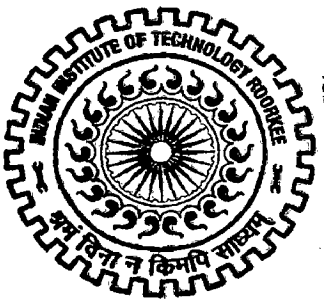
RELEVANCE OF TRADITIONAL ARCHITECTURE IN THE MODERN CONTEXT

A DISSERTATION

Submitted in partial fulfillment of the
requirements for the award of the degree
of
MASTER OF ARCHITECTURE

By

LAKSHMI PRIYA R



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CANDIDATE'S DECLARATION

I hereby declare that the work which is presented in the dissertation entitled **"RELEVANCE OF TRADITIONAL ARCHITECTURE IN THE MODERN CONTEXT"**, in partial fulfillment of the requirements for the award of the degree of **MASTER OF ARCHITECTURE**, submitted in the Department of Architecture and Planning, **INDIAN INSTITUTE OF TECHNOLOGY ROORKEE, ROORKEE** is an authentic record of my own work carried out for a period of about one year from July 2006 to June 2007, under the supervision of **DR. MAHUA MUKHERJEE** and **DR. P. S. CHANI**, Department of Architecture and Planning, INDIAN INSTITUTE OF TECHNOLOGY ROORKEE, ROORKEE , INDIA.

The matter embodied in this dissertation has not been submitted by me for the award of any other degree.

Dated:

Place: Roorkee

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CERTIFICATE

This is to certify that the above statement made by the candidate is correct to the best of my knowledge.

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ABSTRACT

The egregious homogenization and placeless ness in contemporary architecture makes one feel perplexed and faceless in this age of technology. The repercussion of identity crisis in concurrence with the process of 'modernization' has always been an issue of debate. With a plethora of issues on contemporary architecture, traditional environment could serve as a solution, with its richness in natural activity patterns and diversity of expressions.

This thesis aims to draw an attempt to understand the critical issue: Relevance of Traditional Built environment in the Modern Context. To deal with this issue with an unprejudiced mind this research begins by accepting the limitations of the case study and explore the explicit and implicit characteristics of the traditional environment and the valuable knowledge that can be drawn with reference to the MODERN CONTEXT.

The study is based on the traditional Brahmin housing in Triplicane, Chennai, harmoniously surviving amidst the modern urbanized setup. Two case studies identified for the research in the same area are deliberately distinct so as to understand the continuity and diversity in the traditional house forms. For a comprehensive understanding of the built environment, analysis of mass void relationship, organization pattern and sensitivity towards human needs is deployed. The integrated approach of analysis will help in generalization of the inferences of this study.

This research will culminate towards a construction of theory/guidelines on quality living. Insight gained from this study seeks to address the significance of sense of place in the built environment. Universality of this research finding will also help in reconciling the schism existing between modernity and tradition.

ACKNOWLEDGEMENTS

Though the following Dissertation is an individual work, without the support, patience, and guidance of the following people this study would not have been completed. It is to them I owe my deepest gratitude:

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This dissertation is dedicated to my Azhagi who is more than a lovable pet in my life.

(Lakshmi Priya R)

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Chapter One

INTRODUCTION

1.1 INTRODUCTION

The process of modernisation and development though has it benefits had made one unconscious of the essentials that are lost in the modern society. In the process, the sense of belonging, the sense of identity, the comforts and the security of a familiar world, all these are lost. The homogenization in the contemporary city forms are mainly due to the demand on 'efficiency' and people play an insignificant role in the design of the physical environment. The models of development in the modern society are seldom based on our social needs and life style, alienating people socio- culturally. An understanding of the role of architecture in effecting the social dimension by good design and thereby leading to a better quality of living is worth considering in the present scenario

1.2 TRADITIONAL ARCHITECTURE

Traditional architecture are based on a humane philosophy of life, on faith in humanity, on environmentally sustainable attitude to design and on an inviolable legacy of genius and know-how from preceding generations of craftsmen and committed citizen. Traditional architecture imply a sense of modesty individual creator within the sacred creation of the universe, as well as the powerful intuition that concepts of beauty, harmony, justice, truth, rightness are imbedded in permanence and universality.

Tradition forwards a selected knowledge, a tested experience as well as a heritage of models, types, techniques and formal vocabularies. It is a dynamic process, an ongoing effort and development, not a static heritage of dogmas and immutable recipes. Tradition shoulders the responsibility of carrying on an inherited culture beyond the contingencies and improvisations of the moment. In order to remain vital, alive and relevant it needs to be earned, consolidated and enriched by each single generation in the perspective of universal ideals of civilization. It implies a constant effort of appropriation of knowledge, experience and cultural values, a permanent effort of intellectual, artistic and material reconstruction.

In his introduction to Hannah Arendt's "Crisis of Culture", the French writer René Char comments: "Our heritage has been handed over to us without a testament," suggesting the creative and inventive effort required to operate within the context of tradition.

1.3 NEED FOR THE STUDY OF TRADITIONAL ARCHITECTURE

In the traditional society, an individual was always a part of a community, but in the modern society, reclusiveness is creeping within family and work environment. This is mainly due to the neglect of opportunities for spontaneous interaction among different user groups. traditional built environment are excellent examples for us to understand how physical design play an effective role in bringing people together and create a sense of community and hence a healthy society.

Traditional forms not only ties the community of one generation but also the successive generations (Doshi.B.V, 1997).It provided is a wide variety of choices various activities, a sense of identity, co existence .this needs to be incorporated in designing a new development to combat placelessness in the modern context. and to do this it is necessary to understand

the traditional built environment in terms of its dynamism and continuity so as to adapt itself for various successive generations.

1.4 ISSUES CONCERNING TRADITIONAL ARCHITECTURE

- **Traditional idiom in design is being totally opposed to creativity and progress**
- **Addiction to the illusion of progress found the modern life**
- **Inadequate research in the traditional building design so as to adapt to the changing needs**

Today, the desire for modernity has provoked the Indian client and the architect into fantasies that have little or no connection to the locale and the prevailing conditions. Buildings are produced without regional or historic identity.

The stylized pediment, the bloated keystone, and fake capitals and columns have become the most visible links to the past. The association with tradition now has little to do with the nature of space, plan and habitation, and has been reduced to the cartoon quality of an advertising bill-board.

Such architecture has arisen from motives that are intentional and self-conscious. Its detachment from place, people and context has produced a kind of building that is no longer the frame, the backdrop for society. The concern for climate, location, vegetation and living pattern has been ignored as architecture is parceled along political and market boundaries. Consequently, the modern architect can no longer comprehend the complex nature of rooted ness His obsession with these signs and symbols seems nothing more than the continual

desire to communicate to his peers and to maintain architecture as a mainstream profession among the public. He has become incapable of suggesting anything more than just his immediate construction—isolated and often in conflict with the environment in which it is placed. In these conditions an imaginative assessment of the relation between the client and society seems almost impossible. Unless architecture transcends its traditional .scope, architects will do incalculable damage to the environment and to the existing patterns of a traditional society.

1.5 RESEARCH AIM

To explore the explicit and implicit characteristics of the traditional environment and the valuable knowledge that can be drawn as reference to the MODERN CONTEXT

1.6 OBJECTIVES

- Understanding settlement and house forms in response to lifestyle of people adapting to the change in time
- Analyzing the indigenous design features and principles
- Adopting case study research methodology for in-depth understanding of the particular case
- To analyse the case with a help of a model derived from various theories and guiding factors.
- To provide guidelines to enhance the sense of place for new housing development in the modern context

1.7 SCOPE OF STUDY

1.7.1 SCOPE

The study will focus on the areas which help in understanding the relationship between the place and people facilitating in creating a sense of place. Having a clear understanding of the limitations of the case undertaken for the research, analysis of the built environment will try to exploit the advantages of the case and not on criticizing on the demerits and its irrelevance

1.7.2 LIMITATIONS

The study is confined to a specific community of the people and context and hence will narrow down the scope of generalization of the inferences. Lack of time also limits the number of cases that can be included in the study to increase the chances of generalization.

1.8 ORGANIZATION OF THE THESIS

1.8.1 STAGES OF STUDY

Stage 1

Literature Review

- Collect information
- Undertake background reading
- Careful review of research within the same field or research and theories relevant to this topic.
- generalise the state of art

Stage 2

Case Study

Purpose of Case Study

Descriptive – documentation

Document the settlement and housing typologies giving an illustrative description of the housing

Explanatory – analysis

Conduct an architectural analysis of the various design aspects housing, such as spatial planning, density, form, individuality, influence of social and cultural factors, environmental design principles adopted, dynamics.

Exploratory – generalization

Integration of the components of settlement, elements resisting change, elements adapting/modifying to change, sustainable design principles

Stage3

Synthesis

Summarize and generalize the overall findings in terms of Guidelines/ principles/theory formation.

1.9 STUCTURE OF THE THESIS

Chapter one introduces the present scenario in architecture, its issues and the need for the study of traditional built environment

Chapter two deals with the methodology adopted for the research, the comprehensive literature study of experts working in the domain traditional architecture and various approaches to research in traditional architecture

Chapter three deals with the various frameworks of urban design, frame work model to be adopted for the undertaken research

Chapter four introduces to case study with the background of the context. It covers a study of typical Brahmin house in Dakshinachitra followed by the live case study, its analysis and inferences from the studies

Chapter five discusses the main drawbacks of the contemporary development and proposal of the guidelines for enhancing the sense of place from the study and conclusion

Chapter Two

RESEARCH METHODOLOGY

2.1 METHODOLOGY FOR RESEARCH

CASE STUDY METHODOLOGY

In architectural research, the case study has become a dominant methodology. A case study is expected to capture the complexity of a single case, and the methodology which enables this to be done has developed within the social sciences. Such methodology is applied not only in social science disciplines, such as psychology, sociology, anthropology and economics, but also in practice oriented fields such as environmental studies, social work, education and management science. In architectural research case studies are very common. The ability to act within professional practice is based on knowledge of a repertoire of cases. These cases are based either on personal experiences or are model cases established within the profession. (Johansson Rolf, 2003)

How is a case for study selected?

The case might be given and studied with an intrinsic interest in the case as such. Alternatively, it might be *selected purposefully* or analytically, because it is, for instance, information-rich, critical, revelatory, unique or extreme.

How are generalizations made from a single case? Generalization from a case is not statistical, it is analytical. A generalization can be made in three different modes. The first is by the testing of hypotheses (theory) within a case, and, as a result, the definition of the domain within which the theory is valid. Such testing is comprised of the emulation of experimental method in a naturalistic setting. (Yin 1994). A second mode of generalization is inductive theory generation— conceptualization which is based on data from within the

case. The result is a micro level theory consisting of related concepts. (Glaser & Strauss 1967). The third principle is naturalistic generalization. In such cases generalizations are made from known cases and applied to an actual problem situation by making appropriate comparisons. (Stake 1995).

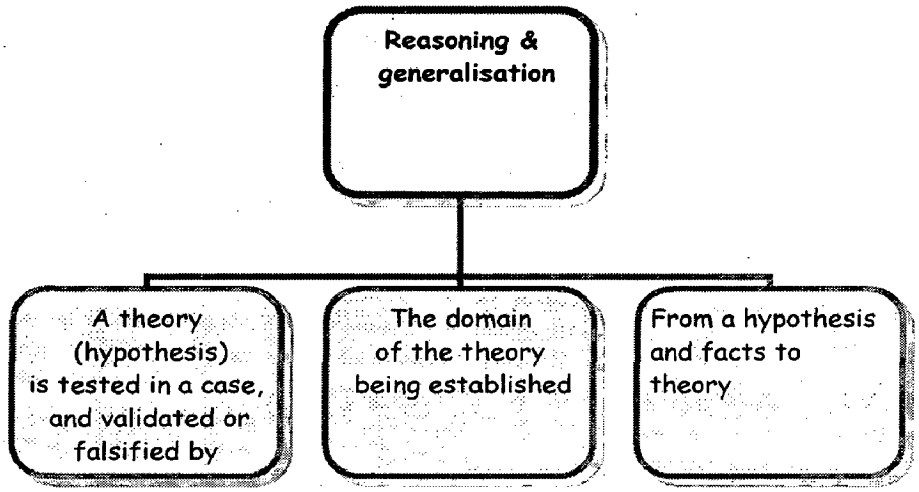


Fig 2.1 various modes of generalization. Source: adapted from Johansson Rolf, Case Study Methodology Reflected in Architectural Research, 2003

2.1.1 LITERATURE STUDY ON TRADITIONAL ARCHITECTURE

2.1.1.1 EXPERTS ON TRADITIONAL ARCHITECTURE

2.1.1.1.1 Christopher Alexander

In *Notes on the Synthesis of Form*

In an influential study , Christopher Alexander identified unself-conscious design in traditional culture(hence good) and self conscious design with modern cultures(hence bad).Alexander's thesis was that traditional cultures were more likely to evolve stable equilibria with their environments by virtues of their unself-conscious than the modern cultures ,which by their nature were inherently unstable. He argued that the conceptual structures or mental pictures that distinguished the self conscious culture were deeply

corrupting and only serve to get in the way of such equlibria, preventing the more direct relationships that more primitive cultures obtain with their environments. Consequently, the only way to restore architecture to its former traditional values and qualities was to modern (self conscious) design procedures, cutting out the architectural middleman and substituting more objective and logical procedures.

2.1.1.1.2 Amos Rappoport

In *House Form and Culture*

In his analysis on the determining and modifying factors of house form he suggests that Vernacular buildings express "the needs and desires of people and the requirements of the cultural and physical milieu without the interference of artistically self-conscious designers. If we regard buildings as the result of the interaction of:

Man—his nature, aspirations, social organization, world view, way of life, social and psychological needs, individual and group needs, economic resources, attitudes to nature, personality, fashions

—his physical needs, i.e., the "functional" program

—the techniques available

Nature—physical aspects, such as climate, site, materials, structural laws, and so on

—visual, such as the landscape

then the influence of man, particularly his personality, both in primitive and vernacular building is less than we commonly find in our culture. and such influences as do exist are not individual or personal, but of the group—and limited at that. Building of this type tends toward a state of balance with nature rather than dominating it, which further reinforces its

superiority over the grand design tradition as a topic of study for the relation of the built environment to man and nature."

All housing needs to achieve four objectives in order to be successful;

1. It needs to be socially and culturally valid. (Here traditional housing possibly works best.)

2. It should be sufficiently economical to ensure that the greatest number can afford it. (In primitive and vernacular contexts most, if not all, people have houses.)

3. It should ensure the maintenance of the health of the occupants.

(In relation to climate traditional housing succeeds, in relation to sanitation and parasites it usually fails.)

4. There should be a minimum of maintenance over the life of the building. (Here the evidence is equivocal.)

If we accept that the utilitarian functions of the house are not primary, and at the same time realize that even those functions may be better satisfied by traditional housing than by new housing in many areas, our altitude toward traditional housing may change.

Traditional may therefore be much more acceptable – if not in fact, desirable – than has been assumed ,and housing attitudes in developing countries should possibly be adjusted accordingly. At the very least this offers fruit field for research.

After analysing the primitive and vernacular architecture of various cultures to determine the dominant factors governing the house form he concludes saying, "Our era is one of reduced physical constraints, result is the problem of excessive choice, the difficulty of selecting or finding constraints which arose naturally in the past and which are necessary for the creation of meaningful house form. This great freedom of choice, and the fact that house form can now be the domain of fashion, suggests the general validity of the concept of

criticality and the primacy of socio-cultural factors, and all that this implies for the understanding of house form, as well as its choice. However, we act as though criticalities were high and close fit to physical "function" were essential. I have already commented on the unspecialized nature of vernacular buildings and their consequent success over time. ***There may lie the great lesson of vernacular building for our own day—the value of constraints to establish generalized, "loose" frameworks where the interplay of the constant and changeable aspects of man can find expression"***

2.2.1.1.3 Geoffrey Bawa

"The beauty of some of the traditional buildings , gardens and landscape leaves a considerable residue of the subconscious understanding in the mind –a help to solve some present needs for the right placement of a building on the site ; for the need to frame emphasize a view to open or construct a space ; a wish to get a definite degree of light or shadow in a room."

Geoffrey conceded that this so-called vernacular architecture had an impact on the development of his own philosophy. "In my personal search," he wrote in 1958, "I have always looked to the past for the help that previous answers can give."

2.2.1.1.4 Hassan Fathy

"The quality and values inherent to the traditional and human response to the environment might be preserved without a loss of the advances of science. Science can be applied to various aspects of our work, while it is at the same time subordinated to philosophy, faith and spirituality",

Employing energy-conservation techniques, six fundamental principles underlie Hassan Fathy's work:

- Belief in the primacy of human values in architecture
- Importance of a universal rather than a limited approach
- Use of appropriate technology
- Need for socially oriented, cooperative construction techniques
- The essential role of tradition
- The re-establishment of national cultural pride through the act of building

In his book An Architect for the People, American architect James Steele wrote of Fathy, "rather than believing that people could be behaviorally conditioned by architectural space, Fathy felt that human beings, nature, and architecture should reflect the personal habits and traditions of a community rather than reforming or eradicating them. While he was certainly not opposed to innovation, he felt that technology should be subservient to social values and appropriate to popular needs"

2.2.1.1.5 Laurie Baker

Laurie Baker has worked in India for over forty years now. He is one of the very *few* architects who had the opportunity and the stamina to work on such a remarkably varied spectrum of projects ranging from fishermen's villages to institutional complexes and from low-cost mud-housing schemes to low-cost cathedrals. In Trivandrum alone he has built

over a thousand houses. Besides this, his work includes churches, numerous schools, institutions and hospitals.

It is not only the number of buildings that Laurie Baker has designed find the range of architectural commissions he has executed that sets him apart from other architects. What makes his work even more remarkable is the way in which he draws creative sustenance from the environment in which he works, absorbing vernacular patterns of construction and individual styles of living to such a degree that he is able to give his clients the comfort and ease of homes and institutions that are firmly rooted in the soil upon which they stand. All this is done keeping in mind the special needs of those who will inhabit or use these places.

In the designing of these varied projects. Laurie Baker takes half-forgotten vernacular patterns of design and construction from the rural setting to dislocated urban residents whose building choices arc of limited to the unsuitable structural concepts discarded in the West every building that Baker designs, he asserts the appropriateness of traditional construction to local conditions, adapting existing loc available materials and traditional methods to contemporary structure. In both, his work and writings, Baker emphatically rejects the 'inter national style' that lingers so perniciously in India. He believes that individual needs stem from India's diverse environment, The varying cultural patterns and lifestyles; and he feels these needs must he met through an architecture which is responsive to local materials and expresses itself in many different forms .

Mass housing and emphasis on the improvement of living conditions is all a result of the new industrial economy. Humanistic considerations are no longer the primary logic for the evaluation of design. This has led to a break from tradition and given us an increasing number of impersonal, anonymous buildings. Unfamiliarity with this new kind of

architecture adversely affects the psyche of the people inhabiting it. Though Baker is not a founder, practitioner or product of the modern doctrine in any sense, he has in own career, demonstrated similar concerns. But unlike the movement, in his endeavour to improve living conditions architecturally he seeks a purposeful link with tradition. He re-establishes the use of traditional construction without the actual imitation of traditional styles

His use of these materials .strikes an unusual compromise between traditional practice and modern principle—thus deftly illustrating how contemporary requirements of the house can easily be met by such an adaptation. Baker looks upon the imitation of foreign techniques of building and the superficial superimposition of Indian details as aspects that only exaggerate the poverty of the country's architecture. He seeks to convey the conditions of a place through the medium of building; the medium may be the material, the design or the technique of construction, but in so doing every project also makes a larger statement of the society in which it is set.

There are also striking similarities in the works of Hassan Fathy and Laurie Baker. Both have taken on the role of architectural crusaders. Both consider themselves as only brief sparks in the light of historical continuity. Both have expressed this belief through the education and training of craftsmen, and the re-orientation of their craft to contemporary purpose—the methodical inculcation of pride of labour and quality which they felt necessary in order to systematically uncover all but forgotten techniques of construction. But while Fathy's buildings have been looked upon as those of an eccentric and an incurable nostalgic, Baker's buildings have an aura of quiet assurance, which comes as much from their economic expediency as from their expressive strength—the ability to transform traditional ideas into a wholly contemporary usage.

2.2.1.1.6 Paul Oliver

Editor of The Encyclopedia of Vernacular Architecture of the World

He believes that 'traditional wisdom and lore in building, using renewable resources and indigenous skills, may still offer wisely managed, economically effective and culturally appropriate solutions to the world's housing needs'.

Through the use of locally available resources and the application of traditional technologies that respond to regional climates, vernacular traditions are environmentally appropriate, sometimes in the most extreme circumstances. At the same time, vernacular traditions are appropriate in social and cultural terms - the skills and knowledge needed to maintain them being handed down and adapted as necessary through generations, the design and use in keeping with the norms, values and beliefs of their builders and owners.

The close relationship between vernacular houses and their owners' identity is instrumental in the constitution of social, cultural or ethnic unity and pride. This is of major importance to peoples and cultures confronted with the effects of globalisation and modernisation. If the present and future global housing needs are to be met in environmentally and culturally sustainable ways, the vernacular architecture of the world will need to be recognised and supported. Not only will the vast majority of the world's population be living in vernacular housing, there is in fact much to learn for Western architects and builders from the know-how and skills of vernacular builders.

Of course, supporting vernacular architecture does not provide an easy solution to the huge problems at hand. In many cases, issues of sanitation and servicing will need to be addressed if they are to match current demands, while depletion of resources and changes in climate

will require adaptations of materials and design. Yet, the enormous body of experience, skills and wisdom of the world's vernacular builders should not be discarded or neglected. An exchange of knowledge will have to be established between vernacular builders and modern architects and planners that is truly bilateral, allowing for the cross-fertilisation of ideas and practices and a combined approach to the huge task of housing the world.

2.2.1.2 APPROACHES TO STUDY OF TRADITIONAL ARCHITECTURE

Different research papers have been studies to have a better ubderstanding on the various approaches that are adopted in the study of traditional architecture across the global.

2.2.1.2.1 Climatic adaptation and environmental performance

1) Lessons from traditional architecture: Design for a climatic responsive contemporary house in Thailand

Paruj Antarikananda, Elena Douvlou and Kevin McCartney

School of Architecture, University of Portsmouth, UK

The question posed in this paper is whether traditional Thai houses perform better than a typical contemporary Thai house in creating comfortable internal conditions. And if they do how it is possible for the contemporary house to benefit from the advantages presented in the design of the traditional house in terms of thermal performance while maintaining thermal comfort conditions for its occupants. The thermal performance of both types of buildings is therefore investigated, using a simulation model and based on a selection of thermal performance criteria of local traditional and contemporary house models in Thailand. The results indicate that improved performance might be achieved by combining selected lessons from the traditional design e.g. improved shading, regional variations in

window size related to orientation, and adoption of adjustable ventilation and window openings.

In the comparative analyses, the simplest indicator of overheating, the duration during which temperatures are too high, provides some evidence to support the proposition that the traditional house designs are superior to the contemporary in providing thermal comfort for all three climatic zones of Thailand selected. This supports the argument that traditional architecture is indeed well adapted to the climatic variations across Thailand, and can provide longer periods of thermal comfort when houses are operating in a purely passive mode. It is concluded that the traditional housing of Thailand does provide useful indicators of appropriate architectural design responses to climate, particularly in the context of purely passive environmental control. The design of the contemporary house may and should be informed from that of the traditional house, however, issues of lifestyle requirements and culture issues should also be considered in the final design.

2) The Environmental Performance of Traditional Courtyard Housing in China - Case Study: Zhang's House, Zhouzhuang, Jiangsu Province

Brian Ford[1], Benson Lau[2] and Zhang Hongru[3]

[1] University of Nottingham, Nottingham, UK

[2] University of Nottingham, Nottingham, UK

[3] Shanghai Research Institute of Building Sciences

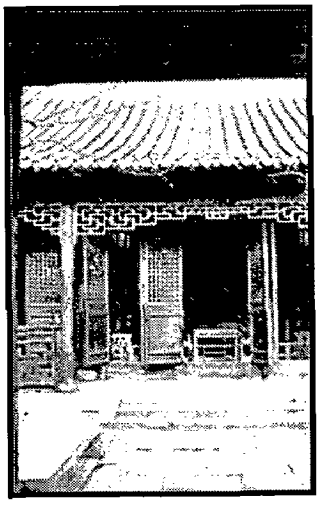


Fig 2.2 Zhang's House

In existing studies of the Chinese vernacular architecture, pictorial and romanticised literature dominates. Research into the design philosophy, history of development, architectural built forms are the common topics, but meaningful investigation on the environmental performance of the vernacular architecture is rarely touched upon. This study is a contribution to filling this gap. The main focus of this paper is the vernacular dwellings in Zhou Zhuang Village, which is located on the edge of Shanghai. This paper describes preliminary results from a study of the environmental performance of a Ming dynasty courtyard house, located in the heart of the village.

The spatial poetry and drama of these courtyard houses is evident to the visitor, while the environmental performance is being investigated through a programme of on-site measurements which started in February 2006. This study hopes to reveal how these buildings respond to the local climate and provide comfort throughout the year by passive means. It also shows how a clever manipulation of spatial and building elements helps to promote thermal and visual comfort, while also providing a tranquil and visually stimulating sequence of spaces.

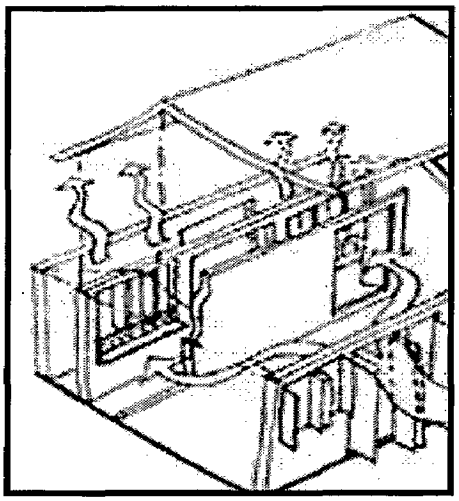


Fig 2.3 Axinometric view showing ventilation through the hall

2.2.1.2.2 SETTLEMENT FORMS

1) Traditional architecture in the Dakhleh Oasis, Egypt: space, form and building systems

Francesca De Filippi

Dipartimento Casa-città, Politecnico di Torino, Torino, Italy

The paper is based on a ongoing research project regarding traditional mudbrick architecture in the New Valley (Egypt), funded by the Italian and Egyptian Ministries of Foreign Affairs, between the Politecnico di Torino (Italy), and the Assyut University (Egypt).

Fig 2.4 The house surveyed in Al

Settlements in the Dakhleh Oasis are collected structures with a strong defensive character: constructions are bound to each other to cope with the harsh hot arid environment. Domestic architecture, according to Islamic principles, is characterized by private and semi-private spaces. Nowadays the old settlements are mostly abandoned and new houses are built on western planning models and new materials, breaking down with traditional uses and not adaptable to the harsh hot-arid climate.

The aim of the paper is to analyse the main characters of the traditional architecture in the old settlements (Balat, Al Qasr), pointing out both the typological and the technological aspects (local materials and construction processes), focussing on their environmental sustainability (presence of bioclimatic features, integration into the landscape, minimum waste of resources).

The appreciation and successful protection of the vernacular heritage depend on the involvement and support of the community, continuing use and maintenance. The achievement of this result will allow to maintain or revive lost abilities and offer sustainable and compatible technologies for adaptation to contemporary living standards.

The new cities, built of corrugated steel and cinder block, now sit next to the older settlements. They are ordered on a grid pattern with wide streets, housing projects and public squares. The public and private may be clearly marked in the plan of the new cities, as is the intended function and ideological intent of space. But these designations tend to breakdown with traditional use of private/public areas.

Al Qasr today is a dilapidated village, housing a dwindling number of people where it originally housed 4,500.

The goal to keep the fabric of the village in its current original form should be managed balancing preservation and use, perhaps allowing changes (also in functions) which will keep the village alive.

2) Lilong Housing, A Traditional Settlement Form

Qian Guan 1996

School of Architecture

McGill University, Montreal

July 1996

Li" means neighborhoods, "Long" means lanes. These two words combine to describe an urban housing form which characterizes the city of Shanghai. In dissociable from the growth of Shanghai from 1840s to 1949, lilong settlements still comprise the majority of housing stock in the city center today. Inherited traditional dwelling patterns prevailing in the southeast China, profound transformation due to drastic social changes during that era

produced lilong housing. Though, these transformations were demonstrated by the evolution of lilong's house forms, the settlement's general organization pattern persisted.

A comprehensive study of lilong housing - a well-documented report of the various types of its physical form, and an architectural analysis of its indigenous spatial pattern and advantageous design features - will help understanding of lilongs' architectural, historic and cultural values. This understanding is crucial to the work of improving existing lilongs, and also essential for building of new housing projects which are humane, and pleasant living environments. It is from these points of view that the author embarks on this study.

The overall goal of this study is to provide a comprehensive understanding of lilong housing as a settlement pattern. Though there are many sub-goals involved to achieved the general goal, this thesis concentrates on the following two major tasks:

1) Documents the various types of the physical form of lilong housing, evolution of lilongs from a traditional prototype to a more Westernized open dwelling.

2) Conducts an architectural analysis of the various design aspects of lilong housing, in comparison with contemporary housing developments, summarizing its advantages and disadvantages.

The thesis reviews the social, economic context of lilong housing, particularly the history of Shanghai from 1840s to 1949.It clarifies different house models which make up the five types of lilongs, and examines the evolution of this settlement form from a ground-related, court-yard pattern of tradition, to an off-ground apartment-like modern dwelling. the Study has a narrative of 11 case studies of lilong settlements, examine the livability of each

lilong, and elaborating the advantages and disadvantages of each one analyzes urban characteristics of lilong settlement forms, examine its density in a comparison with prevalent contemporary housing development in this city. by using contemporary Neighborhood & Community Design Principles, analyzes the design features of lilong housing, and summarize the valuable experience or essence that make this pattern of dwelling specially fond by local people.

2.2.1.2.3 SOCIO CULTURAL ASPECTS

1) Socio-Spatial Analysis of Traditional Kuwaiti Houses

Omar Khattab, PhD

Assistant Professor, Department of Architecture, Kuwait University

Research of various forces that shape the spaces of traditional houses

This study aims to introduce the concept of social analysis of spaces

- space adjacency
- permeability
- Symmetrical and asymmetrical spaces
- Distributedness and non-distributedness of spaces

2.3 INFERENCES FROM THE LITERATURE STUDY

- The significant views by various experts on traditional architecture helps in establishing a working hypothesis on which the study can be based on-

In the quest for sustainable development, a comprehensive study of traditional built environment can offer valuable information proving its relevance in the modern context.

- Gives a better understanding on the various approaches adopted in the study of traditional built environment.

Chapter Three

FRAMEWORK OF ANALYSIS

3.1 LITERATURE STUDY ON ANALYSIS OF BUILT ENVIRONMENT

A careful understanding of various theories of analyzing the built environment will be instrumental in creating a model of framework of analysis to suit the case under study. It is useful to note the key content of few attempt made to analyze / identify the desirable qualities of successful urban places and/ or 'good' urban form.

3.1.1 URBAN DESIGN FRAMEWORKS

3.1.1.1 KEVIN LYNCH

Lynch (1981, pp. 118—1 9) identified five performance dimensions of urban design:

1. Vitality, the degree to which the form of places supports the functions, biological requirements and capabilities of human beings.

2. Sense, the degree to which places can be clearly perceived and structured in time and space by users. -

3. Fit, the degree to which the form and capacity of spaces matches the pattern of behaviours that people engage in or want to engage in.

4. Access, the ability to reach other persons, activities, resources, services, information, or places, including the quantity and diversity of elements that can be reached.

5. Control, the degree to which those who use, work, or reside in places can create and manage access to spaces and activities.

Two meta-criteria underpinned the five dimensions: those of efficiency, relating to the costs of creating and maintaining a place for any given level of attainment of the dimensions; and of justice, relating to the way in which environmental benefits were distributed. Thus, for Lynch the key questions were: (i) what is the relative cost of achieving a particular degree of vitality, sense, fit, access, or control? (ii) Who is getting how much of it?

3.1.1.2 ALLAN JACOBS AND DONALD APPLEYARD

In their paper 'Towards an Urban Design Manifesto', Jacobs and Appleyard (1987, pp. 115—116) suggested seven goals that were 'essential for the future of a good urban environment':

1. **Liveability**: A city should be a place where everyone can live in relative comfort.

2. **Identity and control**: People should feel that some part of the environment 'belongs' to them, individually and collectively, whether they own it or not.

3. **Access to opportunities**, imagination and joy: People should find the city a place where they can break from traditional moulds, extend their experience, and have fun.

4. **Authenticity and meaning:** People should be able to understand their (and others') city, its basic layout, public functions and institutions, and the opportunities it offers.

5. **Community and public life:** Cities should encourage participation of their citizens in community and public life.

6. **Urban self-reliance:** Increasingly cities will have to become more self-sustaining in their uses of energy and other scarce resources.

7. **An environment for all:** Good environments should be accessible to all. Every citizen is entitled to a minimal level of environmental liveability, arid of identity, control and opportunity.

To achieve these goals, five physical characteristics or 'prerequisites' of a 'sound' urban environment were defined:

1. Liveable streets and neighbourhoods.

2. A minimum- density of residential development and intensity of land use.

3. Integrated activities — living, working, shopping , reasonable proximity to each other.

4. A manmade environment that defines public space, particularly by its buildings (as opposed to buildings that mostly sit in space).

5. Many separate, distinct buildings with complex arrangements and relationships (as opposed to a few, large buildings).

3.1.1.3 RESPONSIVE ENVIRONMENTS

During the late 1970s and early 1980s, a team at the then Oxford Polytechnic formulated an approach to urban design, published as Responsive Environments: A manual for urban designers (Bentley et al., 1985). The approach stressed the need for more democratic, enriching environments, maximising the degree of choice available to users. The design of a place, it was argued, affected the choices people could make:

The approach respectively focused on seven key issues in making places responsive: those of permeability, variety, legibility, robustness, visual appropriateness, richness and personalisation. It was later suggested that resource efficiency, cleanliness and biotic support be added, to include the ecological impact of urban forms and activity patterns (Bentley, 1990). Based on their experience in practice and teaching, McGlynn and Murrain (1994) argued that four qualities appeared to be fundamental — permeability, variety (vitality, proximity and concentration), legibility and robustness (resilience). Bentley (1999, pp. 21 5—1 7) has subsequently proposed a 'responsive city typology' consisting of the deformed grid, the complex use pattern, robust plot development, the positive privacy gradient, the perimeter block, and the native biotic network.

3.1.1.4 FRANCIS TIBBALDS

In 1989, His Royal Highness The Prince of Wales offered a framework for architectural design sparking an important debate. In response, an urban design framework of ten principles was developed by the then-president of the Royal Town Planning Institute and founder of the UK-based Urban Design Group, Francis Tibbalds (1988b, 1992):

framework of analysis

1. consider places before buildings;

2. have the humility to learn from the past and respect your context;

3. encourage the mixing of uses in towns and cities;

4. design on a human scale;

5. encourage the freedom to walk about;

6. cater for all sections of the community and consult with them;

7. build legible (recognisable or understandable)

3.1.1.5 ROGER TRANCIK

The three urban design theories explained by Roger in his book provides a comprehensive analysis of integrated spatial design of a built environment.

(1) figure-ground theory; (2) linkage theory; and (3) place theory.

I) the Figure-ground Theory

Roger illustrated in his book, that, *The figure-ground theory is founded on the study of the relative land coverage of buildings as solid mass (figure) to open voids (ground)... Each urban environment has an existing pattern of solids and voids, and the figure-ground approach to spatial design is an attempt to clarify the structure of urban spaces and the generic patterns of mass and voids in a city or district...* He also added that, *The figure-*

ground drawing, a two-dimensional abstraction in plan view, is a graphic tool in revealing these relationship (p.97).

II). the Linkage Theory

Roger explained about Linkage Theory: *Unlike the figure-ground theory, which is primarily based on patterns of solid and void, the linkage theory tries to organize a system of connections, or a network, that establishes a structure for ordering spaces* (p.97). These linking elements can be streets, pedestrian ways, and linear open space, etc., that physically connect the parts of a city. It places emphasis on the circulation diagram rather than the spatial diagram of the figure-ground theory.

III). the Place Theory

The place theory goes one step beyond figure-ground and linkage theories in that it adds the components of human needs and cultural, historical and natural contexts (Roger, 1986, p.98). It gives physical space additional richness by incorporating unique forms and details indigenous to its setting. In place theory social and cultural values, visual perceptions of users, and an individual control over the immediate public environment are important principles.

Each of these approaches has its own values, but is interrelated. Combining the three, it can give a comprehensive evaluation on various facets of a particular structure within a built environment - the mass-void relationship, organization pattern, and its sensitivity to human needs.

3.1.1.6 SHERWIN GREENE

The "Four Principles of Community Design" by Sherwin Greene has encompassed the broad range of design considerations involved in evaluating the quality of places and the quality of living. They represent distinct and vital attributes, significant enough to have universal application to all environments, and broad and flexible enough to be utilized and explored in any given condition (Sherwin, 1992, P.180). Following is a brief outline of the four concerned principles associated with its corresponding qualities or sub-criteria.

FUNCTION requires that the design work effectively for the convenience and comfort of all its users.

1). Linkage

2). Security

3). Comfort

4). Diversity

ORDER assures that users can become oriented to the environment and understand it.

1). Coherence

2). Clarity

3). Continuity

4). Balance

IDENTITY denotes a visual image of the environment that reflects special or unique qualities.

1). Focus

2). Unity

3). Character

4). Special ness

APPEAL characterizes a design that gives pleasure to its users over time.

1). Scale

2). Appropriateness

3). Vitality

4). Harmony

Each of the above frameworks has a different degree of prescription regarding desirable physical and spatial form. Analyzing a traditional built environment will require a more serious dealing with the identity and its response to human needs which can help in drawing generalization of the inferences of the case study analysis.

As the analysis of the research undertaken will focus on the merits of the case study and hence a study comprising of built/ open relationship, sense of place, organization pattern will help in generalization of the findings of the case study.

Chapter Four

CASE STUDIES

4.1 BACKGROUND

4.1.1 INTRODUCTION TO AGRAHARAM

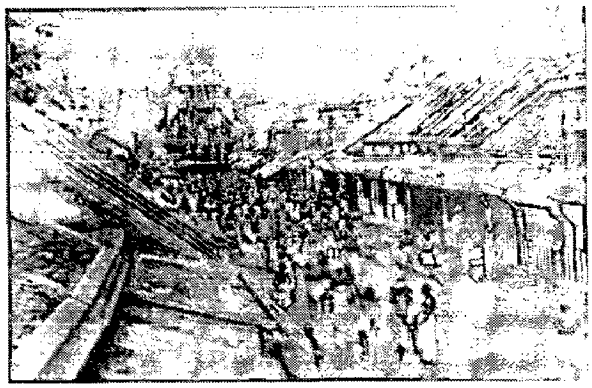


Fig 4.1 Typical Agraharam .Source: DakshinaChitra

In the past, Brahmins used to live in colonies known as Agraharams (in Sanskrit *Agram* means *tip* or *end* and *Haram* means *garland*). Generally, Shiva and Vishnu temples are situated at the ends of an agraharam. Also, most agraharams lie by the side of a river). These are streets where only Brahmins were allowed to live. A typical agraharam consists of a temple and a street adjacent to it. Iyers used to live as joint families in these exclusive streets. The houses were simple and had a design of their own. The design was the same in all houses, only the dimensions were different.

The houses are long with the rooms functionally arranged forward to back. One walk into the "thinnai" or sit-out balcony, a living room, a family room, and on to the kitchen and then the backyard with a small garden, a well and a cow shed. One could close eyes and walk straight back through all the rooms and on to the street. There are no real bedrooms. The folk sleep in the family room or other unnamed rooms. Couples are generally allotted one of these rooms for their privacy and there are unwritten and unspoken domains for each person.

The houses are generally dark and cool inside with fittings and the sparse furniture made of exquisitely carved teak. Most Brahmin houses are around the agraharam and their primary purpose in life is to continue the family tradition of priesthood, piety and the simple life.row housing pattern reduced the exposure of external wall surfaces to the sun, as the houses were constructed wall to wall, and also reduced the flow of heat into the house. The narrow openings enhanced the velocity in which air flowed into the building. The movement of warm air around the house was minimised and helped to keep the interiors cool and comfortable.

To further minimise the discomfort of warm climate, direct openings and large volumes were avoided, they said and added that clear-storey openings were provided for effective ventilation.

On the street side, where the walls were exposed to direct sun and rain, the use of `thinnai' and `pandhal' provided shade and protection while the steep pitched roofs at an angle of 45 degree drained rainwater efficiently. The successive layers of country tiling in the roof trapped the heat and provided effective insulation.

4.1.2 DAKSHINA CHITRA, TAMILNADU

4.1.2.1 INTRODUCTION

Dakshinachitra, roughly translated in this context, means 'picture of South India'. It is a depiction of the way of life prevalent in South India. A trip down Dakshinachitra takes you back to traditional home architecture from Tamil Nadu, Kerala and Karnataka. A typical village space, with exhibitions and workshops of the arts and crafts and performing artists of

South India. ***Started with the objective to revive, preserve and promote the arts and crafts of South India, it also serves as heritage education for visitors from outside South India and also for children who have never had the opportunity to experience their culture.*** More than four years old, Dakshinachitra was founded by the Madras Craft Foundation. Conceived by its Chairman Deborah Tyagarajan, it is has been brought to life by the British Architect, Lawrie Baker. As soon as you reach Dakshinachitra, you are shown an 18-minute orientation video, which gives you an idea as to what the place is all about. A sudden peace and quiet fills my heart as we begin the trek down this 10-acre land. The orientation video speaks of the cycle of life as being harmonious with nature. It gives you an insight into the various cultural, socio-economic and climatic factors that influenced the architecture in the olden days. These are real 18th and 19th century houses where people lived at some point of time; they have been dismantled and reconstructed at Dakshinachitra. Following are the different houses from Tamil nadu that are reconstructed:

- Basket Maker's House
- Weaver's house from Kancheepuram.
- Merchant's house
- Agriculturist's house
- Agraharam Brahmin House

4.1.2.2 STUDY OF TYPICAL BRAHMIN SETTLEMENTS (AMBUR VILLAGE)

The Brahmin house has been relocated from the agricultural village in Ambur. In Tirunelveli district in the south of Tamil Nadu.it was one situated on a Brahmin street, lined with similar houses on both sides, not unike the cluster of houses in the street at Dakshina Chitra

.The Brahmin street in Ambur village formed the Vishnu Agraharam (temple street).All the Brahmins living in the agraharam of over 30 house are related in some way. Like many agraharams in Tamil Nadu this one was becoming deserted. Except for a few elderly couples and widows and a few who own some land or active priests in the temple ,most have moved away from the agraharam for better education and employment opportunities .this particular house was owned by a man who now works and resides in New Delhi

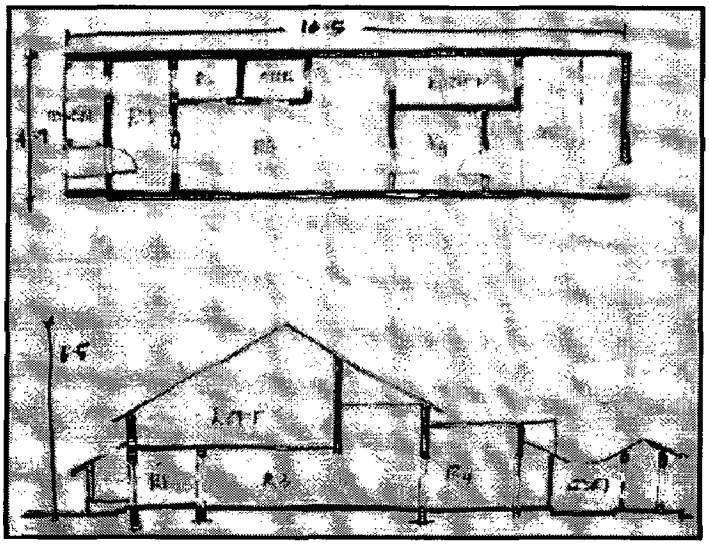


Fig 4.2 Plan and section of the Brahmin House.
Source: DakshinaChitra

This type of Brahmin house is prevalent through out the villages and towns of Trinelveli area.Brahmin Houses in the various regions of Tamil Nadu differ slightly in style techniques and construction material depending on their location .

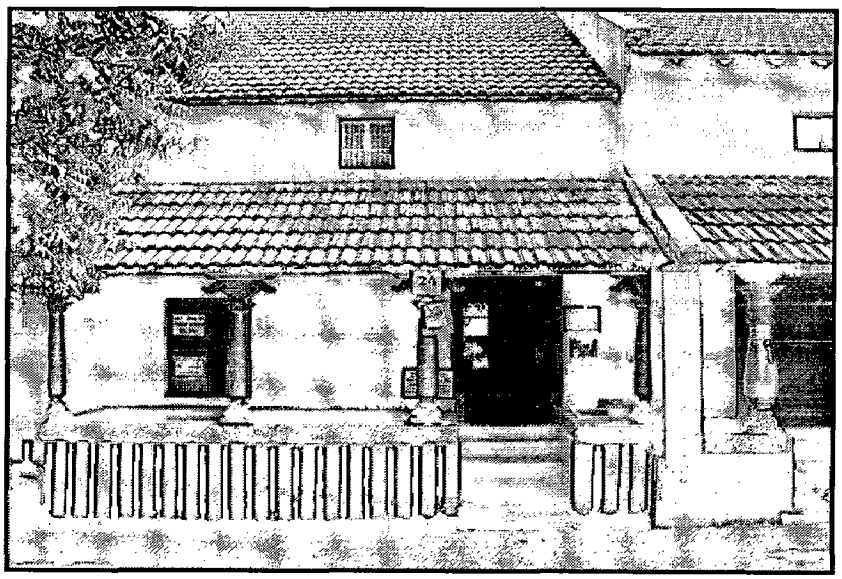


Fig 4. 3. Front view of the Brahmin House, Dakshinachitra

Connected by a common wall and tend to be narrow in width and very long. They are often without the interior courtyard and have open spaces in the backlight and air frequently comes from the clerestory which substitutes for the open courtyard in the flat roofed houses.

Agraharam houses were documented from six different regions in Tamil Nadu before deciding on the Tirunelveli regional style. The Ambur house originally had a longer courtyard for the cows , followed by another long enclosed area ,planted rather wildly ,with led down to a stepped river embankment .Due to the space restrictions at Dakshina Chitra the second courtyard was made smaller and the third has been omitted . The upper floor was used for sleeping, drying and storing grain and for general storage .the house one had a small loft room above the kitchen to accommodate sleeping quarters but this also has been omitted in the reconstruction.

Additional images are made available in Appendix A

4.1.3 HISTORY AND BACK GROUND OF THE STUDY AREA.

CHENNAI

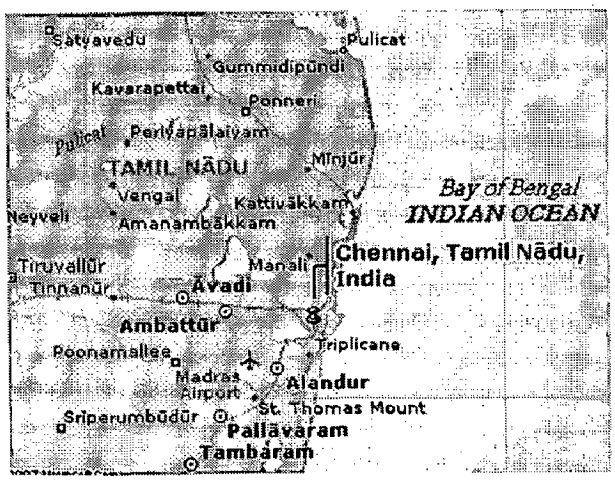


Fig 4. 4 Map showing location of Chennai.
Source: www.mapsofindia.com

Chennai, the gracious capital city of Tamil Nadu is the fourth largest metropolis in India. Located on a 17km stretch of the Coromandel Coast, the city is trisected by the waterways of Cooum and Adyar and the Buckingham Canal. It has grown from merging several small villages. It is also the principal

harbour and has one of the finest beaches of the State. Though many still call it Madras, it is now officially known as Chennai. The city sprawls over more than 70 sq. km and rather than claiming a centre retains its former regional hubs.

Chennai is the home of the ancient Dravidian civilization, one of the oldest articulate cultures in the world. It is a city where the landscape of the past lives easily with more recent history. For more than 2000 years, the area has been popular with seafarers, spice traders and clothe merchants. The 16th century saw the arrival of the Portuguese, followed by the Dutch. In 1639 the British East India Company established a settlement in the fishing hamlet of Chennaipatnam. Fort St. George was constructed and George Town grew in the area of the fort. It was granted its first municipal charter in 1688 by James II making it the oldest municipality in India. Between the 18th and 19th centuries, French and British traders competed for supremacy. The French were forced to retreat to Pondicherry and the British established their control over the rest of the region. In the 19th century, the city became the seat of the Madras Presidency, one of the four divisions of British Imperial India. After Independence it continued to grow into what is now a significant southern gateway.

Popularly regarded as the "Gateway to the South", Chennai presents a culture that is distinctly different from that of northern India. Music, dance and all other art forms of the South are cherished and nurtured in this city which, though industrialized, continues to be traditional and conventional in many ways.

TRIPLICANE

Originally called Thiru-alli-keni, Triplicane was once a suburb of Mylapore and was wedged between the temple township and the Chepauk Palace. Dominated by a temple, as are most communities in Tamil Nadu, Triplicane was for many years a Brahminical stronghold and provided much of the clerical work-force required by the East India Company.

SALIENT FEATURES OF TRIPLICANE

While dedicated to Vishnu in his incarnation as Krishna, the Parthasarathy Temple at Triplicane enshrines images of the five incarnations of Vishnu including that of a wounded Krishna. Parthasarathy literally means the 'charioteer of Arjuna'.

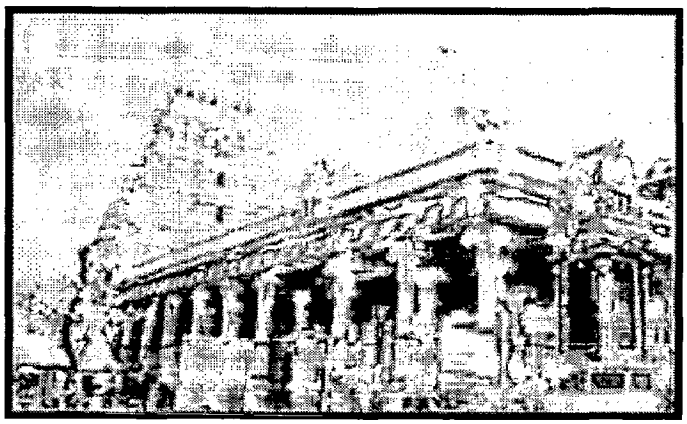


Fig 4.5 Parthasarathy Temple at Triplicane
Source: www.chennaionline.com

Partha is another name for Arjuna and Sarathy means charioteer. Lord Krishna served as the charioteer of the Pandava Arjuna in the Great War of Mahabharatha. The Parthasarathy temple is perhaps the oldest surviving temple in Chennai.

Scholars suggest that the Pallavas built it as early as the 8th century. However, additions and renovations were constantly made over the next four centuries. The Pandyas and Cholas contributed some changes. Traces of the architectural signs of the Vijayanagar kings, who ruled as late as the 16th century, are also evident in the temple structure.

As with Mylapore, or rather more so, the temple and its environs retain the traditional flavour. The four streets around the temple still have old-world houses and in spite of the invasion of modern gadgets like TVs, cars and dish antennas, something of the old Triplicane remains intact. Much of the lifestyle here still resembles that which prevailed in the region 200-300 years ago. Though the Parthasarathy temple dominates life at Triplicane, the area has a healthy mix of Christian, Muslim and Hind communities. North of the temple is Amir Mahal, the home to the Nawab of Arcot, who lives there to this day. The royal family of Arcot was among the most important in south India in the 18th century. And while the arrival of the British considerably undermined their power and position in the south, the Arcot family still wields a lot of clout. Near Amir Mahal is the splendid Wallajah mosque built by the present Nawab's ancestors. Also known as Badi Masjid (Big Mosque), the mosque is very important to the city's Muslims.

Along the Marina promenade, today hidden by modern buildings, is the Chepauk Palace, one of the first examples of Indo Saracenic architecture in the city. Built around 1768, it is popularly believed to be the handiwork of Paul Bentfield, a close friend of the Nawab. It is interesting to note that the palace is in the Indo Saracenic style because the dominant architectural style of 18th century Raj was, in fact, the Classical. The palace, on Wallajah Road, originally consisted of Khalsa Mahal and Humayun Mahal, linked by Chisholm's Tower. The East India Company annexed the palace in 1855 to house the Government Survey School.

Fig 4.6, 4.7 Present day façade of Triplicane

Triplicane

continues to be an important hub of the city, though the commercial din often drowns out the more pleasant aspects of life here. With a preponderance of lodges and boarding houses, most of the single men who work in the city can be found here, which in turn has led to a number of eateries coming up in this area. From roadside dhabbas, or kai-endhi bhavans as they are known locally, to family-run 'mess'es Triplicane presents a unique façade.

4.1.3.1 IDENTIFICATION OF THE CASE STUDIES

The two case studies identified for the study is located in the Peyalwar street in Triplicane, parallel to the Parthasarathy temple. The varying size of both the study areas have been deliberately chosen to understand the variations of the house form as the size varies. It would also help in understanding the continuity between various derivatives of house forms. Both the case studies maintain individuality yet surviving harmoniously amidst other row housing in the same street. The first case study is a linear housing much smaller in scale compared to the second agraharam case study. The second case study reflects an agraharam

though not a typical agraharam due to the context in which it was developed. Both the case study houses Low Income Brahmin tenants who serve the temple.

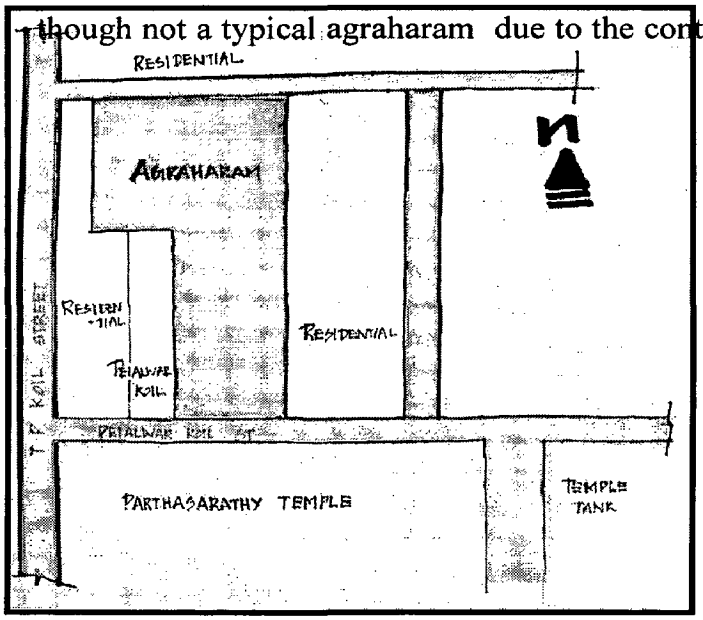


Fig 4.8 Plan showing the location of the two case studies

4.2 CASE STUDY: LINEAR HOUSING

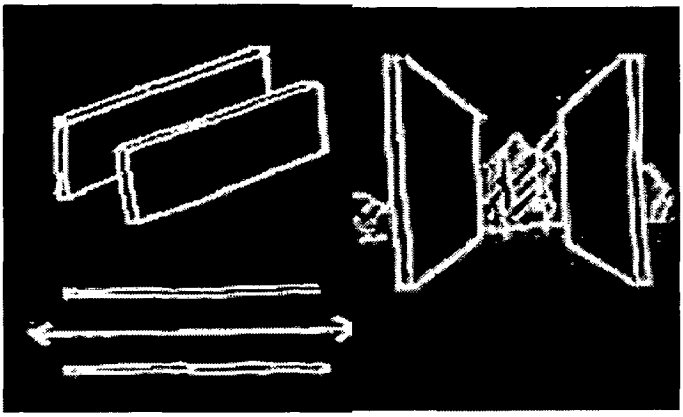
4.2.1 INTRODUCTION

Located in the Peyalwar Street that is bounded by the high Temple wall on one side, the house which is identified for the study is a single linear residence 150 years old, sited between the street in front and a lane at the rear . The house is occupied by seven families, each living in a room or two with common service facilities. The property belongs to the Parthasarathy temple and houses the employees of the temple. The residents of this linear housing belong to low income group earning their livelihood through the various functions of the temple.

Fig 4.9 front view, linear housing, Triplicane

4.2.2 ANALYSIS OF THE HOUSING

4.2.2.1 FORM



The parallel walls (linear form with a proportion of almost 1:10) give a strong sense of direction.

Fig 4.10 Parallel walls

4.2.2.2 SPATIAL PLANNING

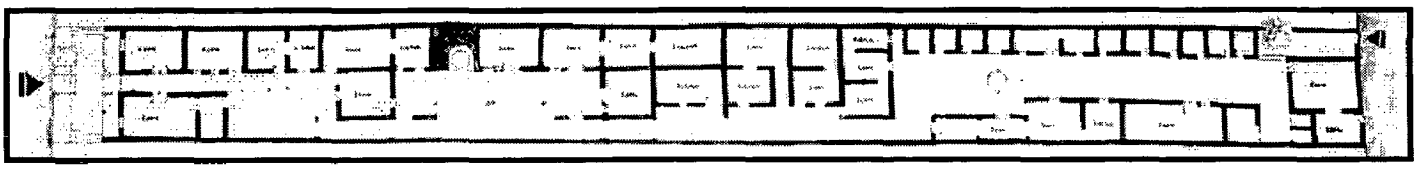


Fig 4.11 Ground floor plan

The house has a simple plan dictated by the linear form. The house entrance in the front street is guarded by a thinnai. Rooms are arranged in a linear form according to the form and face the linear courtyard. Common services like toilets and well are on the rear side of the rooms. The two entrances both in the front and rear keeps the house well connected with their immediate environment. The courtyards and the corridors are the main circulation pathways within the house.

4.2.2.3 MASS VOID RELATIONSHIP

Fig 4. 12 mass void relationship, linear housing

The courtyards and the circulation space in the rear forms the open space within the house. With the little scope for more open space within the linear form, maximum utilization of the courtyard spaces are achieved by the difference in the height of the built areas

Fig 4.13 The two linear courtyards

Fig 4.14 Scale of the courtyard is altered by mass

fig 4.15, fig 4.16 Differing scale of courtyards

4.2.2.3 CIRCULATION

The courtyards, corridors, pathways are placed in a manner where it is used to the maximum without any dead spaces. The circulation spaces are multifunctional at various areas where they are also used as resting places, interaction places.

4.2.2.3 SENSE OF PLACE

The house creates a strong sense of place which makes the residents of all age groups prefer this residence even if they are given a choice of moving out with better facilities then the existing. Opportunities for interaction create a sense of community amongst the residents.

Interaction Places

Interactive places are spread at intervals through out the linear form which keep all the residents well connected with each other within

fig 4.17 Front thinnai

the house. The two entrances of the residence provides the platform for relationship with the neighbouring families. Excellent house street relationship is established by a clear hierarchy of transition from street to house with thinnai serving as the outdoor interaction place for the

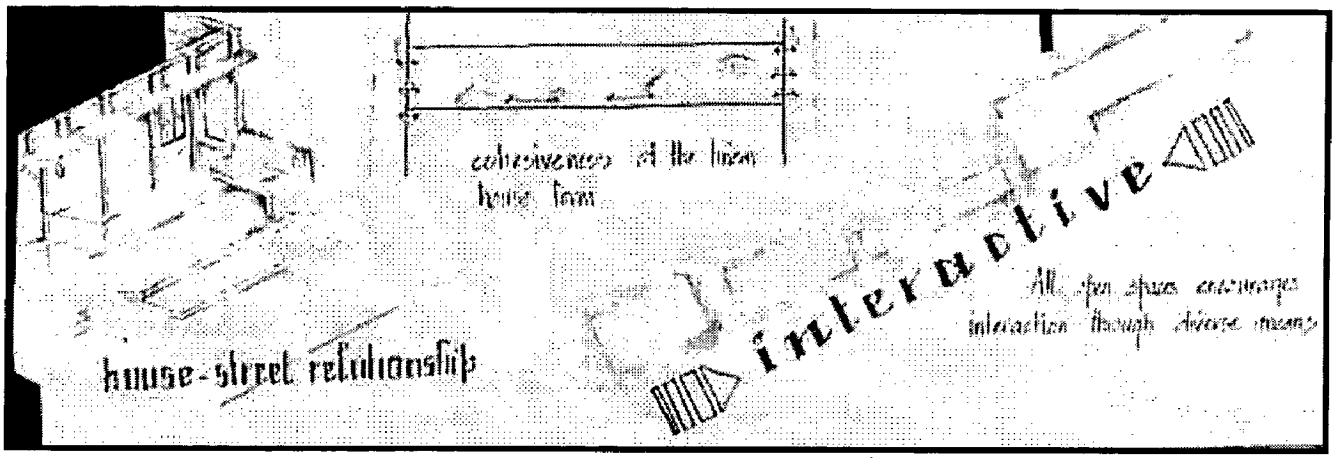


fig 4.18 Interactive spaces through out the form

residents.

4.2.3 SALIENT FEATURES

4.2.3.1 MULTIFUNCTIONALITY

Flexibility of various spaces not only helps in overcoming constraint of the size of the house, but also adds a variety and interest to the linear spatial planning.

For instance, the two linear courtyards and the corridors not only serve the function of circulation but also are excellent interaction places for the residents. Even the way of interaction is given a variety by the open, closed, semi open spaces.

4.2.3.1 QUALITY OF ARCHITECTURE

Though simple in form, plan and catering to a low income group, the treatment of various spaces in terms of scale, light and shade etc gives an enduring architectural quality to the house.

As one moves from the entry in the front street to the rear , the house provides a series vision making the circulation more interesting . The different open spaces encountered in the linear movement through the house form is enhanced by the transition spaces between the them

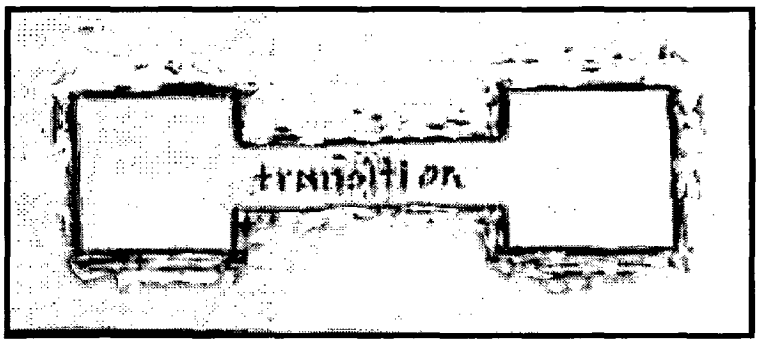


Fig 4.19 Transition spaces

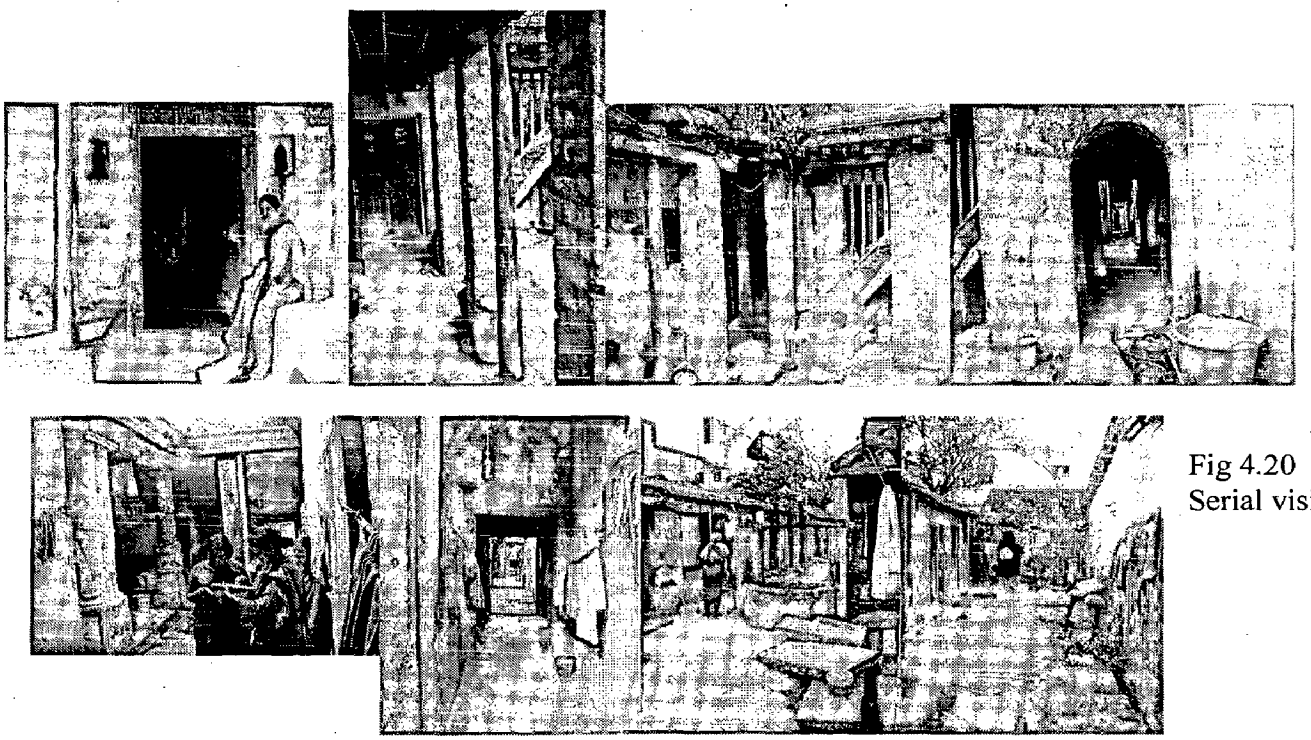


Fig 4.20
Serial vision

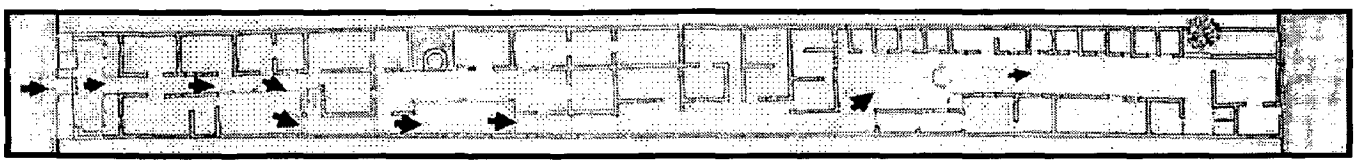


Fig 4.21 Showing the movement through the linear form

Additional images are made available in Appendix B

4.3 CASE STUDY: AGRAHARAM HOUSING

4.3.1 AGRAHARAM HOUSING IN TRIPLICANE, CHENNAI

Located along the Peyalwar Street , Triplicane is a group residences arranged along a private lane.refelcting an Brahmin agraharam settlement , the property belong to the temple in Ayodhya. Unlike the previous case study, this agraharam housing has individual row house for each family, with the total number of 52 tenants. The housing has a temple in its entrance and is an important part of the settlement.

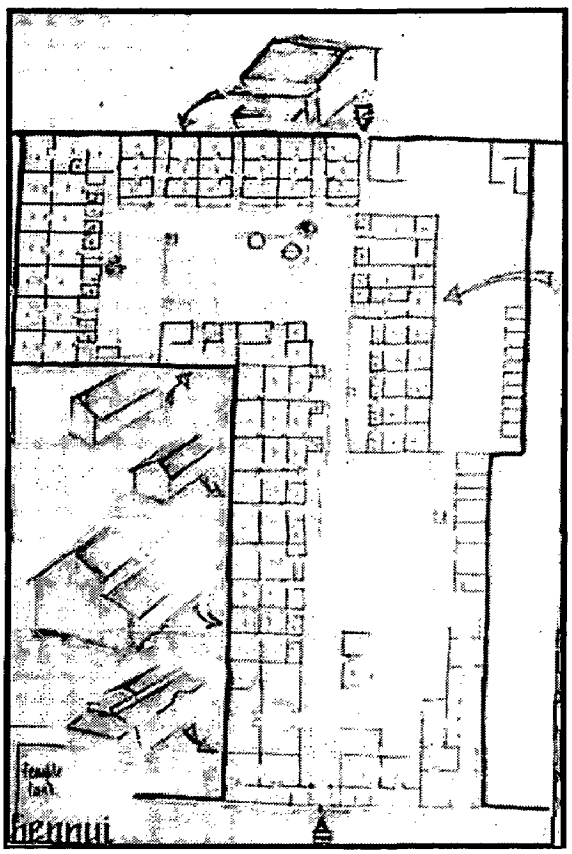


Fig 4.22 Plan of Agraharam housing

4.3.1.1 FORM

Similar to the linear housing, houses have a linear form .there is a strong axis established through the sequential dorrways from main entry door to the rear most room.

4.3.1.1 SPATIAL PLANNING

Each house has two to three rooms with toilets grouped at the rear side of the housing. the house reflects the simple life led by the Brahmin community. Every house has a thinnai in the entrance. Simple in plan with rooms arranged back to back, the housing shows some interesting planning at the entire settlement level with open spaces and

interaction places. Predominantly a ground floor structure with few houses in first floor in some areas.spatial planning one part of the settlement resembles a linear housing and is a late addition to the housing.

4.3.1.1 Mass Void Relationship

As one moves from the gateway into the lane to the common interaction place the sense of enclosure keeps increasing creating an welcoming atmosphere amongst the residents.

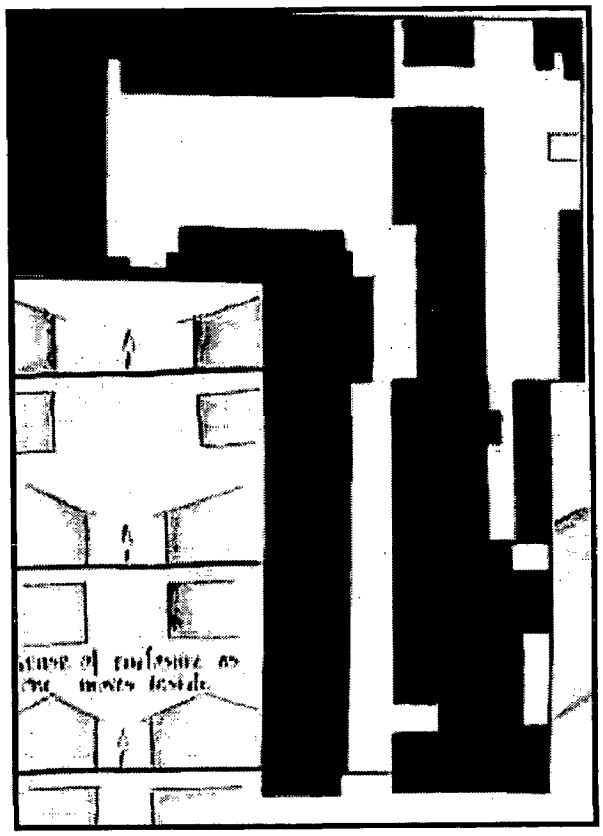


Fig 4.23 Mass void relationship in Agraharam Housing

4.3.1.1 Sense of place

Similar to the previous case study, importance given to the interaction spaces in the planning of the settlement creates a healthy relationship amongst the residents.

Territoriality

A sense of territory is eatablished at different levels, the entry gateway defining the settlement and the platform in front of the house defining the residents domain.

Interaction spaces

Space constraints within the residences creates active interaction spaces outside the houses. starting from thinnai to the platform ,the house establishes a strong relationship with

the lane. Common interaction space provides opportunities for both active and passive interaction.

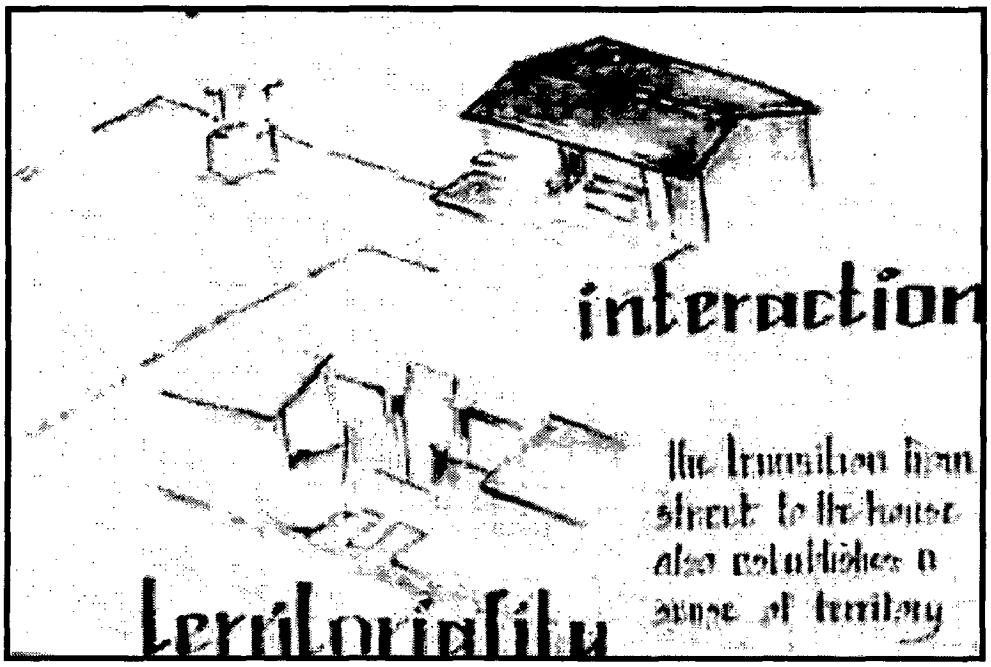


Fig 4.24 Sense of territory and hierarchical interaction spaces

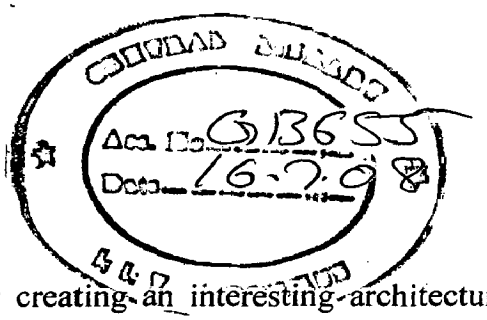
Additional images are made available in Appendix C

4.3.2 SALIENT FEATURES

4.3.2.1 HIERACHY IN INTERACTION SPACES

The housing establishes a hierarchy in interaction spaces for the residents. The thinnai. the plat form, the informal ambience of the lane, the common open spaces of the settlement

provides opportunities for various levels of interaction for family, neighbours and also amongst other residents of the housing there by creating a healthy community living as a whole.



4.3.2.2 QUALITY OF ARCHITECTURE

Though there is little scope for creating an interesting architecture due to simple planning and a wall to wall arrangement of the residences , the housing creates an interest through the variety in the roof forms , enclosure space as one moves into the settlement.

4.3.2.3 SECURITY

The effective interaction amongst the residents , and the healthy community living have assured the residents with security .the pedestrian friendly lane provides the needed safety and security for the elders and the children group of the resident

4.4 INFERENCES FROM THE CASE STUDIES

The two case studies though have many differences (size, form), many common inferences can be drawn from their analysis.

- **SIGNIFICANCE OF INTERACTION SPACES**

Regardless of the various constraints of area importance interaction spaces are is evident in both the cases. Whether it is the courtyards, thinnai, of the linear housing or the open spaces, thinnai and platform of the Agraharam Housing, both proves to be excellent interaction places for the residents

- **HOUSE STREET RELATIONSHIP**

A relationship between the house and street in both the cases encourages street life and helps in developing a relationship with the immediate environment (people and place)

- **APPROPRIATE PLACES FOR ALL USER GROUP**

The built environment in both cases creates place all user group feel 'included' within the community living. thinnai providing the needed comfort for the elder group for its proximity from the house, the street and the open space suits the young crowd for their interaction , the wells and hand pump areas provides spontaneous and casual interaction among the other residents.

- **SENSE OF SECURITY**

The various factors that encourage a community living among the residents also creates a sense of security and safety for the residents. the transition spaces from house to street and the healthy relationship among the residents provides an effective natural surveillance.

- **SENSE OF PLACE**

A sense of place is created by making people develop a positive relationship with the environment and the people.

- **QUALITY OF ARCHITECTURE**

Though simple in plan, an element of interest is created in both the case studies. The different roof form which blends with the overall housing yet creating an uniqueness in agraharam housing, the treatment of the courtyards and the serial vision in the linear housing gives the enduring quality to the architecture.

The analysis of the undertaken case studies focuses on the merits of both the cases with the aim of exploiting the maximum from each case study which will prove useful in formulating the guidelines in the following chapter.

Chapter Five

CONCLUSION

5.1 DRAWBACKS IN THE CONTEMPORARY HOUSING DEVELOPMENTS

Though we have greater development in terms of technology which makes people 'connected' to the rest of the world there is always the underlying psychological disorientation fostered by modern architecture.. Various facets of the issues concerning contemporary housing development can be zeroed down to two fundamental problems

Lack of Identity

Lack of Significance of Social Interaction

LACK OF IDENTITY

Direct impacts

- Homogenization
- Lack of individuality
- Lack of sense of place

Indirect impacts

- Physical disorientation
- Mental disorientation
- Alienation

The search today for innovation in architecture mostly leads to an imitation of western models .Modern architecture and urban design is devoid of variety and richness. Another serious issue concerning new development today is alienation of people from their environment. Lack of social interaction spaces in the built environment makes people reclusive. The standardized and homogeneous built environment makes people faceless.

Resulting lack in sense of place makes people detached from their living environment .Such an environment will have negative impact on the wellbeing ness of individuals of the society.

Contemporary city form and architecture are inappropriate to the context in all terms, physical , social and cultural. Understanding the local architecture language and a purposeful research of regional architecture can only provide solutions of the homogenous development in architecture today.

LACK OF SIGNIFICANCE OF SOCIAL INTERACTION

Direct impacts

- Lack of sense of community
- Lack of participation
- Lack of societal development

Indirect impacts

- Unsafe
- Insecurity
- Crime
- Social irresponsibility
- Social instability

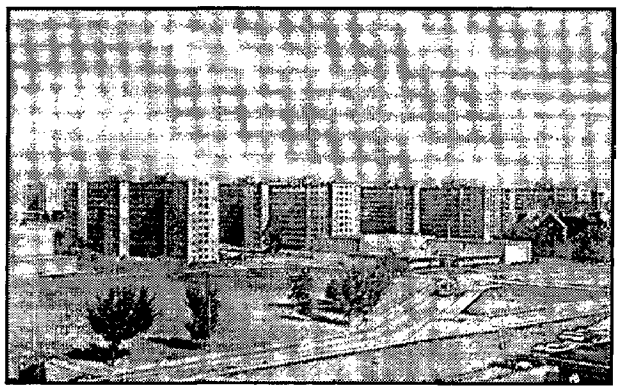


Fig 5.1 St. Louis's Pruitt-Igoe housing project. Source: Hoffman,Why They Built Pruitt-Igoe.

The significance of public domain in fostering the sense of community is lost in the new development confining people to their individual homes .The circle of confinement is only reducing more and more in the modern housing development. The relationship between house and street is completely erased in the name of safety and security which had only led to more social irresponsibility and unparticipatory attitude of people.

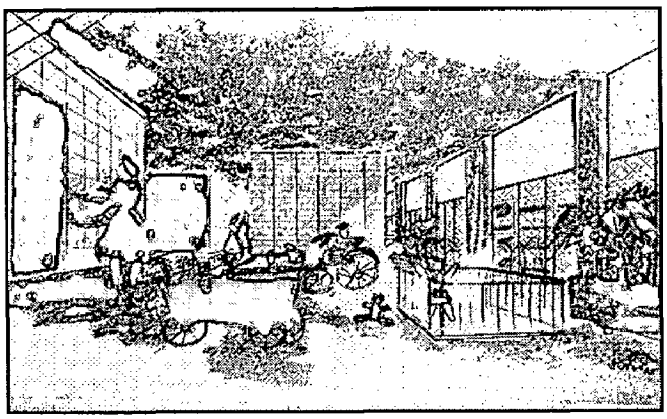


Fig 5.2 Architect's conception of interactive corridors. Source: Hoffman,Why They Built Pruitt-Igoe.

There are various live examples which showcase the failure of massive modern housing project by famous architects even in the west. St. Louis's Pruitt-Igoe housing project is arguably the most infamous public housing project ever built in the United States. The project's recreational galleries and skip-stop elevators, once heralded as architectural innovations, had become nuisances and danger zones. disrepair, vandalism, and crime plagued Pruitt-Igoe. Large numbers of vacancies indicated that even poor people preferred to live anywhere but Pruitt-Igoe. In 1972, afterspending more than $5 million in vain to cure the problems at Pruitt-Igoe, the St. Louis Housing Authority, in a highly publicized event, demolished three of the high-rise buildings. A year later, in concert with the U.S. Department of Housing and Urban Development, it declared Pruitt-Igoe

Fig 5.3 Deserted corridors after occupation. Source: Hoffman,Why They Built Pruitt-Igoe.

unsalvageable and razed the remaining buildings. Architectural critics cite it as proof of the failure of high-rise public housing for families with children.

One critic even asserted that its destruction signaled the end of the modern style of architecture. The lack of interaction places should now be addressed as a social problem having discussed its impacts on the societal development and well being ness. Built environment moulds the community. An interactive community will develop the ability to the ability to maintain and build on its own resources and the resiliency to prevent and/or address problems in the future.

5.2 GUIDELINES TO ENHANCE THE SENSE OF PLACE IN THE NEW DEVELOPMENT

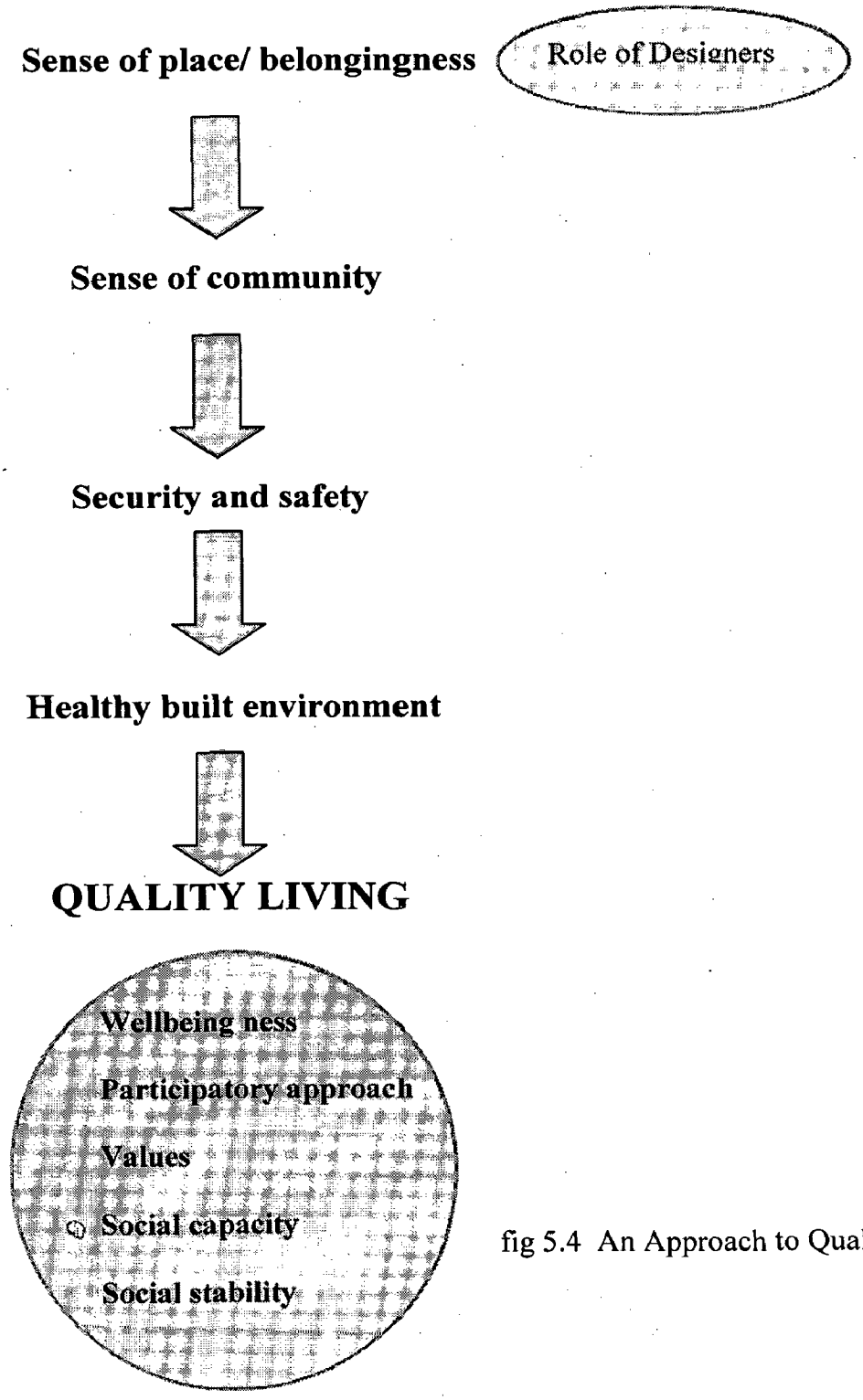


fig 5.4 An Approach to Quality Living

The built environment can be considered as a system of settings within which human activities take place. The behavior, lifestyle, values and activities of particular groups are unique to each situation; therefore, research findings can not be generalized to every type of environment. But the principle underlying in creating that identity can be generalized.

The following guidelines would help in restoring the dying interaction between the individuals in the society leading to a healthy living environment .

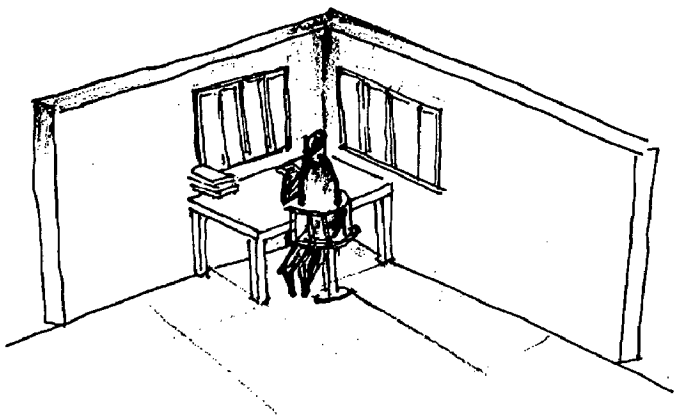
AT INDIVIDUAL LEVEL

1) Objective

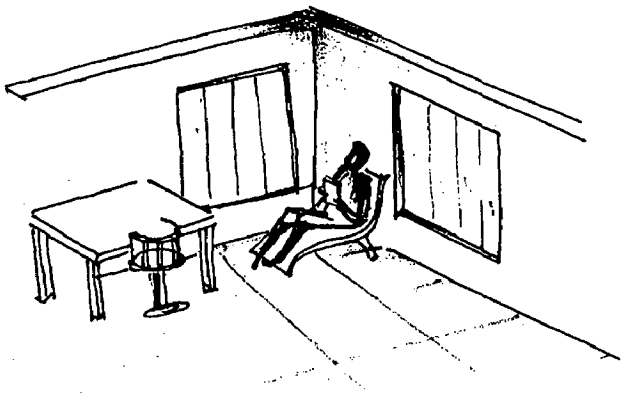
To enhance the experience of personal space by individual user or the user group and create a positive and motivated environment within the domain of the user/user group.

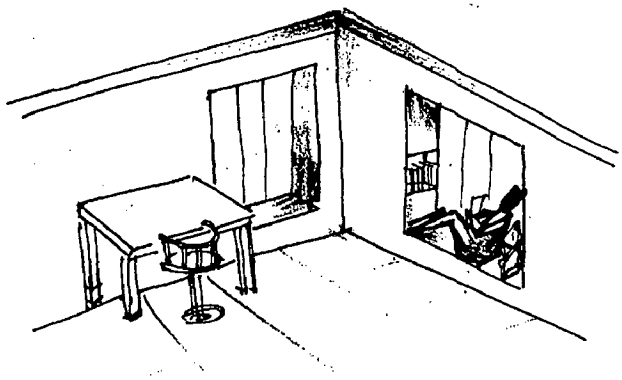
Guidelines

- Allow flexibility in spaces so as to readily adapt to the user/ user group's instinctive purposes



Restricting the variety of the space usage may lessen the frequency of using the space



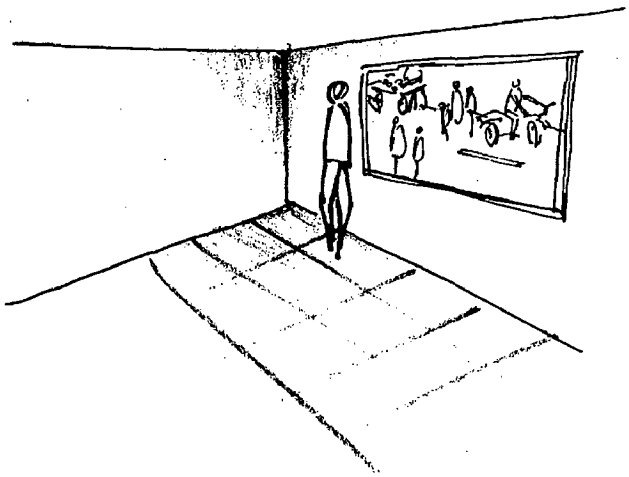


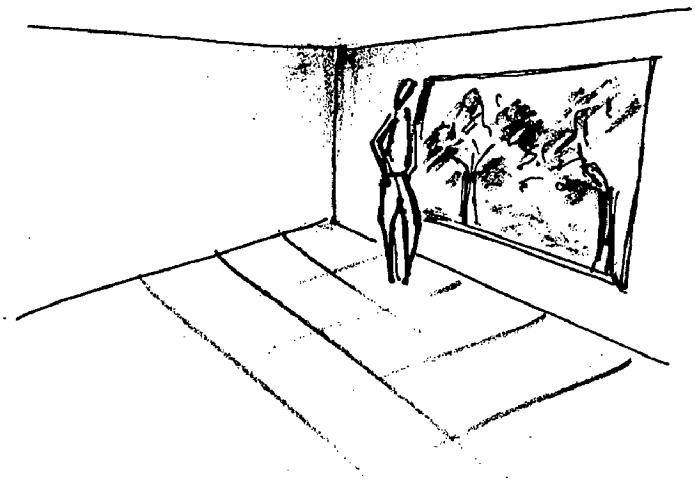
Provision for flexibility and adaptability in performing same function in various ways develops an intimacy between the user and space

- Augment the natural activity patterns of the user/user group through spatial planning

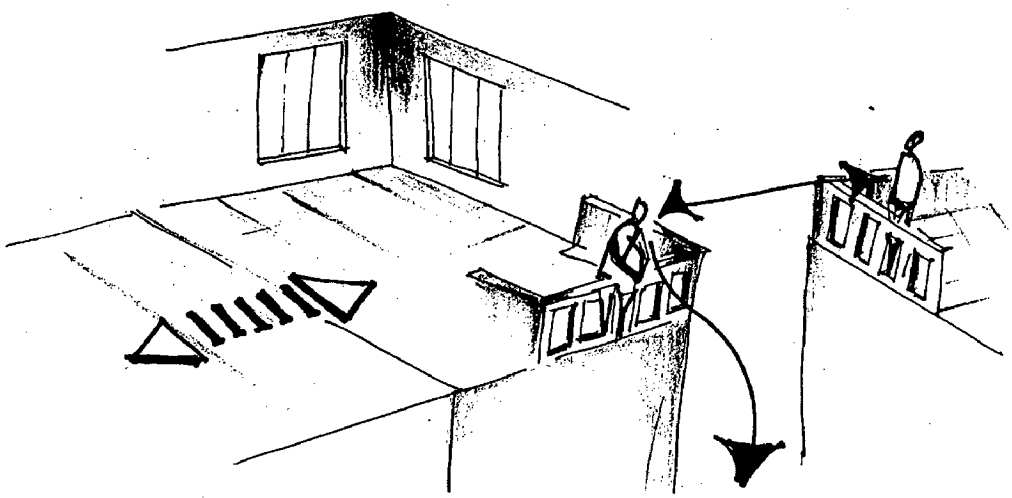
- Create positive association with the immediate environment of the domain

- Create a sense of 'connectedness' with the surrounding environment through visual access





Provision for visual access with the immediate outdoor (nature/ street life) will creates a sense of connectedness



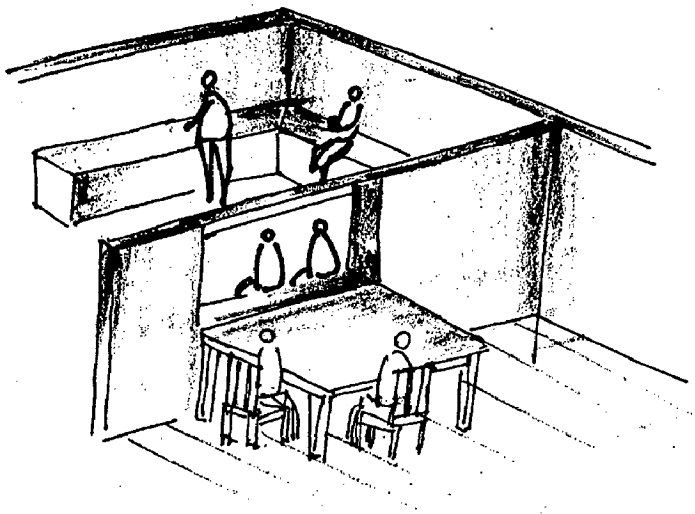
Connectedness to the rest of family, opportunities for interaction, visual access and proper illumination will create a positive environment

Objective

To encourage interaction between the user group to create a healthy environment within the family.

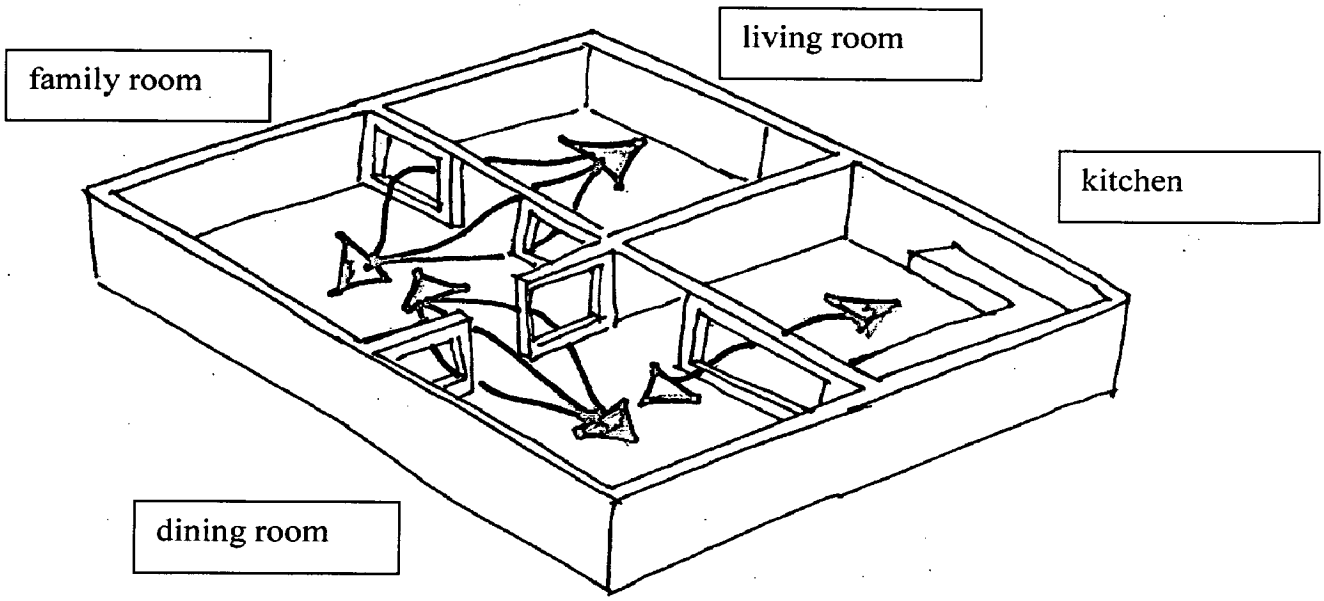
Guidelines

- Provide shared spaces that will increase family bonds and allow for more interaction among the users.

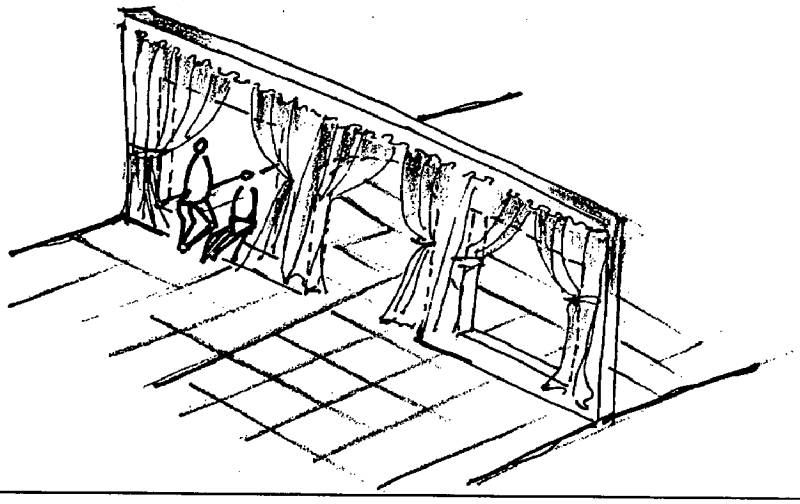


Shared spaces like kitchen and dinning increase family interaction and serves as an excellent informal interaction space

- Allow visual access from different work spaces which can be permitted in some cases.



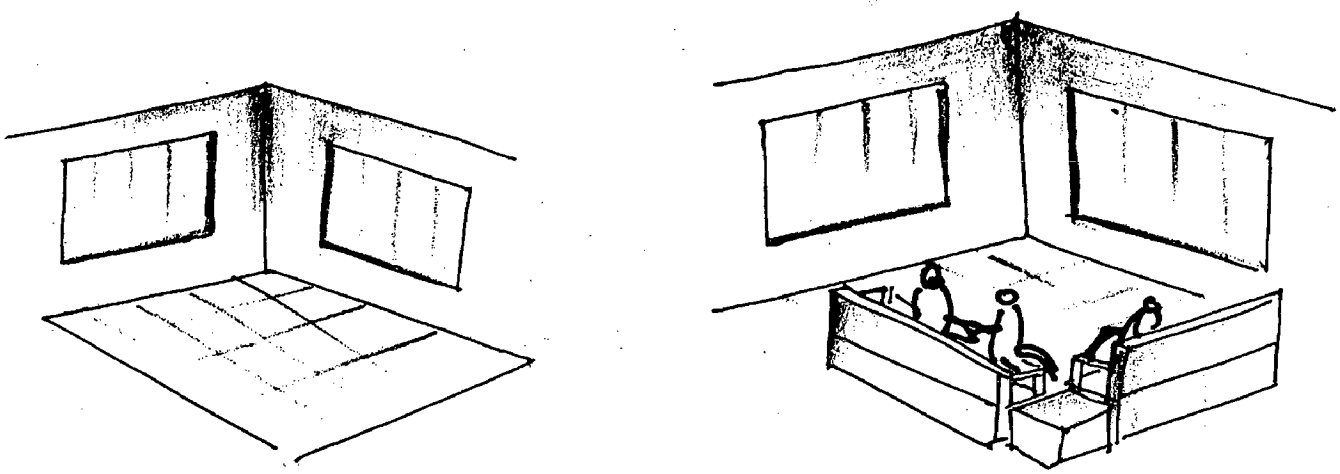
Visual access between various spaces discourages isolation among family members



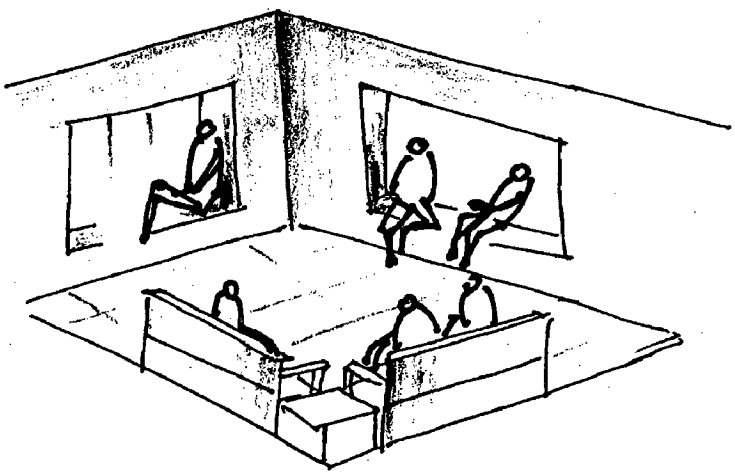
Levels of permeability of the partition walls enhances visual access as well as provides privacy when required

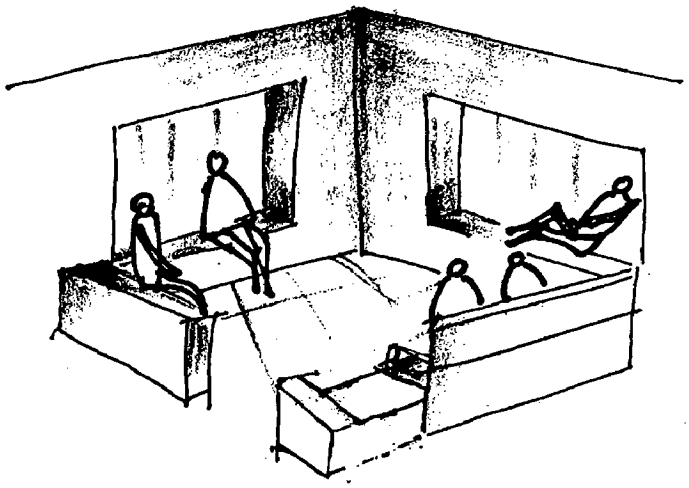
- should avoid spaces that encourages isolation between the family members

- Create interactive places which encourages/adapts to different kinds of interaction for the user group.



Typical interactive space





Recessed windows and dwarf walls creates an interest to the furniture arrangement and also provides options in the interactive environment

- a family space should embody bright and welcoming atmosphere

AT STREET LEVEL

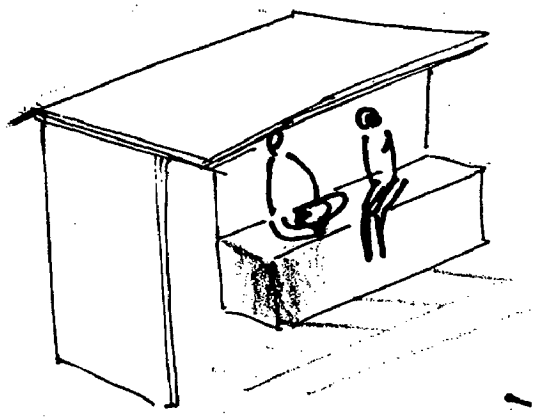
1. Objective:

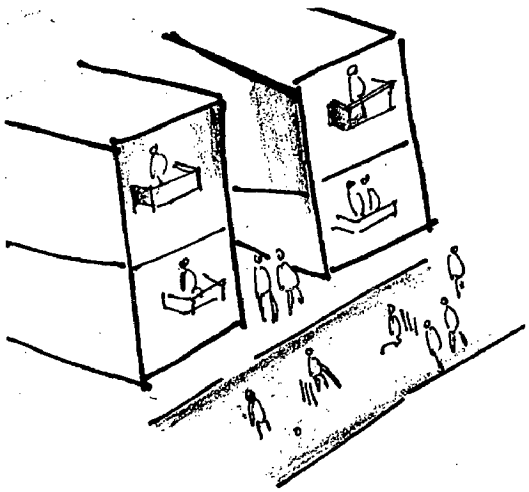
To establish a house –street interface creating an open and interactive relationship encouraging social life and a sense of community.

Guidelines

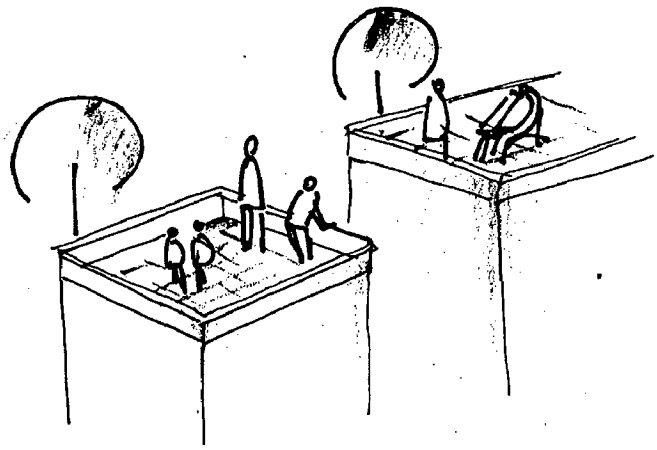
- Provide appropriate space for interaction for all user groups.

Elder people prefer a well shaded and comfortable environment for interaction closer to the residence.



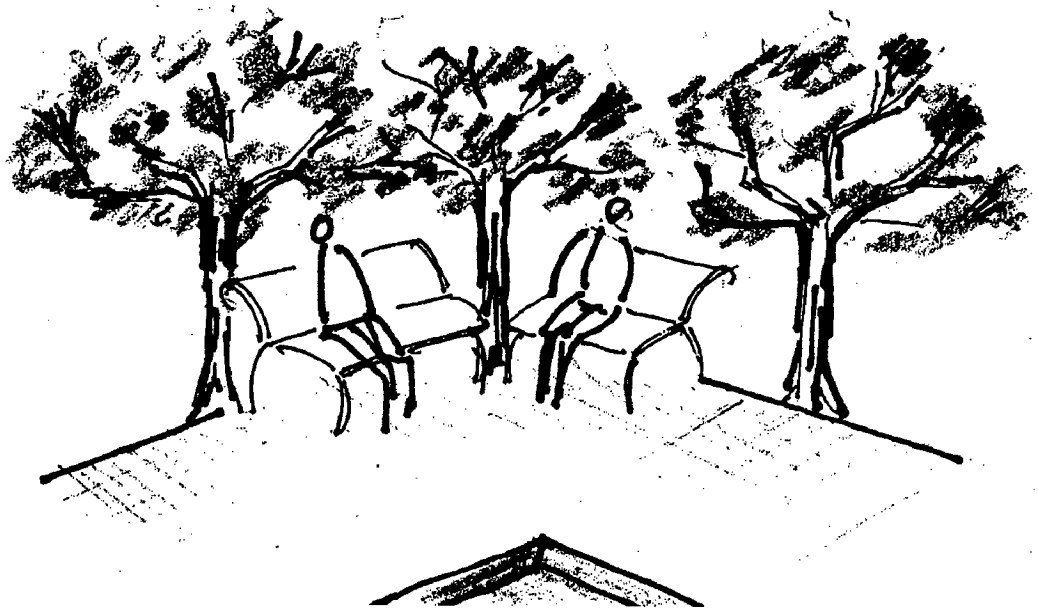


Vehicular free residential streets are favourite interactive place for children.

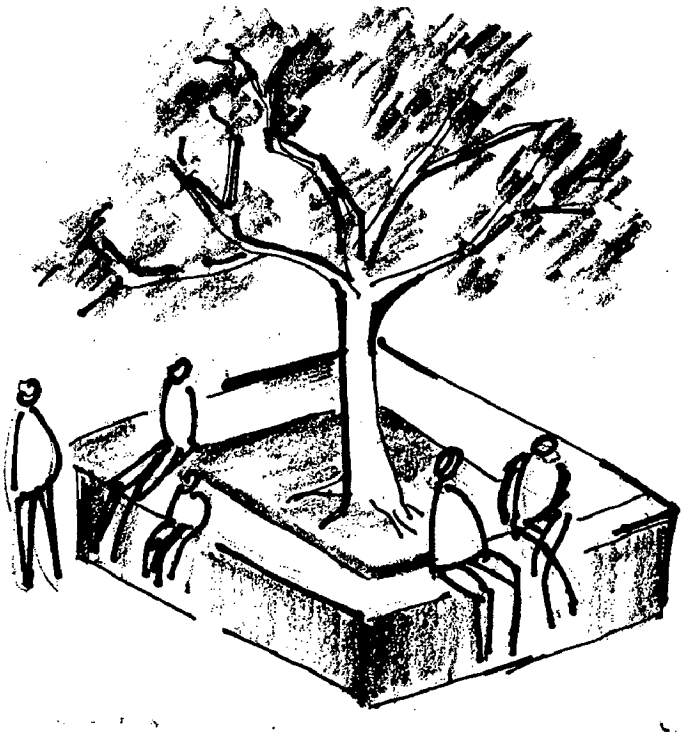


Terrace provides opportunities for family interaction and between neighbours.

- Provide both formal and informal spaces for interaction to create a variety of social interaction spaces

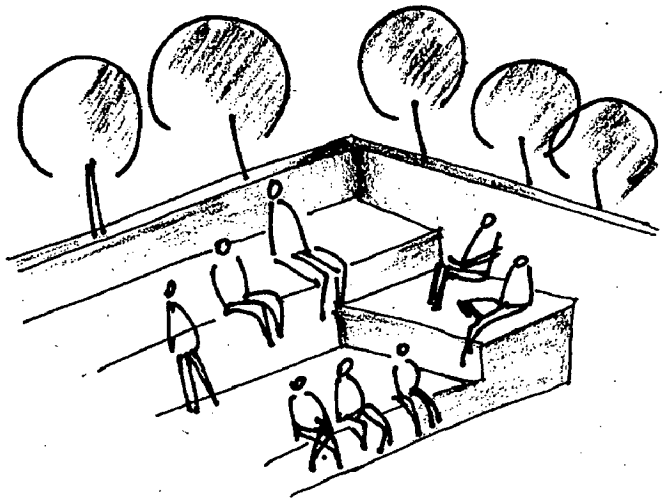


Street furniture with tree shading serves as formal interaction places for elder group encourages them to experience and be a part of the street life.

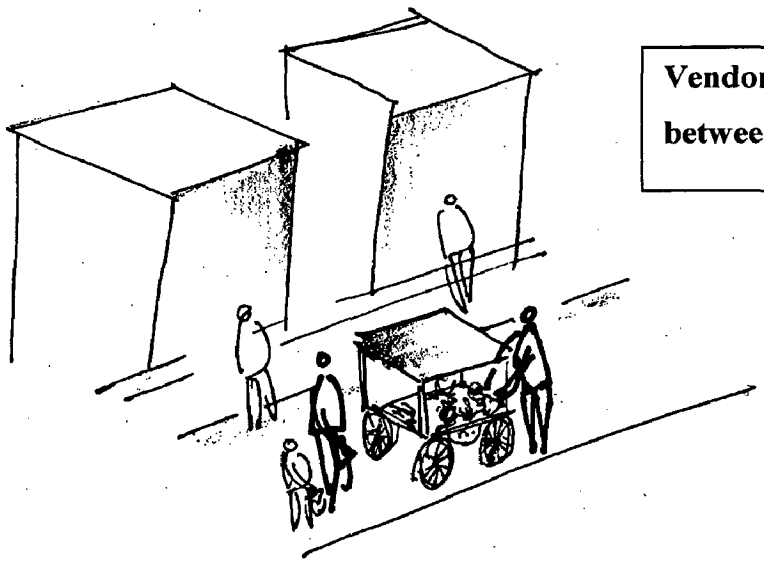


Seating areas under trees will attract both old and young crowd for a casual interaction.

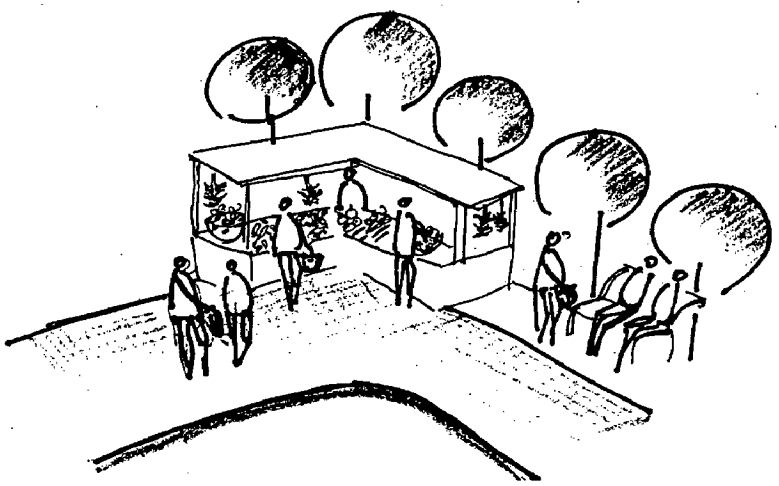
Steps serves as a excellent interaction spaces for younger crowd .An interesting design will eventually make the place a informal landmark amongst the user group.



- encourage street life by giving providing temporary and permanent spaces for vendors

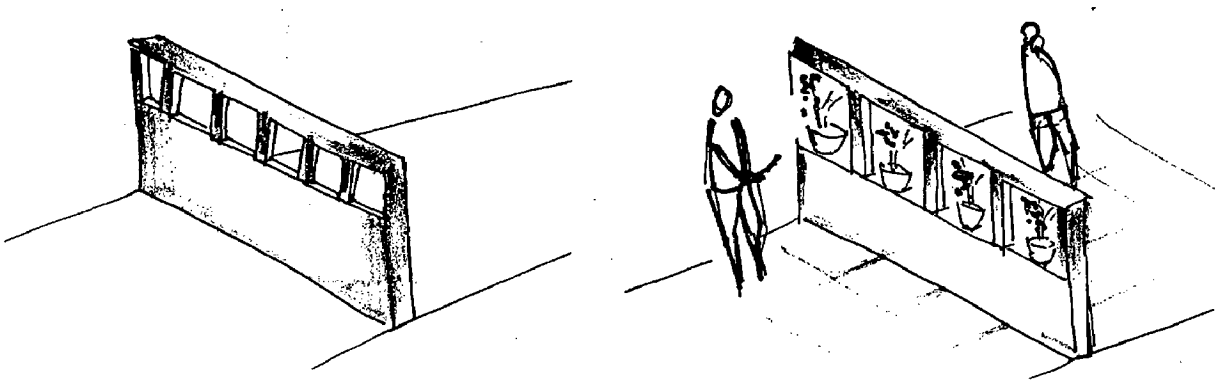


Vendors help for the interaction between the residents.

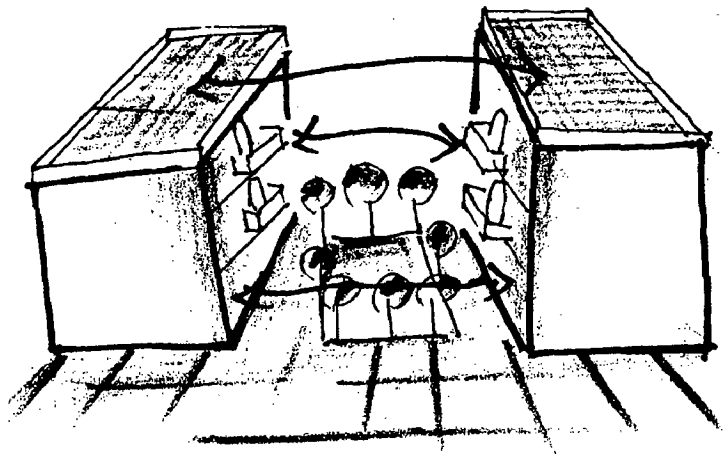


Vendors play an important role in the daily interaction between the residents. Some seating near such areas also encourages interaction.

- Connecting spaces (physical/visual) for interaction between houses to create a healthy relationship between neighbours.



Partition wall should provide visual access to encourage interaction between the the neighbouring houses



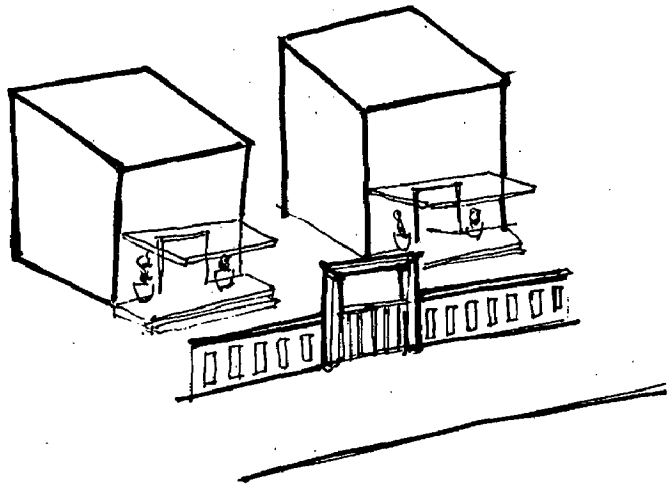
Opportunities for interaction between residents can happen at various levels: terraces, balconies and landscaped areas.

2. Objective:

To strike a balance between territoriality and sense of privacy of the user groups in the environment.

Guidelines:

- Create clear transition spaces between from the street to the house through various elements.
- Emphasize the entrances of the houses and define the domains of every resident to establish a sense of territory.



Gateways and boundary wall provides a sense of territoriality for the residents. Allowing permeability of the defining elements (gates, compound wall. boundary wall) helps in reducing the strong sense of territoriality and creates a feeling 'of being a part of a whole'.

- Defining boundary should not discourage interaction between the residents.

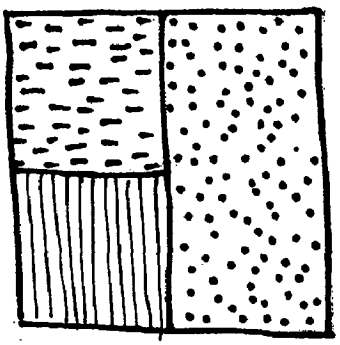
AT NEIGHBOURHOOD LEVEL

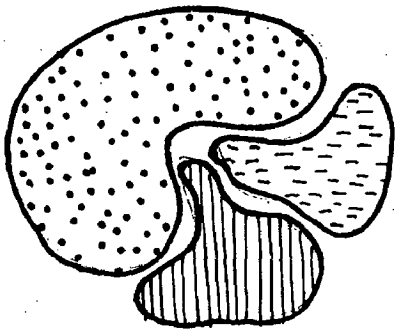
1. Objective:

To encourage interaction between different user groups thereby creating communal harmony within the development

Guidelines

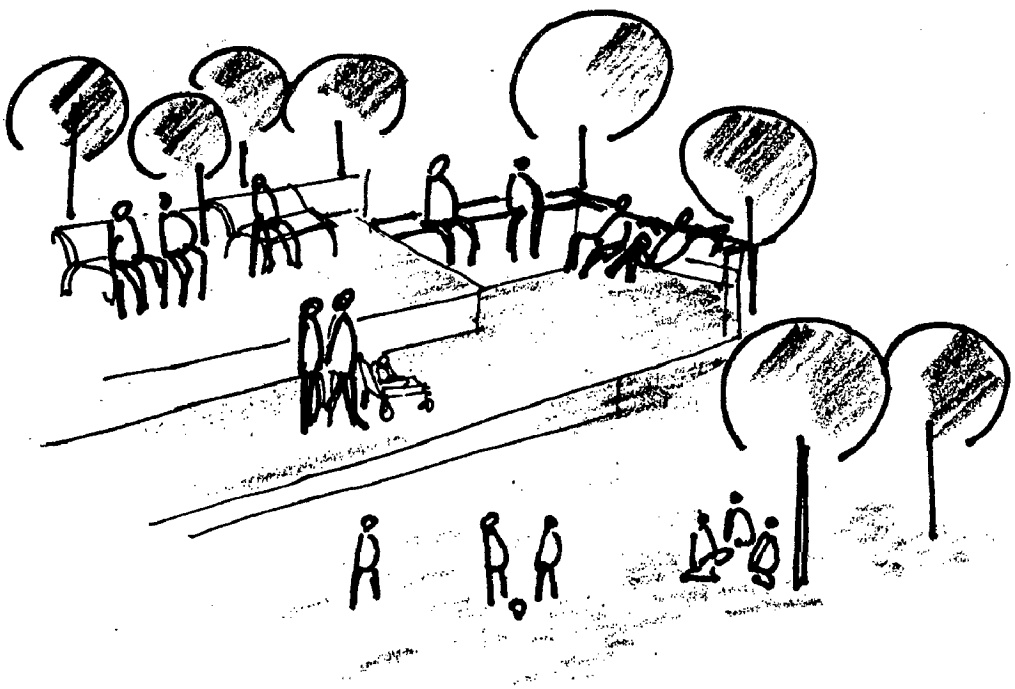
- Zoning the various groups so as to avoid isolation of any group and create social integration within the new development .





Provision for mixing of different groups (economy) and yet maintaining their domain is necessary for development of a participatory community and creates a social integration

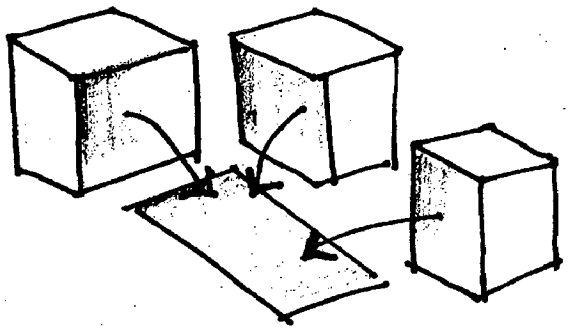
- Encourage interaction between different user groups. (age, gender, occupation)



Interaction between different user groups adds variety the interactive environment and prevents isolation of any specific group.

- Provision of visual access between various areas of interest within the development

Houses should have visual access to interesting areas such as parks, playgrounds etc. to avoid monotony



- Enhance informal interaction spaces with appropriate furniture and shade.

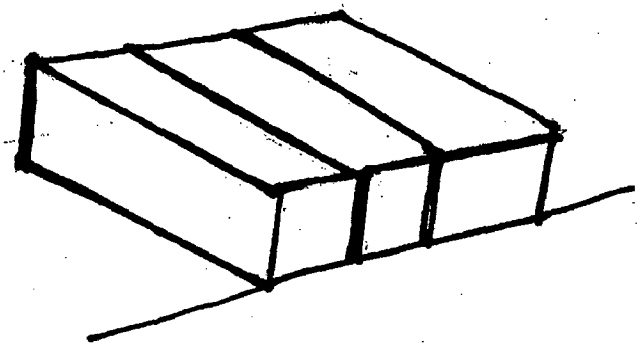
- Provision for small shops at the end of streets or at street intersections.

2. Objective:

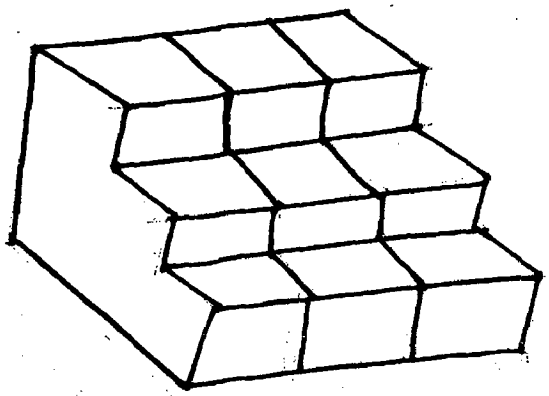
To create a sense of identity for the place to make the user group relate themselves to the environment.

Guidelines

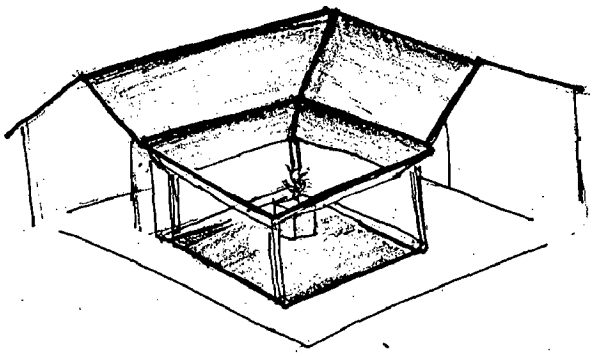
- Create house forms as derivatives from the indigenous style so as to meet the modern lifestyle of the present user groups



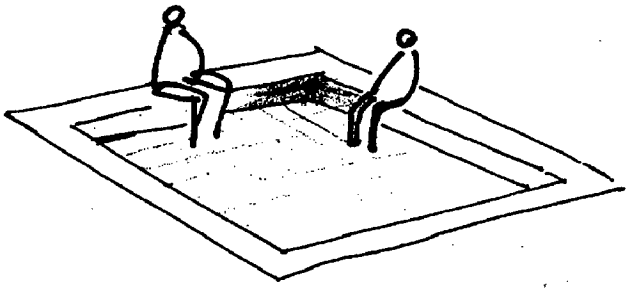
Typical traditional row housing which is predominantly a low density and ground structure

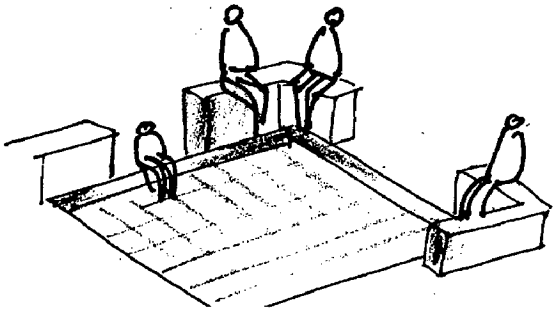


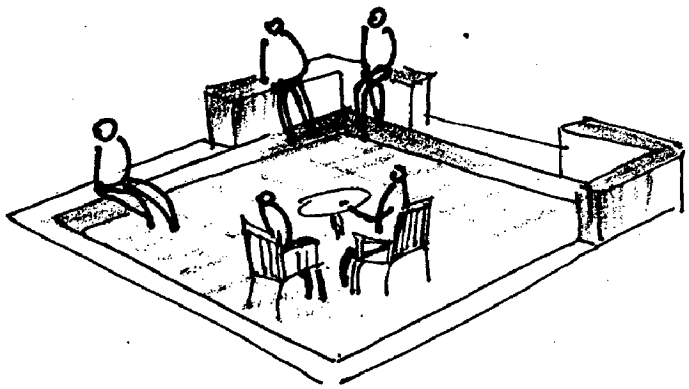
Can be developed as a medium density and low rise modern terraced apartment



Typical traditional courtyard with sloping roof



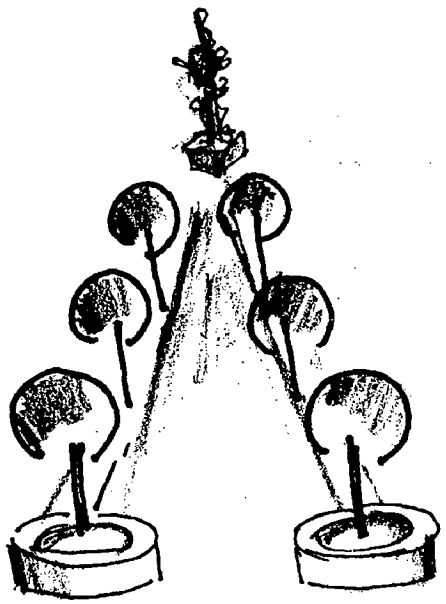




Various derivatives of the courtyard so as to suit the changing family needs and lifestyle. Can be developed as a simple sunken platform for casual interaction to become as a centre of the family interaction within the house

- Create gateways which would empahsise the boundary of the new development

- Define the street entrances with landmarks, landscape, symbols which are known by the local group.



Emphasizing street entrances and junction helps in creating legibility. Familiar elements reinforces the relationship between the place and people

5.3 FUTURE RESEARCH AND IMPLICATIONS

An understanding of traditional processes enhances the understanding our own built environment and the architectural and cultural patterns of those outside our own. It is necessary to take into account "the perceptions and motivations to which research in traditional architecture is both subjected and indebted."(Oliver, 1997)

Traditional forms and the aesthetic values adhered to are parts of our language of symbols of social consequence. These symbols become critical instruments of personal and community identity, and in fact serve as justification for, or factors of, social orders. The difficulty lies in the observer's ability, or lack of ability, to overcome the restraints of the orders and preconceived notions from his or her own culture. Exploration and analysis of these symbols also relate to people's methods of architectural communication, and the aesthetic values that may be

perceived. Ethnographic studies, giving equal weight to intention and response and their interaction, provide a description, if only a narrative, of how the architectural

language of a group employs both utilitarian and aesthetic values, and attempts to understand what meaning these values produce This brings out the very important distinction of the non-functional significance of traditional architectures. "The aesthetic abides in forms that may be considered only part of a useful function."(Glassie, p.5)

The meanings, the social values that are explored in the studies on traditional architecture penetrate through the concepts of aesthetics and into core human belief structures and the ways that such beliefs become manifest, are abstracted into, built form. Still even deeper analysis of the vernacular process reveals a distinctive view of the concepts of phenomenology; particularly hermeneutic phenomenology. This type of study attempts to interpret the phenomena of places which are not easily apparent to the eye. Traditional architecture is a major part of our daily experience, and thus it reflects a quality or "sense of place" that comes about through the interaction of our physical environments and cultural myths.

The proportions, the forms, the patterns of material, light, dark, circulation of air, the roof, and the garden shape this sense. "Sense" of place may often be equated to comfort, or to a sense of belonging in a particular space- "dwelling in a coherent cosmos."

"Phenomenology is a methodology which attempts to see, analyze, describe, and interpret phenomena that are elementary and intrinsically meaningful within the organized realms of everyday life and that are at the same time open, indeterminate and ambiguous at the margins."(Mugerauer, p. 55). Traditional architecture is not the only type of built structure which posses this power, but it is, nonetheless, one of its dominant strengths.

5.4 SUMMARY AND CONCLUSION

To summarize the guidelines, it helps in enhancing /creating a sense of place in any new development.

The issue is addressed at various levels to reinforce the positive outcome when incorporated.

At individual level

To make the user/user groups to be familiar and comfortable within their domain

At house-street level

To create a positive interface between the house and the street

At neighbourhood level

To create a healthy community living

GLOSSARY OF TERMS

- **Agraharam**

An Agraharam is a name used to refer to streets or villages in which only Brahmins reside.

- **Thinnai**

platform outside the house that projects towards the street from the house's front wall

- **Brahmins**

A Brahmin (anglicised from the Sanskrit adjective *brāhmana* "belonging to Brahma", also known as Brahman *brahmán* "belonging to *bráhman*"; Vipra, Dvija "twice-born", is considered to be the Priest class (*varna*) in the Indian caste system of Hindu society

- **Iyer**

Iyer are a section of Tamil Brahmins (a priestly Hindu class / caste from India)

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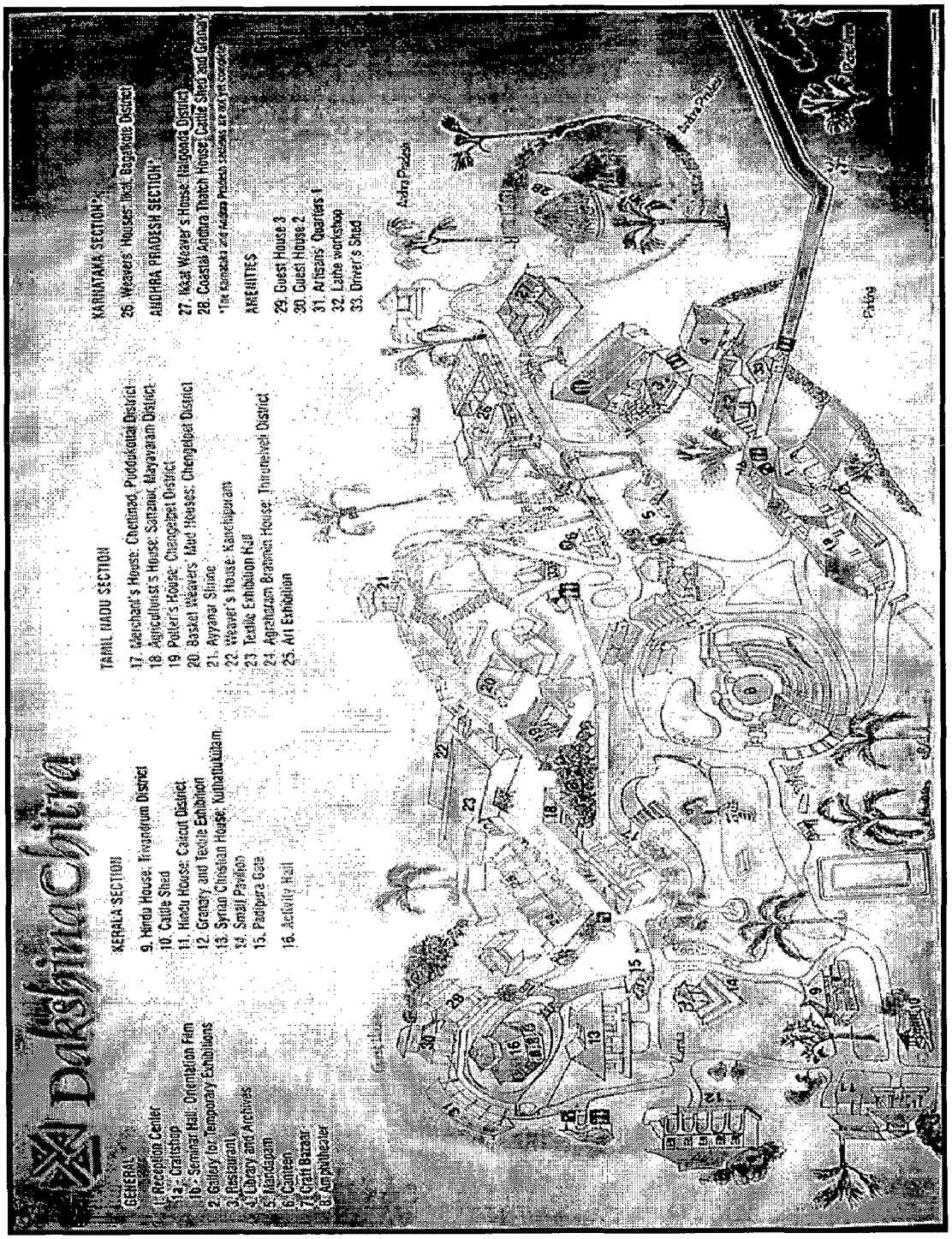
APPENDIX-A

A.1 VIEW OF DAKSHINACHITRA



A.2 PHOTO GRAPHS SHOWING DIFFERENT VIEWS OF THE BRAHMIN HOUSE IN DAKSHINACHITRA

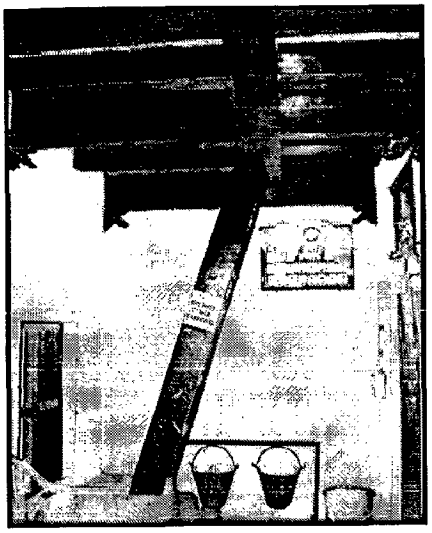


Fig A.1 Ladder to reach the upper storey

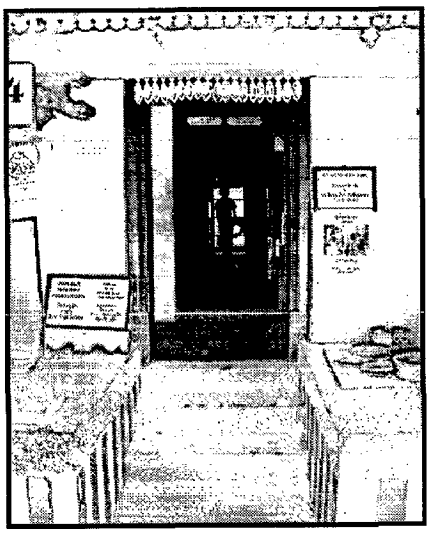


Fig A.2 Entry to the house

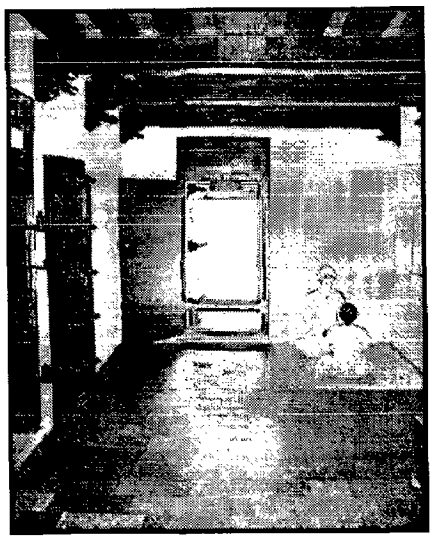


Fig A.3 front hall in the house

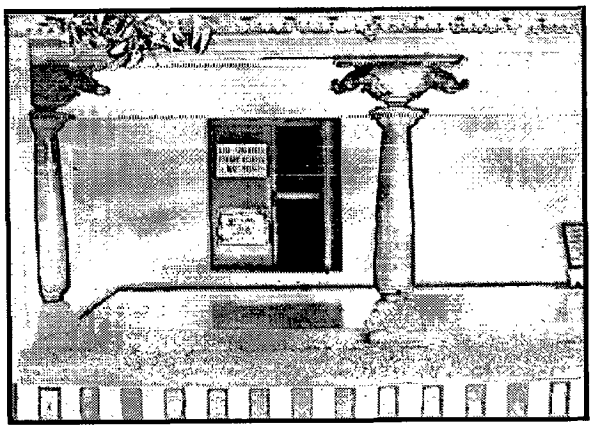


Fig A.4 thinnai

APPENDIX-B

B.1 PHOTO GRAPHS SHOWING DIFFERENT VIEWS OF LINEAR HOUSING, TRIPLICANE , CHENNAI

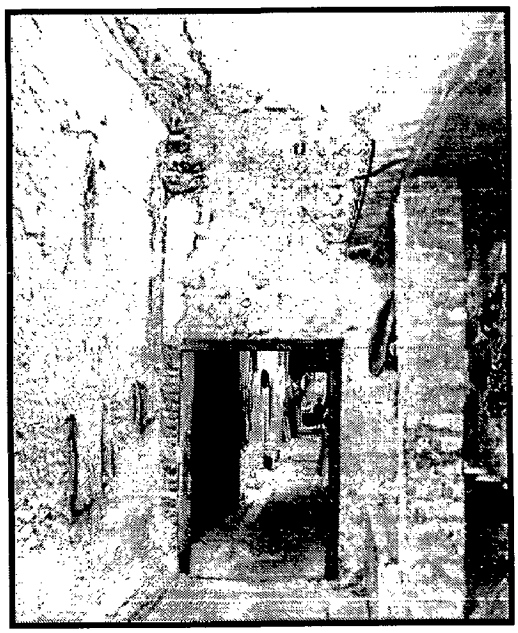


Fig B.1, Fig B.2, Fig B.3 shows the transition spaces between the courtyards

APPENDIX-C

C.1 PHOTO GRAPHS SHOWING DIFFERENT VIEWS OF AGRAHARAM HOUSING, TRIPLICANE , CHENNAI

Fig C.1

Fig C.2

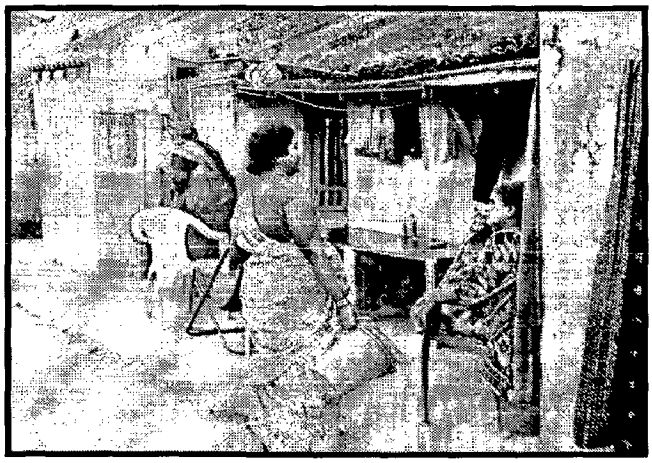


Fig C.3

Fig C.4

Fig C.5

Fig C.1, Fig C.2, Fig C.3, Fig C.4, Fig C.1,showing the various interaction spaces

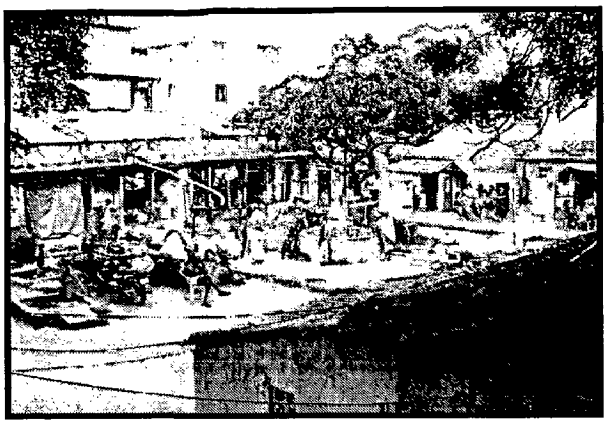


Fig C.6 common place of interaction

Fig C.7 thinnai

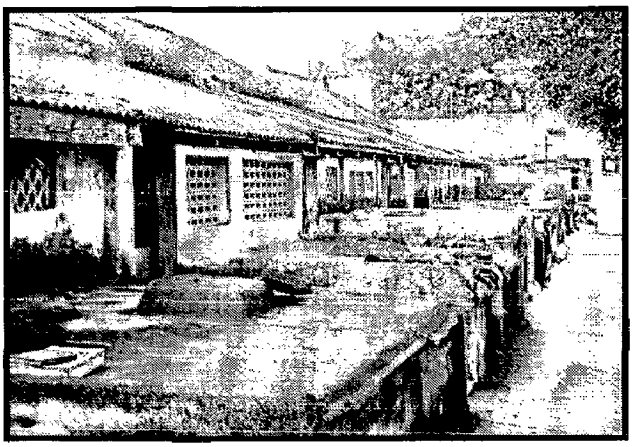


Fig C.8 first floor residences

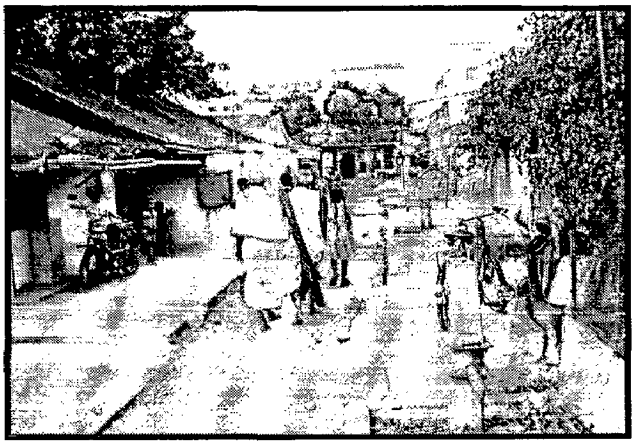


Fig C.9 lane leading to the housing

Fig C.10 gateway