, unpleasant odours, dust, maintenance of the roads and drainages etc have been included to know the level of satisfaction of the residents. Social disadvantages also have been assessed by taking the opinions of the residents on density of population, heterogeneity of casts, different income group, civic consciousness and domestic help.

A common measure to assess the level of disadvantages to the residents has been obtained by dividing the actual number of responses to the listed disadvantages with the total number of possible responses of households.

$$\text{Level of disadvantage} = \frac{\text{Actual number of responses to the listed disadvantage}}{\text{Total number of possible responses}} \times 100$$

The figures derived regarding the level of disadvantage is listed in Table 6.22. An analysis of table brings out the variations in the level of disadvantages as perceived by the different sample households. From the table it is evident that the level of physical disadvantages

(40.6) is much higher than the level social disadvantages (28.6) of sample High – Rise households.

Table: 6.22 The level of disadvantage of neighbourhood for High – Rise residents.

Type of house	Physical disadvantage			Social disadvantage		
	Actual Nu. of responses	Total possible responses	Level of disadvantage	Actual Nu. of responses	Total possible responses	Level of disadvantage
1 bed room	693	1540	45.0	313	980	31.9
2 bed room	1191	2970	40.1	516	1890	27.3
3 bed room	878	2310	38.0	396	1470	26.9
Above 3 bed room	142	330	43.3	78	210	37.1
Total	2905	7150	40.6	1303	4550	28.6

Source: Survey

The High – Rise buildings should be carefully integrated into the urban plan if the costs for utilities and transportation to be maintained at lesser level than horizontal expansion. If the planning and construction of tall buildings are not carefully coordinated with those of urban infrastructure, the cost of transportation, utilities and other services may go up, which in turn affect the long –

range urban economics. As per table 6.23 a large proportion of dwellers favour the existing High – Rise situation in the context of urban services and infrastructure. A major portion of High – Rise dwellers in all the sample households

Table: 6.23 The level of satisfaction of High – Rise dwellers on urban services and infrastructure

Type of house	Satisfied households		Unsatisfied households	
	Number	Per cent	Number	Per cent
1 bed room	121	86.4	19	13.6
2 bed room	247	91.5	23	8.5
3 bed room	179	85.2	31	14.8
Above 3 bed room	26	86.7	4	13.3
Total	573	88.2	77	11.8

Source: Survey

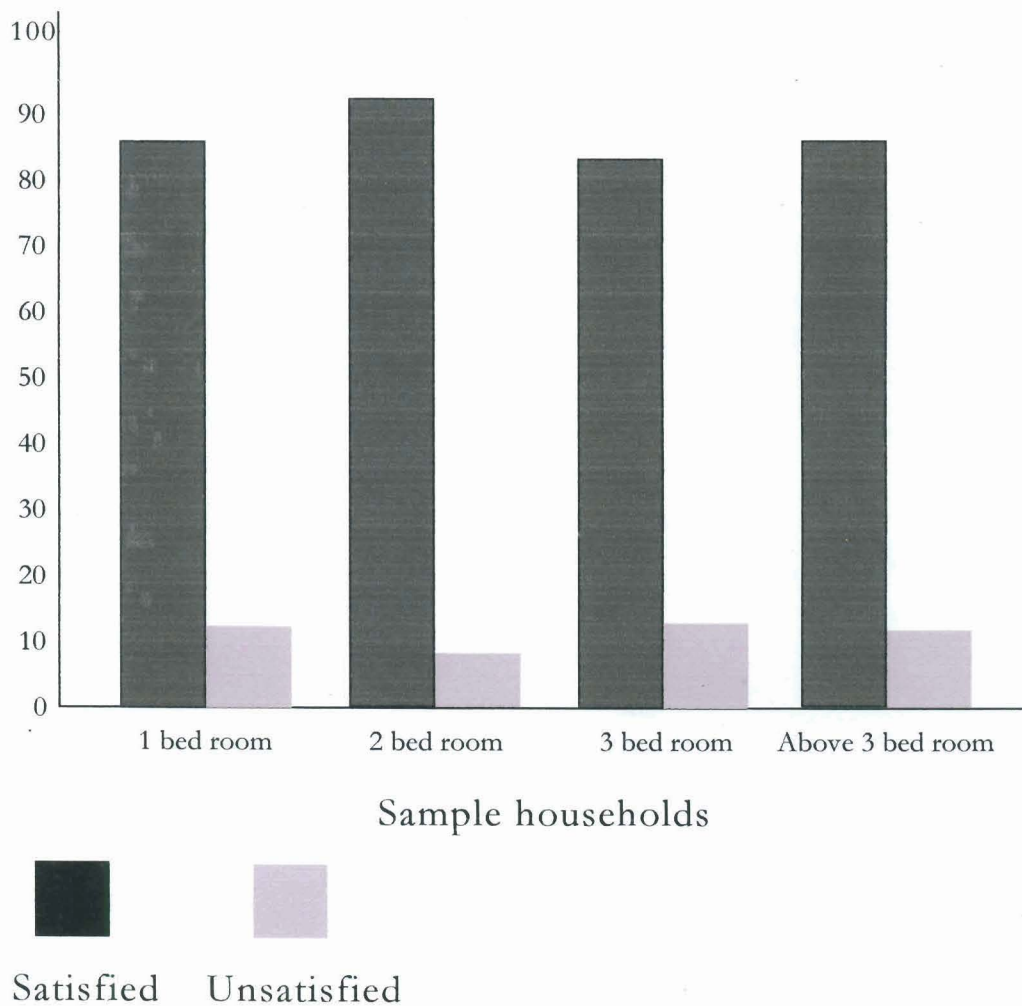
have expressed their satisfaction on urban services and infrastructural facilities. But 12 per cent of the households expressed their dissatisfaction on urban services and facilities. Due to lack of wider open space, few High – Rise Apartments could not provide the playground for children, which is considered to be an indispensable condition for the

formation of healthy growth and mental development of the children. The functional services and social services play a vital role in the social and cultural viability of a city. Beedle⁴ observes that the entire physical system that makes possible the delivery of these services is the infrastructure of the city. This infrastructure system is more important in the consideration of High – Rise development.

In short, based on the survey the major problems of High – Rise Apartments identified are garbage disposal, water supply, parking facilities, physical and social disadvantages, lack of playground, lack of earthquake protection, psychological problems and social alienation

⁴ Lynn S Beedle (1981), “Urban Services and the Infrastructure”, in *Advances in Tall Building*, CBS Publishers and Distributors, Delhi.

Fig. 6.2 Level of satisfaction on urban services and infrastructure



SUMMARY AND FINDINGS

C.B. Baby “Economics of high - rise apartments in Kerala a case study of Cochin city” Thesis. Department of Economics , Dr. John Matthai Centre Thrissur, University of Calicut, 2004

CHAPTER VII

SUMMARY AND FINDINGS

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SUMMARY AND FINDINGS

The concept of housing has a unique place among the requirements of living. It is also considered as a social status and the degree of status varies in accordance with the type of dwelling and its location.

Several millions of people live in housing deprivation all over the world. Even though the greatest technological advancements had taken place during the twentieth century, there was no country without a housing problem.

There has been a tremendous increase in the level of urbanisation in the third world countries during the last five decades and urbanisation in India was a complex process. The proportion of urban population had increased in India from 10.84 per cent in 1901 to 23.31 per cent in 1981, 25.72 per cent in 1991 and 27.78 per cent in 2001. Nearly one fourth of the country's population lived in urban areas, which resulted in inadequate housing in cities.

The first phase of urbanisation was mainly confined to the northern parts of India. However, the two South Indian states, Kerala and Tamil Nadu, witnessed a distinct and independent process of urbanisation.

In Kerala the degree of urbanisation was low in the pre – independence period. However, the pace of urbanisation increased in the post independence period. Urbanisation in Kerala, especially from 1980's onwards has created some spatial imbalances. Urban centres, especially class I cities are congested and this give rise to acute housing problem in the state. In urban centres, apart from numerical shortage of houses innumerable slums exist with insanitary huts of flimsy construction poorly ventilated and over crowded often lacking essential amenities. The increase in population, shortage of essential building materials and above all inadequate residential land has aggravated the problem in the state.

In respect of the percentage of urban population to the total population of Kerala State, Ernakulam district tops (17.86). This is because the district is situated almost at the middle of Kerala State and has the credit of being the

economic nerve centre of the state. It is the most industrially advanced and flourishing district of Kerala compared to other districts. There are adequate facilities for education in the district from primary to post graduate level and for professional and technical education both in government and private sector.

Ernakulam district, tops in Kerala state in respect of percentage of urban population to the total population. This high growth of urban population in Ernakulam led to acute housing problem in Cochin city. The known availability of land to match with the increased demand for house construction resulted in the development of a large number of High – Rise Apartments in the city. Hence this study was conducted.

Objectives of the present study are the following.

1. To examine the socio – economic status of inhabitants of High – Rise Apartments.
2. To examine the economics of High – Rise Apartments.

3. To examine the factors that determine the demand for High – Rise Apartments.
4. To identify the problems faced by the inhabitants of High – Rise Apartments.

Hypothesis

1. Socio-economic conditions significantly influence the demand for High – Rise Apartments.
2. The purchase of High – Rise Apartment is economical in the long run.
3. The major determinants of the demand for High – Rise Apartments are savings, income, assets, family size etc.

For the study we had selected a sample of 650 flats from the total of 3228 units in the city. They were divided into four types on the basis of number of bedrooms viz. 1 bed room, 2 bed rooms, 3 bed rooms and above 3 bed rooms. Samples were selected for each type using random sampling. Some independent houses were also selected for comparison.

A number of studies on different aspects of housing and slums had been conducted by the researchers and social scientists but studies on High – Rise Apartments were very limited. So far no study had been conducted to analyse the economics of High – Rise Apartments, the socio – economic condition of the inhabitants, the facilities provided by the Apartments and the problems faced by the inhabitants etc. in Kerala.

In order to find the association between different variables, χ^2 test had been conducted. Initially simple regression was tried to know the influence of the factors on the demand of High – Rise Apartments and it was seen that some variables were statistically significant. In order to further examine the individual and cumulative influence on these factors confluence analysis was performed. ANOVA (RBD type) was used to know multiple interactions among the variables.

The demand for houses in 1981 and 1991 were estimated as 9.56 lakhs and 8.74 lakhs respectively. Population of the state increased to 318 lakhs in 2001 from 290 lakhs in 1991. Assuming the family size of 5.3,

additional houses required consequent on increase in population was estimated at 14.02 lakhs.

Houses in the urban areas were predominantly pucca structures and an estimated 74 per cent of the households had their residences in pucca structures. Housing in Kerala and India consisted predominantly of independent houses 90 per cent of the households in Kerala and 75 per cent of the households in India lived in independent houses.

1.7 per cent of the households in Kerala and 10.6 per cent of households in India lived in slum areas. 87 per cent of the households were living in their own houses and 10 per cent were in hired accommodation in Kerala. The corresponding figure for all India was 75 per cent and 20 per cent respectively. 97 per cent of the houses in Kerala and 91 per cent of the houses in India preferred houses for residential purpose only rather than multipurpose.

The housing condition of Kerala was far better compared to all India. Only 9 per cent of the pucca houses in Kerala had mud flooring where as it was 27 per cent at all

India level. 77 per cent of the pucca houses in Kerala had cement flooring where as it was 47 per cent at all India. In Kerala and India tile roofs were prominent. 57 per cent of the houses in Kerala and 33 per cent of the houses in India had tile roofs. Burnt brick walls were prominent in India and stone walls in Kerala for houses.

High – Rise Apartments were defined as buildings having one plus four floors and above. It was learnt from the survey by the town-planning department that there were all together 300 Apartments with in the state of Kerala. While examining the Apartments constructed during different periods, it was under stood that between 1993 and 1996 more than 100 Apartments were constructed. From the survey it was also observed that Ernakulam topped in terms of number of Apartments constructed and second place was occupied by Thiruvananthapuram. 42 per cent of Apartments were owner occupied and 47 per cent were rented and 11 per cent were vacant in Kerala.

In spite of the hike in construction of Apartments in Kerala, majority of the Apartments in the state had only one plus four floors. The survey showed that out of 300

Apartments, 190 Apartments got only one plus four floors. It was estimated that the number of housing units per High – Rise building in Kerala was about 20.

Owing to space constraint, the problem of parking was very acute in Kerala. Majority of the Apartments in Kerala were depending on Kerala Water Authority and only 24 Apartments had their own arrangements for source of water and 134 Apartments depended on both Kerala Water Authority and had their own arrangements for water supply.

It was observed that except Thiruvananthapuram and Ernakulam, in all other districts of Kerala, the Apartments were not having the collected city sewerage. In Thiruvananthapuram 97 Apartments were depending on collected city sewerage and in Ernakulam 14 were availing collected city sewerage.

Finance is the flesh and blood of a house. There were four types of formal organisations, which provided finance for housing activities. (a) Institutions set up specially for housing finance. (b) Public sector financial

institutions catering to housing as also other sectors. (c) Scheduled commercial banks. (d) Private sector institutions, which are exclusively engaged in housing finance. State Bank of India, Housing and Urban Development Corporation, Dhanalekshmy Bank and Diwan Housing Finance Corporation in Ernakulam had been taken into account to know the beneficiary preferences to avail housing loan.

About 58 per cent of the housing loan amount from HUDCO was to semi urban areas of Ernakulam district. In the year 2002 – 2003 HUDCO had released Rs.307 lakhs as loan for the purpose of residential construction in the district. From 1999 – 2000 to 2002 – 2003, total 69 per cent borrowers had availed housing loan upto Rs.4 lakhs each. Only 17 per cent had availed above Rs.6 lakhs. Only 9 per cent of the total loan from HUDCO was for the construction of flats and the remaining 91 per cent was for the construction of independent houses. Agriculturists and the business people were the major category of borrowers for the construction of residential buildings.

State Bank of India was the provider of maximum credit to the people for housing. They were charging a very low interest from the people compared to other banks. During the year 1999 – 2000, the amount of housing loan was Rs.3863 lakhs but it increased to Rs.9280 lakhs in 2002 – 2003, which indicated a three fold increase in four years. The number of borrowers had doubled during this time. Importance of housing loan from State Bank of India increased in urban areas of Ernakulam district. During the period 1999 – 2000 to 2002 – 2003, 79 per cent borrowers had availed housing loan upto 4 lakhs and very few had availed loan above Rs.10 lakhs. Business people were single major category who had availed housing loan during the period 1999 – 2000 to 2002 – 2003. Clerks and others were the other major category who had used the State Bank of India housing loan for the construction of their houses during this period. During the year 2001 – 2002, the loan availed for flat construction was the highest (7 per cent) and in 2002 – 2003, flat construction loan was the lowest (2.9 per cent). From 1999 – 2000 to 2002 – 2003, 95 per cent of the total housing loan availed was for the construction of independent houses.

During the year 1999 – 2000 the number of people who had availed housing loan from Dhanalekshmy Bank in Ernakulam district was only 18 and the amount borrowed was 42 lakhs. But the number of borrowers increased to 98 during 2002–2003. The amount of loan availed in semi urban areas were larger than in urban areas. But the difference in amount was not so amazing. In the period 1999 – 2000 to 2002 – 2003 majority of the people had availed housing loan below Rs.2 lakhs. The number of borrowers for house construction increased year after year and the loan amount released by the bank as housing loan was also on the increase. Salaried class were the main borrowers for house construction from Dhanalekshmy Bank. Professionals and agriculturists had availed only a very small part of the total housing loan. Only 3 per cent of the flats had constructed by availing housing loan from Dhanalekshmy Bank in Ernakulam during the period 1999 – 2000 to 2002 – 2003. 97 per cent of the loan was for the constructions of independent houses.

The amount of housing loan distributed among the people in Ernakulam district by the Diwan Housing Finance Corporation during 1999 – 2000 was 14 crores but

in the year 2002 – 2003 the amount had increased to Rs. 26 crores. The number of borrowers had increased from 325 in 1999 – 2000 to 560 in 2002 – 2003. 54 per cent of the total loan availed during the period was in the semi urban areas of the district and 46 per cent was in urban areas. The amount of housing loan in semi urban areas decreased over the years and in the urban areas increased. In the year 2002 – 2003 there was equal division of housing loan in the urban and semi urban areas of the district. Total housing loan amount from Diwan Housing Finance Corporation and the number of borrowers were increasing year after year. 49 per cent of the total housing loan beneficiaries during the period 1999 – 2000 to 2002 – 2003 were business people and 30 per cent professionals. Only a very small portion (3.4 per cent) was agriculturists. 97 per cent of the housing loan for the last four years starting from the year 1999 – 2000 was for the construction for independent houses and only 3 per cent was for the construction of the flats.

The business class came under high income group and majority of the occupants of sample High – Rise houses were business people. Besides this, the occupants were highly educated, highly influential and with high economic

conditions. So all these factors influenced their socio – economic status.

More than 90 per cent of the income of the households came from occupation other than agriculture. Only 10 per cent of the income was constituted by agriculture and other sources. The monthly per household income ranges from Rs.41564 to Rs.126800. It was lowest for one bed room group and the highest for above three bed room group.

More than 43 per cent of the sample households were engaged in business. The low income occupation (School teachers, Clerks, Last Grade) accounted for nearly 5 per cent of the households. Out of 280 business households, 70 were earning more than Rs.1 lakh per month. 25 per cent of the total expenditure of sample households was on travel, 13 per cent on clothing, 9 per cent on education of children, 27 per cent on entertainment and 16 per cent was on food.

65 per cent of the High – Rise houses were owner occupied and tenants occupied remaining 35 per cent. The

rent of High – Rise households varied between Rs.2000 – 5000, but a few households were earning above 5000.

Hindus formed a major proportion (44.8 per cent) of the sample households. Christians constituted 32.6 per cent and Muslims 16.4 per cent. Other religions were insignificant. 95.5 per cent of the sample households were Malayalam speaking people and other language speaking households constituted only 4.5 per cent of the sample households. 71 per cent of the sample High – Rise households were original city dwellers and only 29 per cent were migrants.

The average family size of the sample High – Rise household was 3.4. 44 per cent of the sample household were with three members and 31 per cent had four members. 23 per cent of the members were in the age group of 31 – 40 years. Members above 60 years constituted smallest number (3.1 per cent).

The structure of age groups for males and females were similar for the entire sample High – Rise households.

In the age group of 21 – 30 a major disproportion of male and female ratio was noticed.

More than 43 per cent of the sample households had business heads. Doctors and engineers together accounted for 20 per cent. clerks, school teachers, last grade employees etc accounted 6 per cent of the heads of households. 7 per cent were advocates and only two per cent were abroad.

Out of 1235 employed members, 592 i.e. 48 per cent were doing business. 172 were officers and 107 were engineers. There were 139 advocates and 84 doctors. 45 members were abroad.

Out of 650 sample households, 634 were male headed and only 16 were female headed. The reason for female headed household in the sample areas was due to the death of the male head or unmarried female occupancy.

It was observed that 26 per cent of the heads of sample households were in the age group of 41 – 45 and 18

per cent was in the age group of 31 – 35. Only 0.2 per cent was below the age of 25.

Out of the total sample households only 1 per cent had primary education and 11 per cent were matriculates and 35 per cent were graduates. The professionals constituted 40 per cent of the households.

71 per cent of the households owned a separate house. Majority of the households were enjoying all the facilities of life. 83 per cent had motorcar and air conditioner, 99 per cent had washing machine and 66 per cent had computer.

More than 98 per cent of the sample High – Rise households had bank deposits and 97 per cent possessed ornaments. 72 per cent had recurring deposits and 62 per cent had chitties. 97 per cent of the households had movable assets and 89 per cent had immovable assets.

68 per cent of the sample households had liabilities in one form or other. 34 per cent had bank loans and 15 per cent had other loans.

The information collected and calculated regarding the cost of construction of moderate independent houses and flats revealed certain facts. The sq.ft. cost of large houses are less than the sq.ft cost of small houses. This cost reduction is due to the economy in large-scale purchase of materials required for construction.

The sub structure construction cost of flat is much higher than the sub structure construction cost of independent houses. As the multi-storeyed Apartments have to be constructed on a strong foundation, the sub structure need high construction cost. Super structure also cost more due to the construction of beams and columns compared to independent houses. But the construction expenditure of flats on finishing work, joineries, electrification, water supply and sanitary works are much less compared to independent houses. This is due to the economies of large-scale construction and large-scale purchase of materials required for construction. But as the construction cost increases with the increase in height of the building, the economy in large scale purchase of materials are off set by the increase in construction cost as far as the flats are

concerned. (Independent house sq. ft. cost is Rs.409/- and flat sq. ft. cost is Rs.399/- excluding land cost.)

Really the cost of land is very high and it is the land cost element, which increase the cost of independent houses compared to flats (at least five cents of land is required to construct an independent house). But the recurring cost of maintaining the necessary common services in the High – Rise Apartments are more compared to independent houses. The maintenance cost incurred by the High – Rise households varies from Rs.250 – Rs.500 per month. Besides this there are several non – economic disadvantages like difficulty in vertical movement when power fails, lack of privacy, inability to enjoy the charm of a private garden etc.

Accessibility to all services and facilities are the real advantages of centrally located households. Since High – Rise Apartments are centrally located, the inhabitants of the Apartments are availing these facilities easily. Other than these observations, the objective specific findings emerged from the study are the following.

A *Socio – economic status of High – Rise residents*

1. 90 per cent of the income of the High – Rise households are from occupation other than agriculture.
2. The monthly per capita income is ranging from Rs.41564/- to Rs.126800/-. Income is the lowest among one bed room group and highest for above 3 bed room households.
3. The High – Rise residents are highly educated and cent per cent literacy is noticed among these households. The occupational status of these households is very high and a large number of them are engaged in technical and professional occupations. 43 per cent of the heads of High – Rise households are business people whose income is very high. Hence the hypothesis that “socio-economic conditions significantly influence the demand for High – Rise Apartments” is accepted.
4. All the High – Rise households posses savings in one form or other.

5. More than four fifth of the households posses movable and immovable assets. Majority of them have liabilities also.
6. Majority of the High – Rise households in Cochin City own a separate house.
7. The entertainment expenditure is the major expenditure item of the High – Rise households. Travelling expense is also one of the important items of expenditure besides food and clothing.
8. Major occupancy of the High – Rise dwellings in Cochin City is by owners (65 per cent). Tenants constitute less in number.
9. The expenditure pattern of the owner occupants and tenants on food, clothing and education are more or less the same. Both the owner occupants and tenants are spending a major portion of their income on entertainment and travel.
10. The size and area of location of High – Rise houses determent the rent value. The High – Rise houses in Cochin City fetch good rent to the owner (Rs.2000/- – Rs.5000/-) due to better location and high demand.

11. Hindus are the major occupants of the High – Rise houses. Christians and Muslims occupy second and third position respectively. Others are insignificant.
12. Majority of the occupants of High – Rise houses are Malayalam speaking people. Other language speaking people are insignificant.
13. 71 per cent of the High – Rise houses are occupied by original city dwellers. Only 29 per cent are migrants.
14. The average family size of the High – Rise household is 3.4 and majority of the families are with parents and one or two children.
15. Nearly half of the households have two employed members and 39 per cent have one employed member.
16. The families residing in High – Rise Apartments are consisting of the large proportions of youth and middle age group. The children and old age people are very few. There has been no much difference in the male and female ratio with few exceptions.
17. Majority of the residents are engaged in various types of activities and unemployed are insignificant.

18. Male headed households are prominent in the Apartments. Female-headed households are negligible. The reason for female-headed household is either due to the death of male head or unmarried female occupancy.
19. A very high per cent of High – Rise households are enjoying all amenities of life. For instance 83 per cent own motorcar and air conditioner, 99 per cent have television, refrigerator, washing machine and telephone, 92 per cent have VCR and 66 per cent own computer.

B Economics of High – Rise Apartments

20. The sq. ft. cost of large houses are less than the sq. ft. cost of small houses. The cost reduction is due to the economy in large-scale purchase of materials required for construction.
21. As the multi-storied Apartments are being constructed on strong foundation, the sub structure cost of Apartments is higher than the sub structure cost of independent houses.

22. Super structure of Apartments also cost more due to the construction of beams and columns compared to independent houses.
23. The construction expenditure of High – Rise Apartments on finishing work, joineries, electrification, water supply and sanitary work are much less compared to independent houses. As construction cost increases with the increase in the height of the building, the economy in large scale purchase of materials are offset by the increase in construction cost as far as the Apartments are concerned (Independent house sq. ft. cost Rs.409/- and Apartment sq. ft. cost Rs.399/- excluding land cost).
24. As the land price is very high in Cochin City, it is the land price, which increases the cost of independent houses compared to Apartments.
25. The maintenance cost of Apartment is very high (Rs.250/- to Rs.500/-) compared to independent houses.
26. Centrally located houses have more facilities compared to those houses, which are situated far away from the city.

27. The construction of houses may be a costly affair initially, but over the years the owner may be getting certain financial advantages like tax rebate, tax deduction etc. Thus the hypothesis “the purchase of High – Rise Apartment is economical in the long run” is validated.

C Determinants of demand for High – Rise Apartments

28. Work place is one of the prime determinants of residential location for High – Rise dwellers. More than 63 per cent of the heads of High – Rise households are working within 6 kms.

29. Accessibility to market, educational institutions, park, place of worship, bus stop etc. influence the demand for High – Rise houses.

30. The amenities provided by the Apartments (lift, watch man, parking facility, water supply etc.) influence people to demand High – Rise Apartments.

31. Income, expenditure, savings, activity status, ownership of assets, family size etc. also influence

on demand for High – Rise houses. Hence the hypothesis “the major determinants of the demand for High – Rise Apartments are savings, income, assets, family size etc.” is proved.

32. In Cochin City the housing conditions (location, accommodation, educational facilities, health facility, neighbour hood, sanitary facilities etc.) are important determinants of demand for High – Rise houses.

D Problems of High – Rise residents

33. 37 per cent of the High – Rise households expressed social alienation i.e. distance in personal relation.
34. 18 per cent of the unemployed housewives agreed with listed psychological problems.
35. For twenty five percent of the residents, the garbage disposal is a real problem. Acute water shortage, especially during summer, is another problem of the residents.
36. The inhabitants expressed their fear over earth – quake as no High – Rise Apartments in Cochin city have adopted earth quake protection measures.

37. The level of physical disadvantages* of High – Rise households in Cochin City are much higher than the level of social disadvantages**.

Suggestions

1. High – Rise Apartments should be encouraged in areas where the density of population is above a specified limit and land value is high. This will help to accommodate more people with in minimum area of land especially in cities where land is scarce compared to demand.
2. High – Rise Apartment Building Regulation should be strictly implemented so as to ensure safety and security of the dwellers and the neighbourhood.
3. Adequacy of water supply, garbage disposal facility, sewerage facility etc. should be ensured before sanctioning the construction work of High – Rise Apartments. Earthquake protection measures and

* Traffic, noise, unpleasant odours, dirt and dust, maintenance of the roads and drainage.

** Social disadvantages have assessed by taking opinion of residents on density of population, heterogeneity of caste, different income groups, civic consciousness and domestic help.

precautions should be made while implementing the project.

4. Adequate parking facility and playground should provided to the High – Rise dwellers because, otherwise, they have to pay and park in nearby areas which a real problem to them. Playground is an unavoidable necessity as far as the children are concerned.
5. There should be a maximum limit to the number of floors in High – Rise Apartments because with the increase in the height of the building, the psychological and social problems of the inhabitants increase.

Policy implications

1. High – Rise building regulation should be strictly implemented by the government.
2. Government should insist minimum area for the construction of High – Rise Apartments. This area should be sufficient for providing parking facility, playground etc.

3. Maximum number of stories of High – Rise Apartments should be fixed by the government.
4. Government should ensure the quality of the materials used in the construction of High – Rise Apartments (quality of steel, cement, sand etc.).
5. Frequent visits to construction site should be made by the government officers to ensure whether the constructors are following the rules and regulations implemented by the government. Since High – Rise Apartments are becoming very popular in recent years, government intervention in the form of policy prescriptions is the need of the hour.

Contribution

There are a large number of studies conducted on housing, housing related issues and also housing finance. But at the same time studies on High – Rise Apartments are very rare in India and this study was a humble attempt to bridge this gap. Along with economics, this study also made an attempt to examine a linkage between the demand for High – Rise Apartments and the socio – economic characteristics. The study also tried to pinpoint the

behavioural and the psychological problems associated with living in High – Rise Apartments. In short the study is a novice attempt on High – Rise Apartments.

Areas for future research

1. There is scope for conducting a study on housing finance incorporating the recent trends. In the olden days housing finance was the responsibility of the government banks and other government financial institutions like LIC, GIC etc. Now scheduled banks and other private financial institutions are also actively engaged in providing liberal housing finance to the people.
2. There is further scope for a sociological research as some inhabitants of High – Rise Apartments feel social alienation and some have psychological problems due to High – Rise living.
3. A detailed cost benefit analysis can be conducted by collecting data about construction costs and benefits, which accrue to the people from High – Rise Apartments construction.

4. In the present study only details regarding the Apartments in Cochin city has been taken into account. As the High – Rise Apartment is a growing phenomenon, it may be interesting to conduct a comparative study between two districts or between two states.
5. The consumption pattern of the inhabitants of High – Rise Apartments is one of the interesting areas of research.

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APPENDIX

Survey Questionnaire

ECONOMICS OF HIGH – RISE APARTMENTS IN KERALA – A CASE STUDY OF COCHIN CITY

1. General information

- a) Name of Apartment
- b) Ward number
- c) House number
- d) Name of the head of the family
- e) Occupation
- f) Religion
- g) Language
- h) Year of construction

2. Details of family members

Sl. No.	Name	Age	Sex M/F	Relation to head of family	Education	Occupation

3. Monthly family income

1.	Income from occupation	Rs.
2.	Income from agriculture	Rs.
3.	Income from other source	Rs.
	Total income	Rs.

4. Monthly family expenditure

1.	Food	Rs.
2.	Clothing	Rs.
3.	Travel	Rs.
4.	Education	Rs.
5.	Entertainments	Rs.
6.	Medical & others	Rs.
	Total expenses	Rs.

5. Details regarding house

- a) Type of house : katcha/semi pucca/ pucca
b) Total number of rooms :
c) Number of bed rooms :
d) Bath attached rooms :
e) Plinth area (sq. ft) :

6. Amenities

- a) Source of drinking water : Well/ Water Supply/ Both
b) Electricity : Yes/ No
c) Toilet : Attached/ Common
d) Parking facility : Yes/ No

- e) Lift : Yes/ No
- f) Generator : Yes/No
- g) Fire fighting devices : Yes/ No
- h) Play ground : Yes/ No
- i) Earth quake protection : Yes/ No
- j) Garbage disposal : Yes/ No
- k) Watchman : Yes/ No

7. Number of stories in the Apartment :

8. Distance to place of work :

9. Distance to market :

10. Distance to bus stop :

11. Distance to park :

12. Distance to post office :

13. Distance to school :

14. Distance to college :

15. Distance to place of worship :
(Temple, Church, Mosque)

16. Assets with the family

a) Land :

b) Household articles : Refrigerator/TV/Telephone/
Computer/Washing machine/
VCR/Cooking Gas/Air
Conditioner/Oven

c) Vehicles : Motor car/Motor cycle/
Scooter/Cycle

d) Ornaments : Yes/ No

- e) Recurring deposit : Yes/ No
- f) Bank deposits : Yes/ No
- g) Other items :
- 17. Debts : Yes/ No**
- 18. Annual deficit/surplus :**
- 19. Construction expense is met by**
- a) Govt. loan : Yes/ No
- b) Govt. subsidy : Yes/ No
- c) Other loans : Yes/ No
- d) Savings : Yes/ No
- e) Chitty/Kuri : Yes/ No
- 20. Whether rented or not :**
- a) If rented, amount of rent :
- 21. Are you a migrant? : Yes/ No**
- a) If the answer is yes,
Name of the place, district,
state and country from where
you migrated. :
- b) Year of migration :
- 22. Do you own a house in your native place? :**
- 23. Are you satisfied with the existing facilities? : Yes/ No**
- 24. If the answer is no, give details**
- a) defect in design
- b) lack of facilities

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c) Neighbourhood problems

d) Other problems

25. **Construction work done by**

**: Construction company/
Self/ Contractors**

Name of the Investigator

333.338095483

BAW/E



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NB 4571