



**SENSE OF BELONGING AND ARCHITECTURE:  
AN EXAMINATION OF THE RELATIONSHIP WITH  
SPECIAL REFERENCE TO ITS APPLICABILITY TO  
HOUSING SCHEME DESIGNS.**

The Dissertation  
Presented to the  
Department of Architecture,  
University of Moratuwa,  
Sri Lanka  
for the  
final Examination in M.Sc.(Architecture)  
And  
RIBA Part II Examination.

Manelgama M.G.P.  
Department of Architecture]  
University of Moratuwa  
Sri Lanka.

2007

89504



## Abstract

'Architecture is an Art', who gives appropriate solutions for user needs. It is the only Art which caters to man's physical needs. It is the only Art that encompasses all his psychological needs. He lives within it. He experiences the space within it.

Among all Architectural works, Housing has become more important, since the home is an organism in direct relationship to Man. Home is the place where man has his roots, the foundations of his existence. It is the point of reference from which man orient himself and takes possessions of the World. The concept of Home could be identified in several ways; it is an attachment to a particular setting, a symbol of self, a place of privacy, an expression of identity and a physical structure giving stability, security and Sense of Belonging.

'Home is a dream, and an emotive bond built between the person and the world around him. Homes are imbued with memories, personal emotions, histories and sense of Belonging. They provide the center of the world for individuals, identity for individuals and families and inculcate the desire and the strength to live. This is the ultimate aim of Housing. Housing must enable Home- Making. '

The cold space within the physical structure becomes a warm secure personal place when the man feels Sense of Belonging to that physical setting. If not, the surrounding environment will not supportive to his living patterns, he will not feel that he is being accepted by the environment; it would stress him, reduce his capacity to live and finally lead him to dead within the Space.

## Declaration

I declare that this dissertation represents my own work, except where due acknowledgement is made, and this is not been previously included in a thesis, dissertation or report submitted to this University or to any other institution for a degree, diploma or other qualification.



Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

A handwritten signature in blue ink, appearing to read 'Manelgama', written over a dotted line.

**Student:**

(Manelgama M.G.P)

.....

**Supervisor:**

(Arch. Vidura Sri Nammuni)

This is to certify that this Dissertation has been supervised by me for 3 months, from end Sept. 2006 to end December 2006 ] of its development .

The work basically involved understanding the Topic , evolving the strategy for research and writing .

I understand that the Dissertation Programme had been introduced earlier but did not have any responsibility at the early stages of the Programme.



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

.....Vidura Sri Nammuni

**Vidura Sri Nammuni**



## Acknowledgements

This dissertation would never have been possible without the invaluable support given by many, to whom I am deeply indebted and sincerely acknowledge.

My gratitude is extended to

Prof. Samitha Manawadu Head of the Department,

Dr. Harsha Munasinghe M.Sc. Dissertation Coordinator

Dr. Upendra Rajapakse fifth year master

My heartfelt gratitude goes out to my tutor Archt. Vidura Sri Nammuni, for being such a source of inspiration with all the encouragement, comments, guidance, help and valuable to me given to me.

And special thanks go out to Archt. Lilantha Wijayapala for all his discussion, support and guidance.

To Archt. Wasana de Silva, Archt. Roshika for their valuable comments and discussions.

To my friends Harshi, Suranshika, Chaturangani and Sampath for all the discussion, whose words of encouragement and support.

Finally to my sisters and parents for their support which was always forthcoming.

## Contents

	Page No:
<b>Declaration</b>	ii
<b>Acknowledgement</b>	iii
<b>Table of Contents</b>	iv
<b>Abstract</b>	vii
<b>Introduction - (1000 words)</b>	viii
0.1 Topic Proposal	
0.1.1 Terminology Used	
0.2 Need of the Study	
0.2.1 Observation	
0.2.2 Criticality	
0.2.3 Problem	
0.2.4 Possible Causes	
0.3 The Study as the Remedy	
0.3.1 The intention of the Study	
0.3.2 Method of the Study	
0.3.3 Scope and Limitations	
<b>Chapter One: Architecture as a Social Art - (3000 words)</b>	01
1.1 Art as an essential need of Human Development	02
1.2 Architecture as an Art	03
1.3 The evolution of Architecture and its role and responsibilities	05
1.4 The Concept Belonging	07
1.4.1 The psychology of Place	07
1.4.2 Impact of Sense of Belonging	12

<b>Chapter Two: The Architecture of Housing - (3000 words)</b>	<b>16</b>
2.1 House, Home and Dwelling	17
2.1.1 House	17
2.1.2 Home	17
2.1.3 Dwelling	19
2.2 Housing as a Need	19
2.3 The Socio- Economic imperatives of Housing	21
2.4 Architects and Housing	22
2.5 The Ingredients of good Housing	23
2.5.1 Attributes of Home	
2.5.1.1 Physical attributes	
2.5.1.2 Socio-Cultural attributes	
2.5.1.3 Psychological attributes	
2.5.2 Psychological Attributes	
2.5.2.1 Privacy	
2.5.2.2 Security	
2.5.2.3 Territoriality	
2.5.2.4 Identity	
2.6 Affording Sense of Belonging	31

**Chapter Three: The concept of Belonging and its relationship to  
Architecture - (6300 words) 35**

3.1 The Dynamics of Belonging	34
3.1.1 Place making in Architecture	34
3.1.1.1 Psychological dimensions of Place	
3.1.1.2 Insidness and Outsidness	
3.1.1.3 Public and private Domains	
3.1.2 Personalization	45
3.1.3 Location of public Spaces	46
3.1.4 Morphology of Architecture	47

3.2	Methods adapted in order to achieve Sense of Belonging	49
	3.2.1 <i>Projecto Experimentale</i> – Lima, Peru	
	3.2.2 <i>Belapur</i> Housing Scheme – New Bombay	
	3.2.3 <i>Rewal</i> Housing scheme - India	
3.3	Case Studies	56
	3.3.1 Raddolugama Housing Scheme	56
	3.3.1.1 Introduction	
	3.3.1.2 Layout	
	3.3.1.3 Spatial Organization	
	3.3.2 Keppetipola Housing Scheme	72
	3.3.2.1 Introduction	
	3.3.2.2 Layout	
	3.3.2.3 Spatial Organization	
<b>Conclusion - (600 words)</b>		81
<b>Bibliography</b>		85



University of Moratuwa, Sri Lanka.  
 Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

## **Introduction**

### **0.1 Topic Proposal**

The dissertation is an examination of the importance of Belonging aspects in designing Housing schemes.

#### **0.1.1 Terminology Used**

##### **Sense of Belonging**

A space that carries a certain meaning to an individual can be identified as a place. A place forms a connection with the beholder and his memories. Sense of Belonging refers to the emotional connection formed by an individual to a physical setting. The emotional connection is defined as a feeling of being acceptable to a place or an environment.

'The concept of place involved the where dimension of people's relationship to the physical environment conjuring up a feeling of Belonging'. (Dayaratne, 1992)

##### **Architecture**

Built environment through its symbolic expressions carries out a continuous dialog with the beholder; the beholder grasps the inherent meanings enshrined in these expressions and steps a higher realm of contemplation.

Built environment has elements such as building materials, colours, textures, detailing and spaces within it. These elements create certain ambience within the built space. The built environment with an ambience is known to be architecture which is communicated with the beholder.



## **Housing Scheme**

To fulfill today housing need quantitatively government and other authorities involved and provide common designs done by a designer for group of users. This number of Housing units in a particular area with support structures such as market, playgrounds, schools, etc is known to be a Housing Scheme.

### **0.2 Need of the Study**

#### **0.2.1 Observation**

At present in urban areas Housing seems to be the permanent shelter for human habitation. Therefore mass housing programs emerged rapidly as a solution for housing problem quantitatively. But most of them seem to be failed even though they are designed by qualified Architects. The given Housing unit is not accepted by the ultimate user it as his home because the qualities what make house a home are not addressed effectively. He does not feel that he is accepted by the Environment. By doing changes the user try to find this missing qualities, when he is failed to do so he abandoned the dead shell.

#### **0.2.2 Criticality of loss of feeling of being accepted by living environment.**

When the relationship between man and his physical setting is not originated, man feels that he is 'out of the place.' If this place attachment is not fulfilled, man can not live within that environment. He feels the given house only as a concrete shell, not as his home. It will stress him and reduce his capacity to live within it. Therefore even though the house is given by a Housing scheme, it should be a home for the user without become a cold dead shell.

But in mass housing situation, achieve psychological satisfaction of ultimate user is not an easy task, because the user and the designer do not meet each other in design process. Therefore it is important to derive a method of designing Housing to cater large number of people still making an environment, accepted by user.

### **0.2.3 The Problem**

Architects being the creators of Architecture; it seems that they are failed to design a homely environment through the spaces in Housing scheme designs which are accepted by ultimate beholder.

### **0.2.4 Possible causes for Housing which are not accepted by beholder.**

There are three main possible causes for unsuccessful Housing designs with 'Not fit Environment'. First is lack of cultural and social identification of the ultimate user by the designer or ignorance of the need to respond to user. Second is even when that is identified well, user responsive housing would be not be practically fulfilled due to physical, economical and political situations of the country. But in contemporary world there is successful housing schemes which deliver what user require both physically and psychologically from **a home**. Therefore creating good fit environment even in housing schemes seems to be possible. Therefore Final and most possible cause is Architects do not have a clear methodology to design housing schemes which comfort user.

### **0.3 The Study as the Remedy**

#### **0.3.1 Intention of the Study**

Main intention of the study is to point out that; it is possible to achieve good fit environment in Housing schemes through well designed spaces by using a systematic method.

#### **0.3.2 Method of Study**

The study will first examine how Architecture communicates with its beholders and how it impact on him and further it will try to identify how the user feel attachment to a particular setting and what should be the Architecture of that setting should be.

Then, there is a general overview of public housing schemes in Sri Lanka, and how can be designed qualitative environments within these housing schemes to be accepted by ultimate user. Further through analyzing ambience of particular Architectural spaces, study how to achieve qualitative environments in Housing schemes. The study will carry out by using available literature and interpretation of them; and also on the basis of the statements made by scholars. Finally there will be case studies of some selected public Housing schemes to test the availability of facts discussed in earlier.

#### **0.3.3 Scope and Limitations of the Study**

Although there may be other reasons for not feeling that being accepted by environment in occupants' minds such as lack of ownership of land, lack of finance, etc. they are not considered in this dissertation. Hence as an Architectural student the author has concentrated only on the designed environment and the responsibility of Architects in public housing scheme designs. Within the limited time period there is no any attempt made to study the impact of designed environment on user. The study is carried out



only with available literature and interpretations of them. The case studies were conducted mainly by analyzing the meaning of the built environment communicates, by the general observations and reviews made by scholars. But it must also be mentioned that the aspects being studied here, does not set out for all housing schemes since designing spaces for unknown user in public housing schemes not an easy task.



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)



**Chapter One**  
**Architecture as a Social Art**

Architecture is primarily an Art. It is the only Art which cater to man's physical needs. It is the only Art that encompasses all his psychological needs. In general, Art is for the sake of the man and the society. Therefore there is a strong relationship between Art and the society, Architecture and the society.

### 1.1 Art as an essential need of Human development

Art is universal in its meaning and application. Through time man has used Art as a medium of expression to symbolize his 'being' in the world. The world becomes livable in consistence of Art.



Fig: 01

Art expresses, through expressions it communicates.

(Source: WREK)

Art communicates; it communicates the very basic universal emotions of man: fear, joy, sorrow, anger, hatred, laughter...Its universality stems from the simple universal emotions of man it address itself to. It is the manner of communication of these fundamental human emotions which tend to give rise to difference in forms of Art.

Art reflects the people and situations. People from primitive ages used Art as a reflector of their selves, situations, experiences and emotions. Art is the finest media of reflecting hidden dimensions of society to express as Art.

Art expresses, through expression Art communicates. Art communicates with people senses, evoke feelings and emotions and in this way helps to

gratify their pleasure sensory and otherwise. Briefly this process helps to generate physical and mental satisfaction.



Fig: 02

**Cave paintings- Altameera cave**  
Primitive man used Art as a reflector of their selves, situations, experiences and emotions.

*(Source: News Paper)*

Art is beginning of knowledge. Art opens the eyes of observer.



Fig: 03

Art is beginning of knowledge. Art opens the eyes of observer.

*(Source: personal photograph)*

The aim of Art can not be restricted to the mere generation of pleasure or delight. It is something that has to be examined in greater depth along the intellectual spiritual paths. The meaning embodied in works of art has the capacity to evoke feelings and reactions among observer and also has impact on their behavior. It should be a process to promote insight and path leading towards contemplation.





## 1.2 Architecture as an Art

One of arts prime power is communicate with people. Such communication is done through a message or by arousing emotions of the viewer. But every art form does not convey messages, only limited numbers that can lie claim to be considered as art.

This power of communication is manifested in Architecture as well. This is proven by the differences in behavior of people in relation to different places. For instance, a person will be soothing and relaxing in a certain built environment, while be depressing and upsetting impact in another built environment. Some buildings may project a warm inviting and friend's image, while another project an unwelcoming and hostile image.

It is because of, the main generation of the built environment such as context, activity pattern, user and purpose give a meaning or a message what it represents and this meaning or the message communicate to people arouses emotions, feelings and create reactions among them. The change in inner soul of the beholder steps on him to a higher realm of contemplation.

Any kind of media like cinema, drama, poetry, painting ect. accept as an art form, it should complied with certain requirements such as scale, balance, rhythm and harmony. It is also these requirements should be accrued by Architectural art.

It can be said, both Art and Architecture are predominantly drawn towards the feelings and emotions of people. Yet in architecture unlike other art form it is concerned of both psychological satisfaction as well as physical comfort. Architecture has certain similar characteristics with other art forms and also certain dissimilarities. In the case of any art form it is possible to depart from it. If they feel they are irritated by it they can

depart from it, but not from architecture. Departure from one work of architecture takes them to another architectural work.

‘Architecture is not art but is an art. It is an art, in the sense that it, like all arts it communicates’. (SLIA, 1991, P.75)

Architecture as an art has the power of communicating symbolically meanings which are evoking emotions varying levels of man. The meanings convey emotions such like warmth, relaxed feelings, enthusiasm, and courage in relation to a particular kind of activity carried out in the building concerned.

Architecture posses a language of its own like any other art forms to facilitate communication, like building materials, colours, textures, detailing and spaces within it. These are the element of a built form to convey a meaning to the beholder. This meaning stimulate thoughts and reactions, and affects the behavior of an observer.



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

“As an art, architecture is more than satisfying the purely functional requirements of a building program. Fundamentally, the physical manifestation of Architecture accommodates human activity.”(Ching, 1979, P.10)

There are works of art conveying all spheres, and such art have the power to move people beyond the bounds, make people share feelings and emotions in a larger partnership or brotherhood. This setting provides the ideal condition for generating the greatest purpose of art, that wakes soul and make brothers out of strangers.

“Architecture then should be a tool for people, a means to the brotherly union of the human race, an intensive for catharsis ...In a world that we are loosing. This should be the position of architecture as an art, and this

should be the relationship of architecture to society.”(Antoniates, 1981, P.28)

### 1.3 The Evolution of Architecture and its role and responsibilities

Primitive man is used to live in caves, gradually he have the caves with the beginning of civilization in the purpose of rear animals cultivation. It is important to find what really matters him leave the cave which was safer than ‘primitive hut’.



Fig: 04

#### Primitive hut

From his creations,

man was seeking the missing qualities of ‘the cave’

(Source: *The Houses of Mankind*)

Man was not able to be satisfied his psychological needs through naturally organized cave, and his began to dwell in the process of creating meaningful places. He was seeking the missing qualities of ‘the cave’ from his creations. He modifies it and changes it constantly in time to time. As a result these created places modify him also. The created places impact on the beholders and his living pattern.

In general term, the basic way of conveying the meaning of a building or an architectural product is through the method of evoking appropriate feelings and emotions among observers.

It has been observed that, built environment’s have emotional message such as warmth, pleasure, gaiety, solemnity and fear: action messages such



as come close, stay away, touch me, stand back and be careful; and communication messages such as I am strong, I am stable, I am interested, and I am aloof. (Sommer, 1972, P.43)

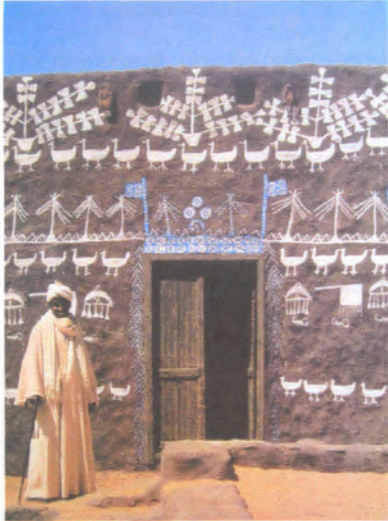


Fig: 05

Any work of art including architecture is carried out continuous dialog between its observers.

(Source: *The Houses of Mankind*)

The method of evoking emotions and feelings in architecture, and is to be cold as good architecture, in the sense that through communication it express the meaning behind the building. Through the expression any work of art including architecture is carried out continuous dialog between the creation and its observer.

The dialog process helps on observer to perceive the meaning embodied in a built form by the articulation of elements, and it enables an observer to react to it. End result of this process is elevating observer to a lighter realm of contemplation. Sinclair Gaudie's statement (1969, P.01) about architecture, 'somewhere above the level of brute survival, places can communicate delight, surprise, wonder and horror, and the ability to attend knowledgeably to such communications enhances life'.

Built environment is potentially a dangerous tool. It can be used to 'manipulate' people, and also make people sick both physically and psychologically. Christopher Alexander mentioned in his timeless way of building. (1979) the communicating meaning as a 'pattern' or 'quality



without a name'; and effect of this pattern on one's life; further he states, if these pattern are good for one he can live- if these patterns are bad can not. 'And so the 'bad' pattern-The window which doesn't work, the dead courtyard, the badly located workplaces-these stress us, undermine us, effect continuously. Indeed in this fasion,each bad pattern in our environment constantly reduced as, cuts us down, reduces our ability to meet new challenges, reduces our capacity to live, and helps to make us dead.'(Alexander P.115)

## 1.4 The Concept of Belonging

### 1.4.1 The Psychology of Place

The psychology of place assumes that individuals require a 'good enough' environment in which to live. People are link to that environment through three key psychological processes. (Finch, 2004). Sri Lanka.

- Attachment
- Familiarity
- Identity

Familiarity refers to the process by which people develop detailed cognitive knowledge of their environs.

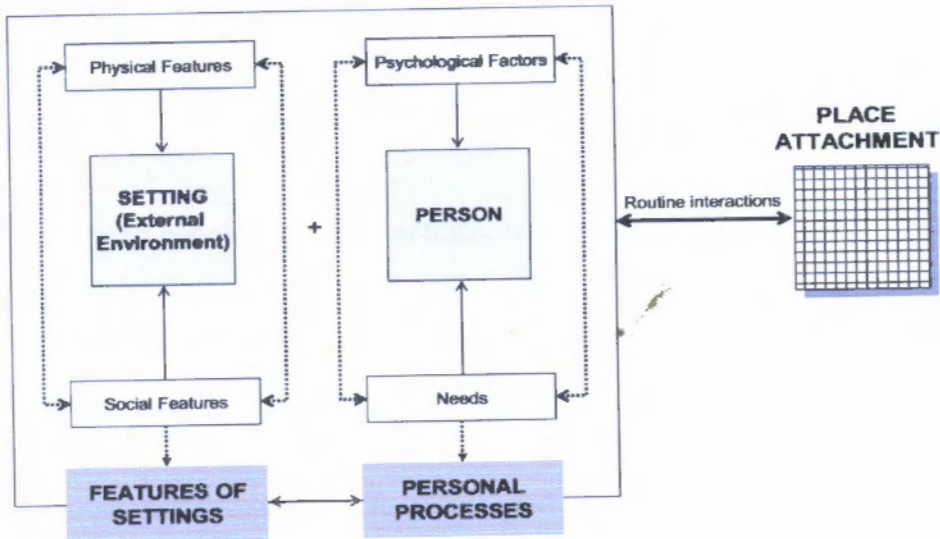


Fig: 06

Each Individual require 'good enough' environment to live.

(Source: WREK)

Place identity is concerns with the extractions of a sense of self, based on the places which are occupies in life. Place attachment is the pattern of reactions that a setting stimulates for a person.



Source: Adapted from Steele (1981)

fig: 07

Place attachment, the link of features of setting and personal processes

Milligan (1998) defines place attachment as the emotional link formed by on individual to a setting that has been given meaning through interaction, comprised of two interwoven components: the interactional past and the interactional potential of the setting.

Interactional past refers to past experiences: in other words “memories” associated with a setting places have the power to recall emotions and stir memories that have been dormant while the person was away from the place.

Interactional potential refers to the future experiences imagined and anticipated to be possible in a setting, or in other words “expectations”. An individual's experiences within and in relation to a specific setting, result in a set of expectations for future interactions in the setting.



Fig: 08

#### **A Place**

A particular setting becomes place to an individual specifically because of the activities that have occurred within its boundaries.

*(Source: Unpublished Dissertation)*

In forming people-place interactions, what people bring to their setting is equally important as to what settings are. A particular setting becomes place to an individual specifically because of the activities that have occurred within its boundaries, which then come to be associated with the setting. In a pattern of time, this process creates a history tied to the experiences of people that have occurred within the setting. At the same time, specific features of the setting shape, constrain and influence the people's perceptions and expectations for evaluating new settings (Milligan, 2003).

University of Moratuwa  
Electronic Theses & Dissertations  
www.lib.mrt.ac.lk

Setting acts also as a facilitator of needs. Beside past experiences of people in setting and future expectations they build from their perceptions, the evaluation of the setting that what extends the setting answers people's needs plays a role too. Stokols and Shumaker (1981) suggested that the degree to which a particular setting satisfies the needs and goals of an individual determines his or her judgment of its quality. This quality judgment regulates the attachment to a place.

‘The significance of place in human experience goes far deeper than this is apparent in the action of individuals and group protecting their places against outside forces of destructions, or is known to anyone who has experience homesickness and nostalgia for particular places. To be human is to live in a world that is filled with significant places: to be human is to have and to know your place.’(Ralph E. 1976, P.1)



The creation of place supplies an inherent need of humanity, a sense of belonging. Primitive man made settlements rather than habitable places. They change their settlements frequently due to natural forces; therefore they had to attachment to a particular place and sense of belonging was not there with them. With time passes the prehistoric man was gradually developed his skills and knowledge, there for the idea of 'shelter' became essential. The attachment to a place began with this need of shelter; which leads to built-up sense of belonging.

“The concept of place involves the ‘where’ dimension of people’s relationship to the physical environment conjuring up a feeling of ‘belonging’. (Ranjith Dayarathne, the Sri Lankan architect .vol.101, no.1, June-Aug.1992)



Fig: 09

‘Space’ become a ‘place’ when one’s feel sense of belonging to that particular setting.

(Source: *Housing and Urbanization*)

Making sense of place or an attachment to a particular place, in general term, can be identified as the state of one’s complete physical and psychological comfort within that space. The physical and psychological comfort requirements are depend on the satisfaction of basic human needs. According to Maslow’s (1950) hierarchy of needs is often depicted as a pyramid consisting of five levels: the four lower levels are grouped together as deficiency needs associated the physiological needs, while the top level is termed growth needs associated with psychological needs while deficiency needs must be met, growth needs are continually shaping behaviour. The basic concept is that the higher needs in this hierarchy only

come in to focus once all the needs that are lower down in the pyramids are mainly or entirely satisfied growth forces create upward movement in the hierarchy, where as regressive forces push pre potent needs further down the hierarchy.

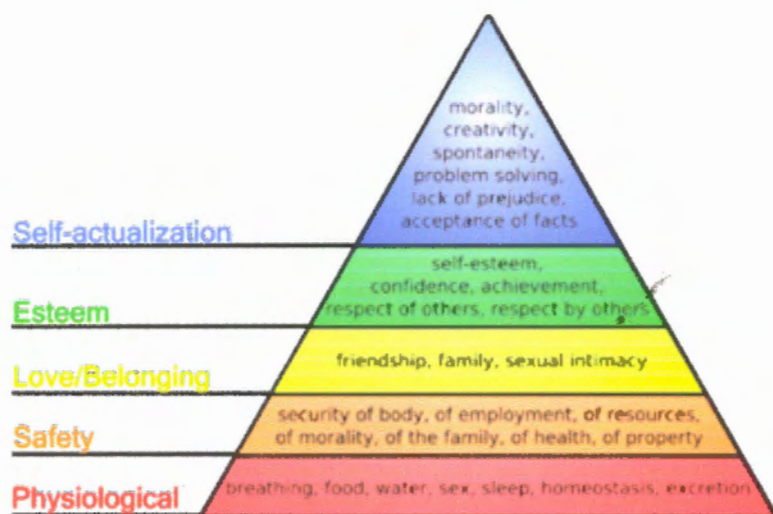


Fig: 10

Maslow's (1950) hierarchy of needs pyramid

(Source: *Transpersonal Psychology*)

[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

Survival needs are which must be satisfied to survive as an individual and for the continuation of human kind. These include hunger, thirst, elimination and sex. Security needs are conditions to be provided to confirm one's sense of protection of his life. Belonging needs can be explained as the need to include in to a group external to the self and the tendency to expand the group fellows. The need of ensuring his position within the group is esteem needs. This is further elaborated as self esteem and esteem by others.

The more all these basic needs are fulfilled being and acting in a space the more a person feels the sense of place or attachment to that particular space.

### 1.4.2 Impact of Sense of Belonging

Ian Nairn (1965, P.6) has written; ‘it seems a common place that almost everyone is born within the need for identification with his surroundings and a relationship to them-with the need to be in a recognizable place. So sense of place is not a fine art extra, it is something we cannot afford to do without.’

Places can be experienced in a direct and very personal way by outsiders, this is *genius loci*: a living ecological relationship between an observer and an environment, a person and a place. (Relph.P.66)



Fig: 11

Places which have *genius loci* can bring people together and they embody emotional connection between people and the physical environment without imposing itself.

(Source: WREK)

Meaningful architecture including meaningful places which has *genius loci* can bring people together and they embody emotional connection between people and the physical environment without imposing itself. The place making is the concrete manifestation of man's dwelling and his identity depends on his attachment to place.

Relph(1976.P.9)quote statement of Adolf Portmann (Greene, 1965.P.38-39) ‘.....that these often display an attachment to secure and safe places that is so powerful that these places are best understood as homes.’



There is a strong connection between individuals and their intimate environments. Those individuals require 'sense of place' or 'good enough' environment in which to live. They are linked to that environment through psychological processes; such as attachment, familiarity and identity. Place attachment or sense of belonging which parallels, but is distinct from, attachment to person, is a mutual caretaking bond between a person and a beloved place. Familiarity refers to the processes which people develop detailed cognitive knowledge of their environs. Place identities concerned with the interaction of a sense of self based on the places which one passes one's life. Each of these psychological processes is threatened by displacement, and the problems of nostalgia, disorientation, and alienation may ensue. (Finch, 2004) Relph described spaces which have not any connection with the beholder as 'placelessness'.



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

Fig: 12

**Placelessness**

*(Source: Unpublished Dissertation)*

The loss of emotional bond which is formed by an individual with a physical site creates a stressful period of disruption. Relph E. quote, (1976) 'Marc Fried (1963.P.151) a psychiatrist investigating the reaction of a group of residents from Boston's west end whose homes were expropriated and who were relocated elsewhere in the city, found that many of them had emotional responses that could 'properly be described on grief. Including a sense of painful loss...continued longing...a sense of helplessness... and a tendency to idealize the lost place...'

I.Mohan (1989) declares the loss sense of belonging create a huge social problem.

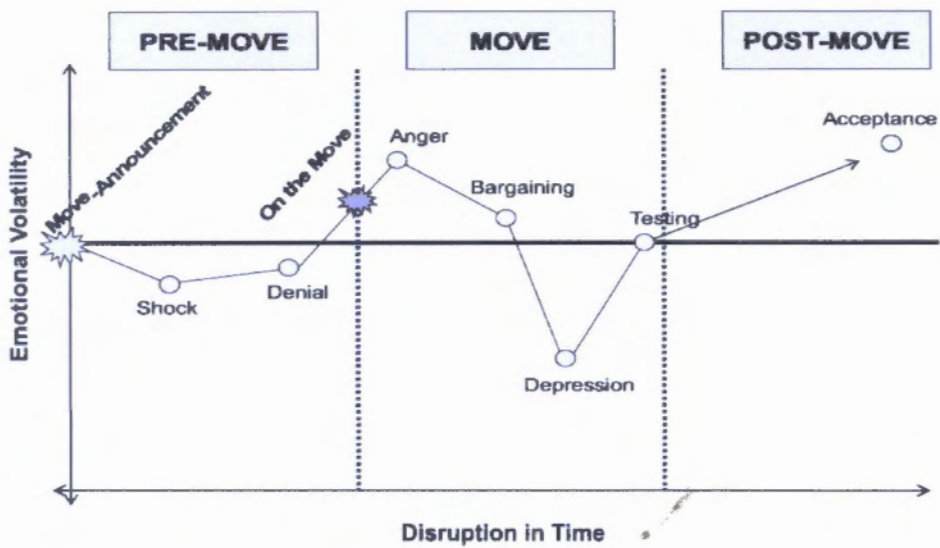
‘...particularly in the Asian text, as a result of which in the societies, the suicides, the murders and the other heinous crimes are becoming more common and number of families are getting ruined. In fact it is a natural psychology, that is, sense of owning something or a feeling of being robbed of certain belongings, which are the major factors behind it.’

The research paper of The University of Reading in UK, (2004) examines the concept of ‘place attachment’ in work places it describes, organization often make changes to their physical environments in response to a corporate need. Executives and employees see change differently. For senior managers, change means opportunities; but for many employees, change is seen as disruptive and intrusive.

The cost of not overcoming the resistance to change can be enormous. It can include:

- Increased absenteeism;
- Substantial reductions in productivity;
- Low morale and the poor attitudes towards the company that may persists for months and years;
- An increased in work errors;
- The loss of experienced, hardworking people ;and
- Attempt to sabotage the move (Attwood, 1996).

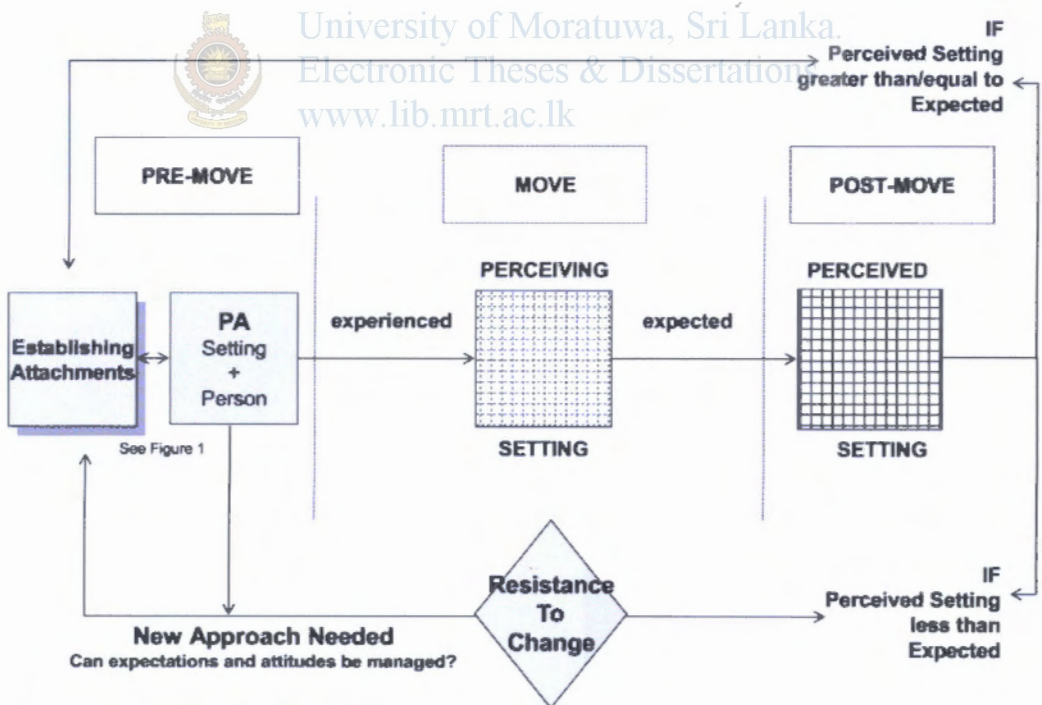




Source: Adapted from Bourne and Bourne (2002)

Fig: 13

Emotional volatility versus disruption in time



Source: Adapted from Passini's (1992)

Fig: 14

The proposed model-matchmaking process



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

**Chapter Two**  
**The Architecture of Housing**



Housing throughout the ages of human civilization has been the most discussed and analyzed architectural situation. Housing is the process enabling the act of dwelling; establishing one's existence as appropriate for his living on earth in the form of making houses. (Dayarathne, 1995)

Turner (1972) gives a definition for housing: 'the word Housing can be used as a noun or a verb. When used as a noun housing describes a commodity or product. The verb 'to house' describes the process of activity of housing.'

## **2.1 House, Home and Dwelling**

### **2.1.1 House**

House is a structure intended or user for human habitation. It is man's most intimate place of living. Similar to the term, 'man' which denotes an impersonal and generalized meaning, the term house too brings out a generalized version as the shelter of man. 'The house plays as intermediate role between man and his world.' (Duly, 1979)

As Perera (1996) states a house is only the physical form of a building which has the potentiality to become a home for someone when his/her psychological expectations merge with the physical form of the building.

### **2.1.2 Home**

Home is something more than a house. Home on the contrary, carries highly personal flavors with it. It is the man's place of living. Home is a non-technical term which means the house and the ground within 'appurtenances' habitually occupied by a family. (Gove, 1981)



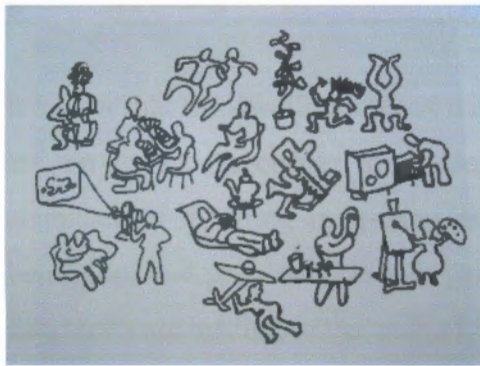


Fig: 15  
Illustration of 'what Home is'.  
(Source: WREK)

The home is an organism in direct relationship to man. Dayaratne (1995) states, making home is entirely a private personal affair. Home is not just a building. It is the place to which one belongs and where one has one's roots. It is more than a container, no matter how small (a cottage) or how grand (a palace), it is a fundamental necessity. '...the world 'home' has a closer and more concrete meaning. It simply tells us that any man's personal world has its center.' (Schulz, 1971)



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
www.lib.mru.ac.lk

According to Dayaratne (1995) 'home is a dream, and an emotive bond built between the person and the world around him.' Home is our corner of the world; it is a preferred space and a fixed point of reference. Home is the foundation of our identity as individuals and as a member of a community, the dwelling place of being.

Relp (P.39) quote; Vincent Vycinas (1961, P.84) paraphrasing Heidegger, a description of home as

'....An overwhelming, in exchangeable something to which we were subordinate and from which our way of life was oriented and directed, ever if we had left our home many years before.'

Home is not just the house you happened to live in, It is not something that can be any where, that can be exchanged, but an irreplaceable center of significant.



### 2.1.3 Dwelling

It seems that the dwelling means the manner in which we humans are on earth. According to Heidegger (1967) the fundamental character of dwelling is sparing and preserving. Sparing means being free and preserving is safe guarding. The meanings of those two terms are leading to the truth of being human.



Fig: 16

The dwelling means the manner in which we humans are on earth.

(Source: *Sri Lanka- A personal Odyssey*)

Dwelling means one's existence as appropriate for his living on earth. It is the process by which homes are made, and enabling dwelling is to make the home-making possible. This is the ultimate aim of housing, and also the place, the tangible spatial enwrapper; the context for home. (Dayarathne, 1995)

## 2.2 Housing as a need

Housing, which is one of a basic essential commodity of the man, is a manifestation of so many different aspects. It has cultural, economical, environmental and social facets. Those aspects represented in the house and degree of important given to each aspect may vary according to the values and aspiration of a particular user group.

The house which is the most familiar and intimate place of built environment may coming in different forms and guises due to the segregation of different income group and the homogeneous nature of each individual.

Due to the many factors such as urbanization, high population densities, rapid increase in cost of living and the land scarcity the housing has become an issue.



Fig: 17

Slums @ Wanathamulla, Colombo.

(Source: personal photograph)

In Sri Lanka housing as an issue has been brought in to discussion only after independence. during the pre independence era which extends up to the time of Sinhalese kings, house building had been rather an easy task due to a host of factors such as the free availability resources, the agro-based social system which demanded a very high degree of social interactions.

However the gradual shift of the society towards diversified fields in industry and commerce, changes in the social, economic and the political systems, growth of population and urbanization trends etc, subsequently, transformed the simple process of house building in to an expensive and complex affair.



Fig: 18

Sahaspura-Colombo

A housing solution for Urban Poor

(Source: Personal photograph)

With the introduction of open economy in late 1970s the subsequent changes that took place in all sections of the society in the recent past has made a further impact on the process of house building.

In the contemporary society, housing has become one of the major social issue demanding novel thinking and approaches.

Today mostly housing has become a mere commodity which is 'produced' individually or in masses for sale. The economic factor has been playing quite a major role in this process, from the selection of a locality to the type of housing. And individual house in a prime location is very much beyond the reach of average person.

### **2.3 The Socio-Economic imperatives of Housing**

House building most ideally is a private problem but it is no more possible, because earlier, economic factors are playing as increasingly dominant role in the process of house building. Mass housing especially, has emerged as a response to these economic factors. Through out it has been quantitative answer to the issue of housing. Those who cannot afford an individual house are compelled to look for a housing unit in a housing scheme as they're comparatively within their affordability.

Dayarathne (1995) is saying homelessness is thus twofold. One is, there is lack of a place to live or the quantity problem of plots and house units. That is the scarcity of land of availability to build conventional houses for everyone migrating to the cities. Due to the limitations of land for building, the housing units need to become more compacted and smaller in size. Other problem is lack of opportunity in the place one lives, to make the home. According to Dayarathne (1995) in Sri Lanka we have both kinds of homelessness and the latter cannot be left to be achieved only



after the former has been totally achieved. Most of our present day house *building approaches address the quantity, the housing unit at the expense of the quality; the home.*

Many people bought houses to bolster their image of self-both as an individual and as a person in a certain status position in society. Having a house that is unique and somewhat different from the others on the street, for the inhabitants who identify with these houses are they struggling to maintain some sense of personal uniqueness in an increasing conformist world. That is why; it is called the house as a symbol of self. (Cooper, 1974) yet, within economical and social condition of the country provisioning unique houses for individual is not and easy task. The costs are inhibitive and uncontrollable the architect will have endless work marketing will have risk.

In large scale housing projects the designer never meets the ultimate occupant of the proposed house units and it is the major drawback to the fulfillment of the psychological needs of the user. Such as lack of provision for personal expressions, constrains to possession and privacy needs.

But architect as professional have a responsibility to bridge the gap between these concepts of the average with the ultimate individual user.

## **2.4 Architects and Housing**

The architect is responsible for creating a built environment which physically and psychologically responds positively to the requirements of the user while it serves the function of the building type.



It is the role of the architect to make sure, together within the quantitative requirements, and qualitative attributes of housing is also achieve to suite the ultimate user.

To have as individual identity of each user is not possible in many housing, but architect must by association or observation, and if possible by living with them, acquire on understanding of the needs, and common background or collective identity of the selected community of people. Canter (1974,P.v) states, a fuller, clearer and more scientific understanding of people should help free architecture from these inhibitions and give rise to buildings which are both more satisfying for the users and greater work of art.

From the data so obtained it will be possible for designer to make physical model of a living unit which would suite to average behavioral pattern of the community.

Increase the number of housing units quantitatively, the quality is ignored. There are sufficient evidences that failure in housing schemes may be due to the inappropriate methodology adopted. Finally it can be said that the architect's abilities are not usefully in designing public housing schemes in Sri Lanka.

## 2.5 Ingredients of Good Housing

There is a strong relationship between Built Environment and human behavior. Since the home is man's intimate place of living **housing** must enable Home-making. Therefore, good housing should be consisted with ingredients of **Home**. It should be identified that, what make particular place in to a home.



### 2.5.1 Attributes of Home

The home as a deep-rooted attachment to man, it carries a highly personal flavour. It means different things to different people. Home is where one's eat, sleep, bring up their families, relax, entertain and express their individuality. The comfort of domestic well-being is not just a materialistic one; it also has a psychological nature.



Fig: 19

The concrete expression of their place in the world is the concrete expression of themselves.

(Source: *Sri Lanka- A personal Odyssey*)

‘...people feel proud and happy to be living in them and would not give them up for anything because they are their houses, because house is everything to them. The concrete expression of their place in the world is the concrete expression of themselves.’ (Alexander, 1985, p.16)

Attributes of home can be mainly categorized in to three. A good composition of these attributes is essential in order to place making while leads to feel **Sense of Belonging**.

#### 2.5.1.1 Physical Attributes

Physically, one is to be sheltered from the natural elements. And keep away predators and intruders from coming in to his secure, personal space- his home. Within the house one needs to have a spatial arrangement that would allow him to act in a way most comfortable to him and his family.

Physical demarcations of a space express the private and public relationship and the activity pattern of the environment.

Physical spaces have symbolic qualities, which goes beyond the physical elements. These symbolic qualities or meanings are perceived by the dwellers or the users of the space through their experience of the world. The experiences of the spaces, built form, physical features, and the way they are located and organized, the behavior and ideas of people create a **sense of place**, which afford sense of belonging.

#### **2.5.1.2. Socio-Cultural Attributes**

‘The creation of built environment is interplay of many factors such as climate, technology, politics, social system, etc. in which socio-cultural factors are the primary determinants of ultimate built form.’ (Rapoport, 1969)



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

Therefore the designing of any physical setting requires the ability to analyze underlying social and cultural behavior of people who are going to be involved in that setting. House form is not simply the result of physical forces or any single casual factor but is the result of whole range of socio-cultural factors. Thus, in formulating any mass housing design carefully analysis is carried out in socio-cultural perspectives.

#### **(a) Cultural Factors**

One’s attitudes and value systems are molded by cultural factors prevailing in a society, such as religion, beliefs, customs, ethics, etc. these cultural factors create a ‘generic image’ or a form of their house. Further this generic form gets refined by various individual preferences in becoming a ‘home’ for a particular person.





Fig: 20

Cultural factors create a 'generic image' or a form of their house.

(Source: *The Houses of Mankind*)

## (b) Social Factors

Man is primarily a social animal. Apart from his personal existence, he has an equally important social existence as well. 'No man would survive in a vacuum. He needs some one to share his dreams, his love, and his emotions. In other words he needs a society to live with; a society whose goals and needs are the same as his' (Abegunawardene, 1994)

The social links, interactions and even the social order of a particular society contribute mostly to determining House form.



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

### 2.5.1.3 Psychological Attributes

Psychological attributes deals with people's perceptions and emotions. Places where people live often acquire special emotional significance and create a psychological attachment to place. The concept of home is identified through his attachment of deep-rooted human feeling. Therefore, achieve psychological attributes in residential environment is a must.

The architects who are concerned about providing people with a humane environment have to concern about psychological needs such as privacy, security, territoriality, identity. These psychological aspects have been identified as the governing factors of sense of belonging.



## 2.5.2 Psychological Attributes

### 2.5.2.1 Privacy

Privacy can be defined as the need to control the unwanted external forces and interactions. It does not mean merely being isolated or being alone. The degree of privacy needed for each person varies according to the nature of community, social class he belongs, and many other reasons including culture.

John Macsai states ;( P.198)

‘Privacy does not mean isolation. It is the ability to control when and where an individual will be faced with neighbours or their sounds or activities. Designers should provide both visual privacy and privacy from the sounds of neighbours.’

The level of privacy needed differ from culture to culture and the norms and rituals adopted to guard against the invasion of privacy differ from each other. In the case of Housing Schemes, the layout pattern has a certain impact on privacy. For instance, the close link arrangement of Housing Units can disturb the privacy of the individual both aurally and visually.



### 2.5.2.2 Security



Fig: 21

#### Security

(Source: *Sri Lanka-A personal Odyssey*)

‘To build a house is to create an area of peace, calm and security, a replica of our own mother’s womb, where we can leave the world and listen to our own rhythm; it is to create a place of our very own, safe from danger.’(Marc, 1977) Feeling that one’s life is not threatened, due to the improper planning, is essential for the emotional well being of the individual in the built environment. ‘A person who is insecure and nervous, need to go home to a quiet restful secured atmosphere’ (Bargan, 1981)



University of Moratuwa, Sri Lanka  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

Alexander(1979)states that, when a person’s forces are resolved, it makes us feel at home, because we know by some sixth sense, that there are no other unexpected forces lurking underground.

### 2.5.2.3 Territoriality

Territoriality is one of the basic needs of man; which is an instinctive behaviour very clearly seen in the animal world.

Territoriality can be divided in to three basic sections, namely neighbourhood, immediate surrounding, and personal, which is identified as ‘personal space’ is the place; a person marks as his own and defends against outsiders.



Fig: 22

Territorial demarcation of African Tribes.

(Source: *The Houses of Mankind*)

‘Human territoriality emanates from the feeling of personal space, and show the sense of individual and group belongings. It is the act of organism to establish boundaries around their confuse to lay, to calm and defend on area against outsiders.’ (Ekistics, 19720)

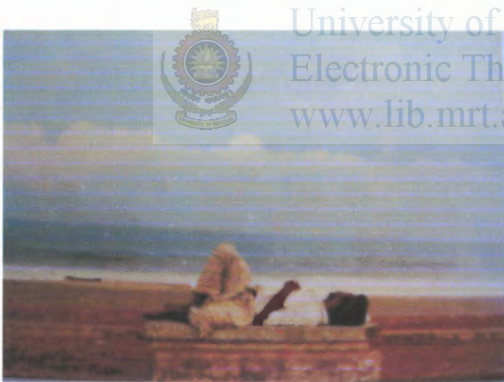


Fig: 23

Human territoriality emanates from the feeling of **personal space**.

(Source: *Unpublished Dissertation*)

In settlements, people express their territoriality through layout patterns, and individual express their territoriality by the demarcation of a personal spaces within that settlement. This is an important factor of personalization.



#### 2.5.2.4 Identity

Identity is a phenomenon, which is so fundamental, which avoids simple definition. The terms identity can be broadly described as the uniqueness of an element, which makes it distinguishable from others.

‘..Every where and however we are related to being of every kind. Identity makes it claims upon us.’(Heidegger, 1969, p.26) Man needs to identify himself within the society and reflect his identity to the society. It creates familiarity with the environment. According to Lynch (1960) the identity of a place is that which provides its individuality or distinction from other places and serves as the basis for its recognition as a separable entity. Physical features can facilitate identity to build form. In other words it says that only the places, which have certain uniqueness as identifiable. But Iran Niran says (1965, p.78) ‘There are many identities of places as there are people.’ Depending on the identity and the cultural diversity of the people their ability to apprehend various things with which each individual can be different from others. Identity is the experiences as much as in the physical appearance according to Relph(1979). The identity of a place can be identified in three basic elements; Physical setting, the activity and the meaning.



Fig: 24  
Individual housing unit, expressing individual identity.  
(Source: *The Houses of Mankind*)




When consider any housing environment the individual housing units become the best means of expressing the individual identity of the occupants.

## 2.6 Affording Sense of Belonging

To create a feeling of belonging in the minds of the occupants, through the build environment of the housing scheme, the occupants should feel sense of privacy, sense of security, sense of territoriality and sense of identity. Further, these psychological feeling should be felt by the outsiders also.

If an expression of sense of belonging could be created through the built form of housing scheme, various modifications and alterations done to the environment to achieve lost character could be stopped. There for; four main contributors of sense of belonging should achieve in the first sense.

 University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
www.lib.mrt.ac.lk

Territorial feeling which is partly responsible for sense of security is lack in present day housing schemes. If the occupants have a way of expressing the territory where they live, is their own, they feel secure within the space, with the feeling that no one else has the right to intrude. Further territoriality ensures sense of privacy while helping to express one's individuality. The idea of territoriality increases the responsibility of the occupants, in looking after their territory. This prevents certain areas from becoming 'no man's land', and expresses an environment looked after well by the residents themselves. Sense of territory leads to feel sense of identity for the occupants of that space and more or less it is responsible for sense of belonging as well.



Fig: 25  
 Expression of Sense of Belonging  
 through Built Environment  
 (Source: Unpublished Dissertation)

Therefore, it seems that, these psychological feelings which generate in creation of the built environment are interdependent. When try to fulfill one of them, another one or more would be fulfilled.

The environment created by man can be considered as the system of communication of ideas through symbols.

‘Environment communicates meanings. Meaning is frequently expressed through signs, materials, colours, forms and spatial organization and landscaping.’ (Rapoport, 1982, P.88)



Fig: 26  
 Children's' play space- Created  
 environment expressed Sense of  
 Belonging through scale.  
 (Source: Unpublished  
 Dissertation)

Therefore through the expressions, it is possible to communicate occupant's sense of belonging when the contributors to sense of belonging could be fulfilled through the build environment.



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

**Chapter Three**  
**The Concept of Belonging and its relationship to**  
**Architecture of Housing Schemes.**





### 3.1 The Dynamics of Belonging

#### 3.1.1 Place Making in Architecture

A place generally indicates a notion of a particular location or an area conceived in its physical context. The place is composed of three essential components, physical setting, activities and sets of meanings.



Fig.27

The physical setting, Activities and sets of meanings create a place.

(Source: Wrek)

(a)  **Physical Setting** University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

Physical setting is the existing context which is both man made and natural which may include climate, topography, geographical points of reference, etc or it could be made up of concrete things including material, substance ,shape texture, colour, weight, size, etc. physical context continuous to exist in the same way as intensity when a place is experienced by man.

Physical setting gives the backgrounds to the meanings and activities which have psychological, social and cultural values. Physical setting contributes to the identity of the place experiences, character and qualities of the place.



When a space is physically entrapped it gives a sense of security and stability to the place which is mainly based on the human mind to generate his inherent needs of sense of Belonging.

Territoriality is another result of physical setting which gives a sense of security and stability. Territory marks continue or discontinue extension, direction, rhythm inside and outside relationship. Therefore physical properties give identity to the place and give sources of experiences and different characters and also the quality to the place.



Fig: 28

Physical setting gives the backgrounds to the meanings and activities which have psychological, social and cultural values.

(Source: Internet)

The physical setting alone can not survive to fulfill the place making nature it has to blend with meaning and activities. Sometimes physical setting gives rise to activities as well as sets of meanings to the place.

### **(b) Activities**

Activities continue to place experiences. Everyone has his own mix of personality, memories, emotions, attitudes which colour his image of that place and therefore their activities depend on that, which gives a distinctive character to that place. This gives social cultural values and sense of belongings.



Fig: 29

When people attach to a place they feel no fear. That is what people expect from a place- A sense of Belonging.

(Source: Internet)

The physical setting gives atmosphere to take part in activities through the meaning of that place. When people sense the place as secure and stable they are free to do their own activities. That means they are attached to that place. They have no fear. That is what they have expected from a place, a sense of belonging.

Place has its own character due to the physical setting and meaning which influence personal contacts, man his way of activities and his life style, his conscious and unconscious activities. These activities, events, associations, together with familiarity with place contribute to the sense of belonging and also group identity of a community. An activity pattern involves the social interaction privacy, density crowding which contribute to this social interaction.

‘A place comes to life when people are participating in various activities. Therefore involvement of people’s activities is an essential ingredient of a place.

### (c) Meaning

A future aspect of a place is perceiving meaning. Identity, territory, orientation, activity, character, quality, communication all comes through meaning of the place. People react to the place through it’s meaning for them.

Places have certain meanings for people. Meaning is given by the physical settings spatial organization and character of the place.

Place attachment also due to meaning. When the orientation is clear the place become familiar, then the attachment comes through the meaning of familiarity.



Fig: 30  
When the orientation is clear the place become familiar.

(Source: Internet)

Physical settings, activities and meanings are the main features of a place which contribute the identity and character of the place.



Electronic Theses & Dissertations

www.lib.mrt.ac.lk

### 3.1.1.1 Psychological Dimensions of Space

Physical demarcations of a space express the private and public relationship and the activity pattern of the environment, the built forms and the defined spaces evoke activity patterns. Physical constituents such as walls, floors and ceiling are helpful in the identification of these.

Physical spaces have symbolic qualities or meanings which go beyond the physical elements.

These meanings are perceived by the beholder through their experiences of the world. The experiences of spaces, built forms, physical features, and the way they are located and organized the behaviour and ideas of people create a sense of place.



User and built environment communicate through language of architecture and the management and organization of the elements of form and space act as physical features, which determines this language. Components of management and organization are movement, hierarchy and order. A good composition would affect the qualities of the space, such as centre, enclosure and continuity, which are essential principles in making places that leads to create a sense of belonging.

### 3.1.1.1(a) Center

The principal of center defines anchorage to a specific locality. The center is the place for action and interaction. Man develops an emotional attachment to a central place. It can be studied that in ancient times, man symbolized the vertical axes by a tree or a pillar and his life existence was associated with this central point. It gave a sense of security and territory to him.



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

Even in present societies people tend to regard their home, homeland or region as the center of the world. People develop an emotional attachment to this area, where they identify as a place, which represent their social values.

When considering the primitive houses the center of almost every house has been the geometrical center of the physical structure. In organizing the physical structure of the dwelling in a hierarchical order, this center point acted as the point of reference. The community importance of the center can be identified by their allocation of important activities in that place or the person who occupied the place; mostly, an important person of their lives.



### 3.1.1.1(b) Enclosure

Enclosure, being a significant factor in home making in architecture, is closely related to the conscious design of space to evoke specific feelings within the user. The qualities of the enclosed space may have certain characteristics related to human reactions and feelings. Enclosure defines a contract between interior and the exterior of the building. The degree of enclosure depends on the feeling that to be communicated.

The degree of enclosure from space is significant to achieve contrast and variety in the built space. Strong enclosure creates a strong sense of location and privacy. People are emotionally more comfortable in limited spaces enclosed and human scale volumes make people at home. Enclosure is the space that user more sense of belonging.

### 3.1.1.1(c)



### Continuity

University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

Home, the personal space of people when are in the society is a place, which takes place many activities that bounded together.

The provision of spaces should be able to facilitate the flow of these activities. As the connecting of the activities, the hierarchy and the flow of the activities should be facilitated in order to have a smooth flow. Activities that take place within are place in an order according to their importance and it is necessity of the inter-related space cause user modifications.

The spaces are linked by sub centers, which ultimately link to the main center. The harmonious link of the space helps the user to perceive it conveniently.

### 3.1.1.2 Insiderness and Outsiderness

Insiderness and outsiderness is the difference between safety and danger, cosmos and chaos, enclosure and exposure, or simply here and there. According to Relph (1976, P.49) 'To be inside a place is to belong to it and identify with it, and the more profoundly inside you are the stronger is this identity with the place.'



Fig: 31

To be inside a place is to belong to it and identify with it, and the more profoundly inside you are the stronger is this identity with the place.

(Source: Personal photograph)

Norberg-Schulz (1971, P.25) writes, 'to be inside is the primary intention behind the place concept; that is to be somewhere, away from what is outside'

This inside and outside different is defined by our intentions. If our interest is focused on our home, then everything beyond home is outside, if our concern is with a local district, then everything beyond that district is outside.

When the observer is rejected by the place he feels that he is out side. This outsiderness involved a self-conscious and reflective un-involvement, an alienation from people and places, homelessness, a sense of the unreality of the world and not belonging.

### 3.1.1.3 Public and Private Domains

Maintain public, private ratio in a housing scheme is an essential thing in order to achieve psychological comfort within dwellers. From most public domains in the housing scheme such as market area to most private domain which is individual house unit, the ratio should be changed gradually from public/semi public/ semi private to private. This transition can be expressing the through architectural symbols.

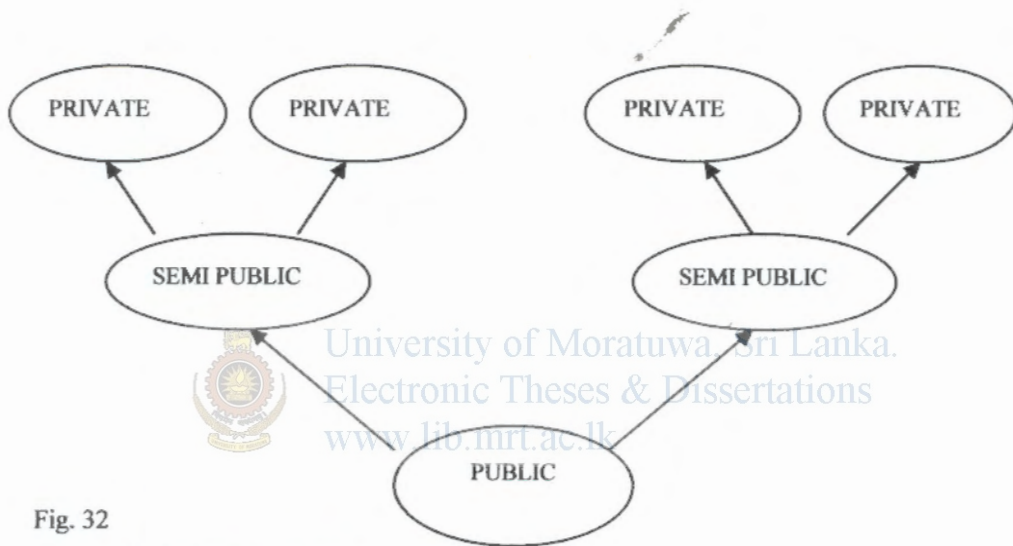


Fig. 32  
Newman's Defensible Hierarchy  
(Source: Newman, 1972)

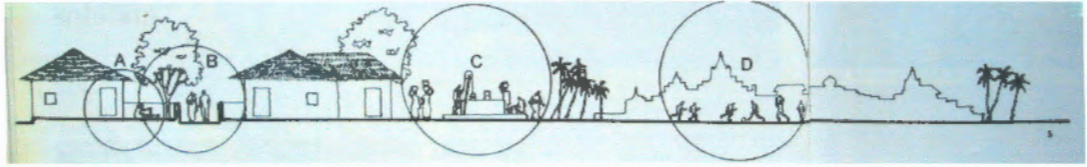
#### (a) Spatial Organization

Without providing direct links from public domain to private domain, semi public and semi private domains should be introduced in between. Then the psychological aspects such as sense of territory, privacy and security would be fulfilled in occupant's minds.

'Access and territory are aspects of the mental image of space, considered as potential movement and actions. But the identification of places as well as their organizations in to mental structures not only



allows the people to function effectively but is also a source of emotional security, pleasure and understanding.'(Lynch, 1976)



Court Yard



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
www.lib.mrt.ac.lk



Door step



Water Tap



Community Centre

Fig: 33

Privacy Penetration

(Source: *Housing and Urbanization*)

Dayaratne (1995) describes public and private domains and says, 'Every person has a private existence and a public existence, houses are the same. Thus buildings also have to have a private component as well as public component. Since every house builds both the private



domain and the public domain, acting in any of these three domains involve responsibility and control of different nature. These issues of housing require appropriate engagement of these three domains and appropriate sharing of responsibility and control, for any possible solution.'

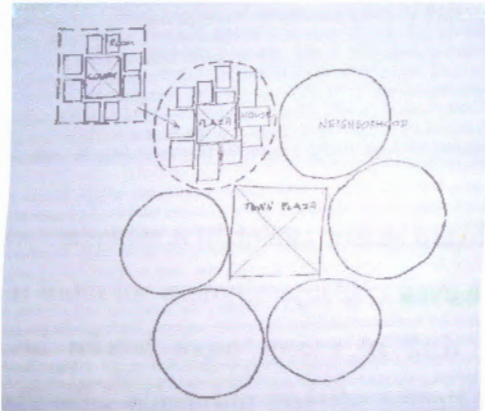


Fig: 34  
 Organization of San Cristobal Las Casas, Mexico  
 (Source: *Human Aspects of urban form*)

A good example of continuity in space organization at several scales which constitutes an essential characteristic of the place in San Cristobal Las Casas, Mexico (Wood 1969). The dwelling consists of rooms divided along personal and functional grounds arranged around a rectangular neutral courtyard. At the next level of the neighborhood the same pattern found- a number of elements (houses) divided along personal and functional lines arranged around a plaza. Finally the town as a whole consists of a number of neighborhoods of differing character and personality, clustered around the main plaza. It is within this spatial framework that other environmental characteristics and all human activities occur. (Rapoport, 1977, p.5)

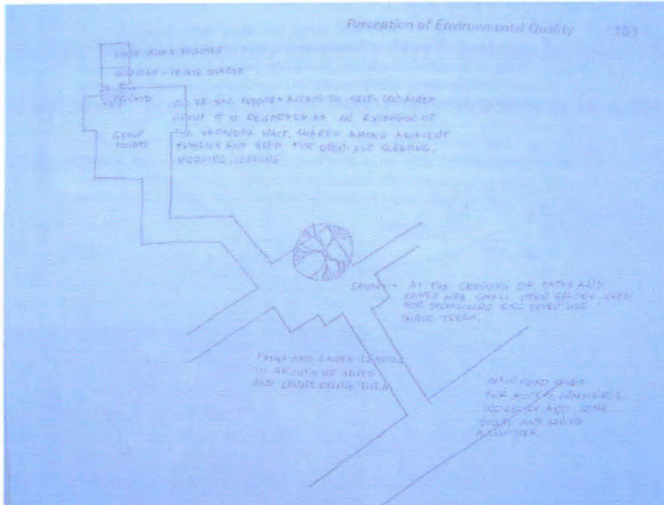


Fig: 35  
North African  
Squatter settlements  
are quite similar to  
Indian settlements.  
(Source: *Human  
Aspects of urban  
form*)

In squatter settlements spaces may be more important than building. In India for example squatters have capitalized on this most effectively and related these spaces to their culture and social relationships, allowing clustering and the retention of the traditional joint family. Courtyard within the house unit is for summer sleeping, cul-de-sac which is at end of the house for communal activities. The results of these settlements are much more satisfactory than newly designs.



University of Moratuwa, Sri Lanka.  
www.lib.mrt.ac.lk

In Africa and Australia where people most living done in outdoors, this type of settlements are more successful.

### (b) Colours, Textures, Forms and Sizes

Transition from public territory can be expressed by varying texture and colour where the space is the united resources. This allows an outsider to perceive the private area separately from the public domain. Further transition can be expressed by depressed and elevated planes. Series of steps leading from public area to a private area increases the security of the private domain. This arrangement also expresses social statues, individuality, privacy, and finally sense of belonging is satisfied.

Use of symbols is also a way of expressing transition between public and private domains. In early Sri Lankan houses 'Kadulla' was used as a symbol like this and present day houses it is done by various types of gateways.



Fig: 36  
Use of symbols as a way of expressing transition between public and private domains.  
Raddolugama Housing scheme  
(Source: Personal Photograph)



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations

### 3.1.2 Personalization [www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

Personalization is one way of expressing sense of belonging at personal level. 'Personalization, i.e. impressing one's character and personality on a portion of the environment' (Rapoport, 1977, P.369)



Fig: 37  
User personalization by using colours.  
Jayawadanagama Housing Scheme  
(Source: Personal photograph)



Once the ownership of the place is granted there should be provision for the occupant's to personalize it .Personalization gives an identity to a place it is also a way of expressing, to the outside world, that the occupants look after their own houses. Personalization can be done by landscaping, fencing, using of colours, etc. and add some personal flavour to their own houses. The personalization is very important in uniform public housing schemes to give variety and identity to each individual house unit. Through personalization, the owner of the house feels sense of belonging. .The dwellers should be given opportunity to express their personal ideas trough their dwelling. It can be done by letting them to do fencing, landscaping, colour washing, etc to their homes as they wish. If right to personalization is established it would encourage different characters for different areas, ensuring the sense of identity which ultimately increases sense of belonging.

### 3.1.3 Location of Public places



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

Parks, playgrounds, community centers, nursery schools and shops are the major requirements in housing schemes.



Fig: 38

Natural water body is a blessing to a housing scheme.

Neglected water body due to improper planning – Jayawadanagama Housing Scheme

(Source: Personal photograph)

Location of these places within the housing schemes itself helps to increase contacts among neighbours. Small playgrounds and parks



provided with benches and shaded areas make an attractive setting for people of all ages to use them more often. It provides a place for bypasses to stop and rest and to meet neighbours. This kind of internal social contact would be encouraged among people if these common facilitated are located in the correct place. If the common areas and parks are located at the end of the layout and people have to make a deliberate effort to reach them, they are not likely to use them informally and spontaneously. They should be located on a common path which is used everyday by people. When there is a good social interaction among neighbours the housing scheme become more familiar to the occupants, it will increase sense of belonging in occupant's minds also.



Fig: 39

When the public facilities not located in correct place, they are functioning at all.

Jayawadanagama Housing scheme

A dead open space

(Source: Personal photograph)

#### 3.1.4. Morphology of Architecture

Character or the ambience is the concrete form and substance of the space entrapping elements. Character depends upon how things are made. Spatial organizations may possess very different characters according to the concrete treatment and the meaning of the place defining or entrapping element.

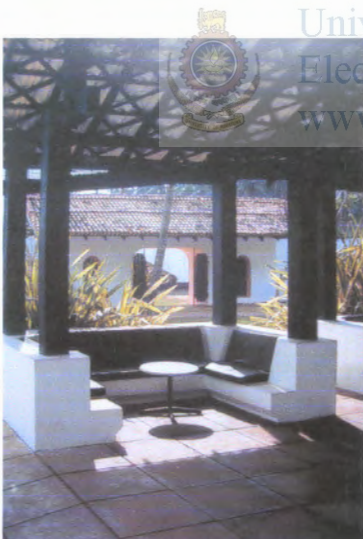
From different type of places, different type of characters can be felt and these different characters give different senses to users.

- E.g. Sacred character
- Relaxed character
- Festive character
- Intimate character



Fig: 40  
Festive character  
*(Source: Internet)*

All these characters are important for a person in different places in different times. But, above all intimate character is essential to every human being to be humane.



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

Fig: 41  
Intimate Character  
*(Source: Personal photograph)*



Fig: 42  
A try to Achieve Domestic feeling by using details and elements  
*(Source: Geoffrey Bawa)*

## 3.2 Methods adapted in order to achieve of Sense of Belonging

### 3.2.1 'Projecto Experimentale' – Lima, Peru

This housing scheme was done by Christopher Alexander and others, for a competition in 1969 held by United Nations for housing Peruvian white-collar workers. This is known to be one of the most successful housing schemes in the world, in the sense that as a design attempt to give people not just houses but homes.

The design team lived among the community in Lima and studied at first hand every aspect of their way of life, then designed a house unit, which is called 'the generic house'. This was with constructional details and a choice process. Therefore in the design process the ultimate user participated with designer. The design process, which leads to an individual home, could be summarized as follows. (SLA Journal, vol.100, no.9, p.16, 1995)



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

1. The Generic house is designed.
2. A site layout is drawn according to previous studies done about the community.
3. The site plan is made available to the prospective habitants.
4. The choice open to cater to their individual needs are clearly illustrated and made available.
5. A few generic houses are built for inspection so that the people will understand the choice process more fully and the limitations as well.
6. A dialog between designers and inhabitants clarifies the situation further and is of mutual help.
7. When the buyers have made their choice of both house type and site position the site layout is finalized and the building process can begin.



Thus the sponsor, designer, builder and the family, who will occupy the house, all participate in the Home building process.

The same method applied recently (in 2003) by University of Moratuwa in the mass re-housing project after the flood devastation in the south of Sri Lanka. The issue in hand was to psychologically cater to the losses experienced through the devastation while retaining a regional identity of the dwelling.

The University made several generic forms for different districts effected, considering the nature of floods experienced and the type of houses seen in the areas of a lower middle class level onwards. The people are allowed to select the generic type which suited them the most and were given an enhancement to sit with an Architect and individualized it to suit his specific needs.

 University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
www.lib.mrt.ac.lk

### 3.2.2 Belapur Housing Scheme – New Bomhay

Belapur housing scheme is located on six hectares of land just 1 km from the city centre of New Bombay. The site plan is structured by a hierarchy of community spaces. This has increased sense of territory and security among dwellers.



Fig: 43  
Around 8m x 8m courtyard, seven houses clustered.

(Source: Charles Correa)



Around 8m x 8m courtyard, seven houses clustered and three such courtyards grouped to form cluster of twenty five houses. This cluster is repeated to form a larger community spaces till finally a site plan for six hundred families is generated.

Each individual house unit is located in its own piece of land. The house unit is freestanding and does not share any party wall with neighbours, allowing a family to extend their home quite independently, as and when the need arises.

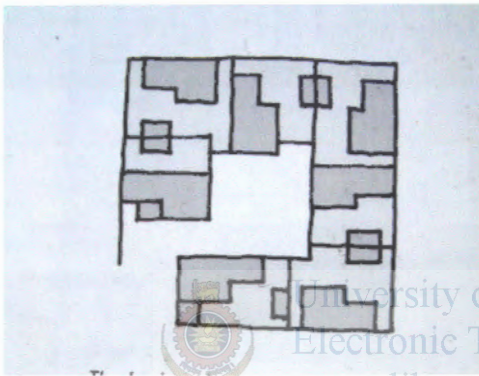


Fig: 44

The basic unit is a shared courtyard, 8m x 8m around which are grouped seven houses.

(Source: *Housing and Urbanization*)

University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
www.lib.mrt.ac.lk

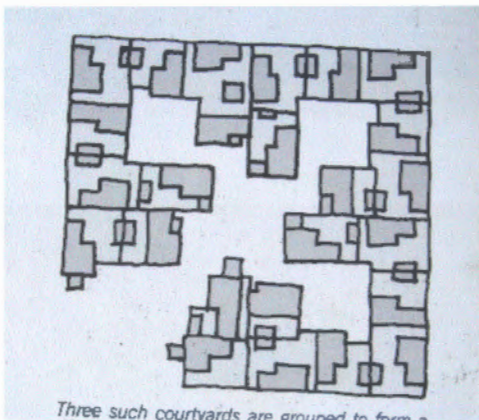


Fig: 45

Three such courtyards are grouped to form a cluster of twenty five houses including an additional four houses located at open corners.

(Source: *Housing and Urbanization*)

Three such courtyards are grouped to form a

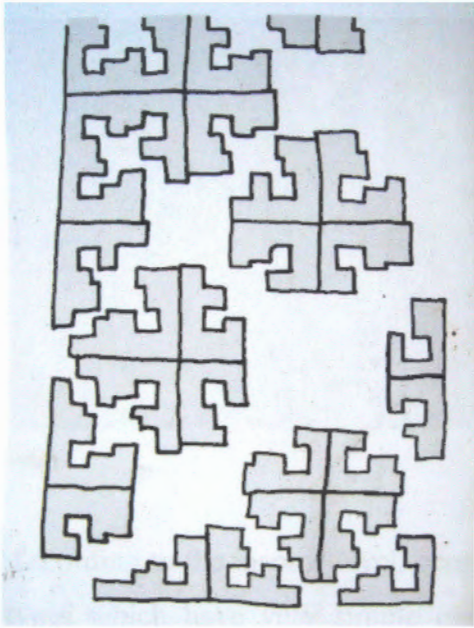


Fig: 46

This cluster is repeated thrice to form large community spaces.

(Source: *Housing and Urbanization*)



Fig: 47

Shared Courtyard

(Source: *Housing and Urbanization*)

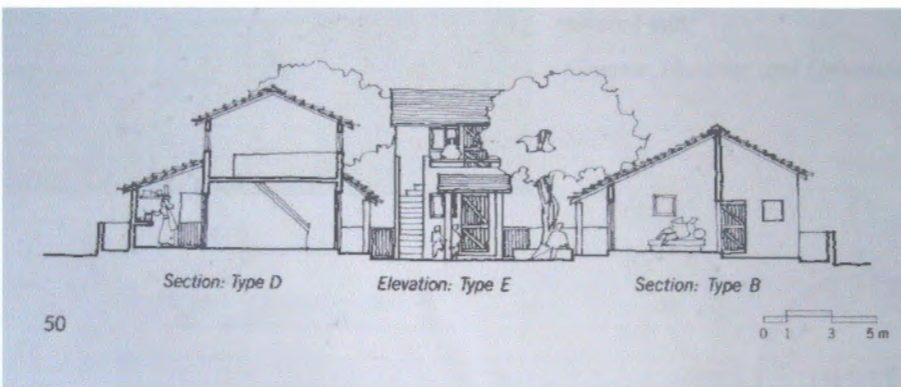


Fig: 48

Shared Courtyard

(Source: *Housing and Urbanization*)

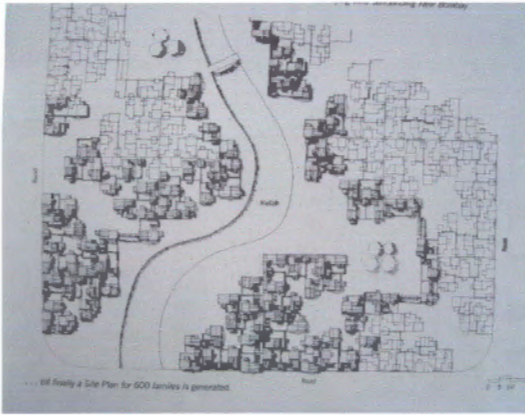


Fig: 49

Site plan

(Source: *Housing and Urbanization*)

According to the income level, people can buy any house type among five types which have very simple plan form and if need can be built or extended by using traditional masons and craftsmen.

In time, the families will add their own overlays of colours, symbols, colonizing the habitat through their own values and culture.



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
www.lib.mrt.ac.lk

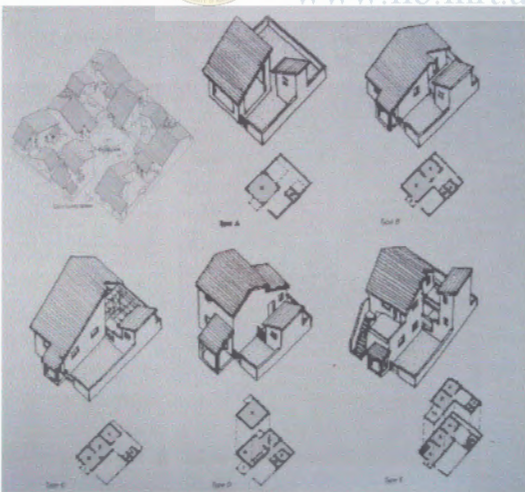


Fig: 50

Among five house types can be selected one.

(Source: *Housing and Urbanization*)





### 3.2.3 Rewal Housing Scheme – India



Fig: 51

Traditional building materials such as red brick give very traditional domestic look to the housing scheme.

(Source: WREK)

Rewal Housing scheme is the first scheme for Indian staff of the French embassy.

Each house unit has a separate entrance, which give an individual feeling to the occupants. Then they do not feel that they live in a Housing scheme. Each house unit is provided with a terrace in upper level. It supports the traditional outdoor living of Indians.

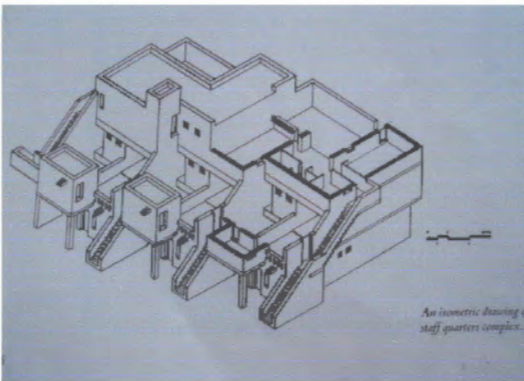


Fig: 52

Each house unit is provided with a separate entrance, court and terrace.

(Source: WREK)

In upper levels they can not be provided with piece of land as their own. In that sense the incorporated courts help to achieve a sense of territoriality to user.



Fig: 53

Scale and the proportions of the scheme give an intimate character.

*(Source: WREK)*



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

### **3.3 Case Studies**

#### **3.3.1 Raddolugama Housing Scheme**

##### **3.3.1.1 Introduction**

Raddolugama is a middle income housing scheme implemented by the NHDA in late 1970s. It is the largest of the large scale housing schemes having 2,022 houses. Its magnitude alone makes it distinct among other schemes of this type.

Raddolugama scheme has been in occupation for last 20 years. Therefore it is possible to get more valid and justifiable responses from the users on their homes.

Raddolugama is located sixteen miles from Colombo and one mile to the east from Seeduwa junction on the main Negombo-Colombo road. The new access road to the scheme turns off at the Seeduwa-Kotugoda road. The scheme spreads over a land of hundred and six acres in extent which has been an old coconut estate. Since the scheme is located away from the existing public routes, a public bus service has been started between the scheme and the nearby towns.

Shops have been provided in three clusters,

- (i) at the entrance,
- (ii) at the center of the scheme and
- (iii) at the community area.

A community hall, a library, a health clinic, a Montessori school, a primary school, a play ground, a post office, a bank and a police post are other facilities provided. Every house is supplied with pipe born water and the scheme has its own overhead tank, a central sewerage system including a treatment plant.



The user of this large scale scheme consists mainly of the middle-middle and lower middle income categories. The occupants come from various parts of the country and they represent a mixed culture. Before coming to live here most of them was living in suburban areas and about twenty percent of the occupants have come from the city of Colombo and the rest have come from the rural areas.

Most of them are employed in suburban townships. This shows the tendency towards the urban life pattern and the activities.

In about 60 percent of the families both the parent are employed specially in the government and private sector.

### 3.3.1.2 Layout



Fig: 54

Layout Plan

(Source: Google earth)

When consider layout plan, it seems that it functions as a mini town which has all the facilities with itself. Access to all the house units within the scheme are provided through one entrance which could be controlled at one point. Segregation of houses for deferent income groups is apparent in this scheme. The house types B, D and F are designed for different income groups.

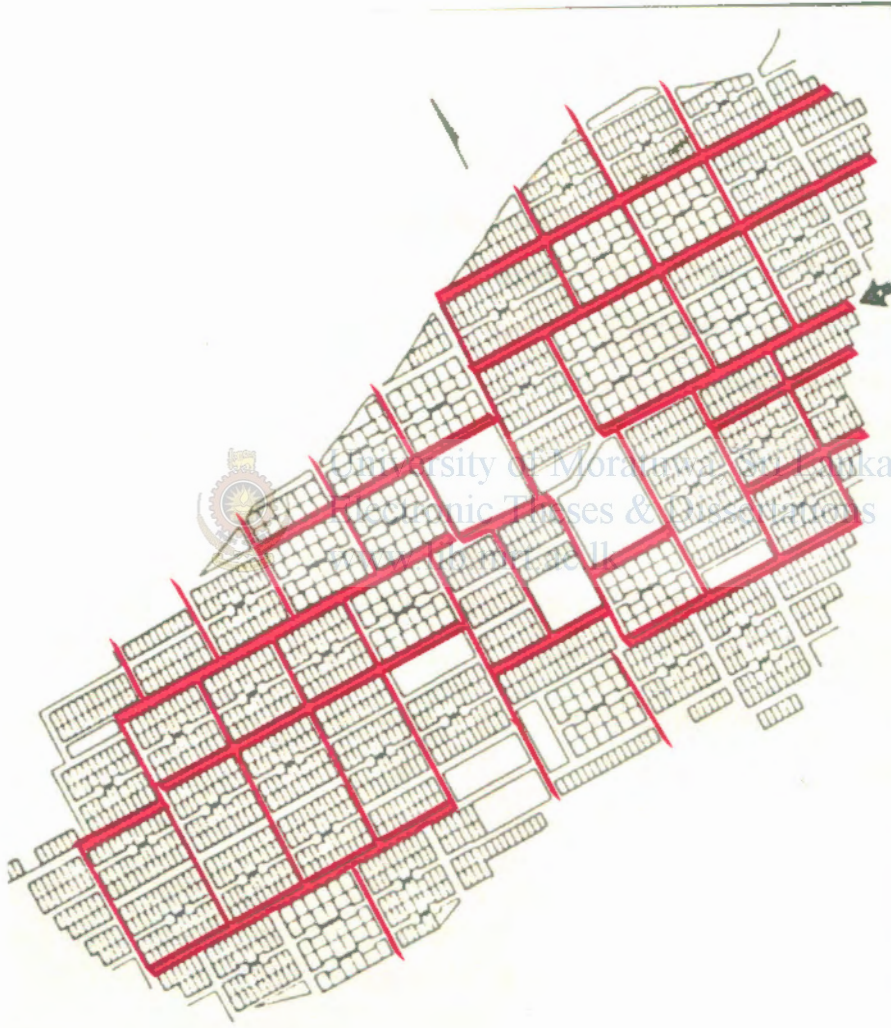
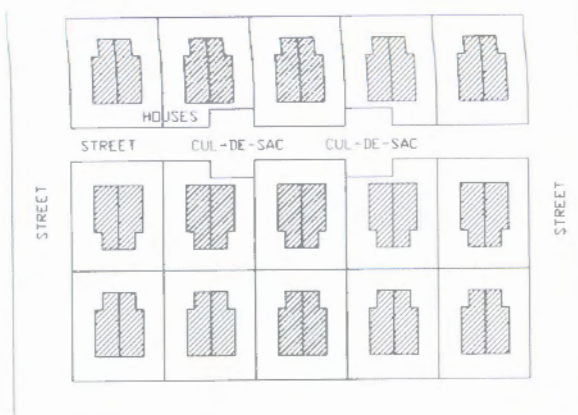


Fig: 55  
Road Network – Raddolugama Housing Scheme

Road network pattern is a grid system framing small blocks.





**Fig: 56**  
**In-between**  
**individual plots**  
**there are cul-de-sacs**  
**formed.**  
*(Source: Personal*  
*dwg.)*

Houses are mainly laid in rows on either side of the road. To prevent monotonous grid iron layout, cul-de-sac have been introduced in middle. These cul-de-sacs which serve six to twelve houses and it help residents to have some control and increasing sense of security. Houses which are organized around this cul-de-sac create a small community. This is an essential need in public housing schemes. People from various areas in the country, first start to live in unknown situation they hesitate to move with people, therefore create smaller communities within the larger community is the best way to increase social interaction. These smaller groups get interact gradually, with the increase of privacy penetration.



**Fig: 57**  
**Houses are organized around**  
**Cul-de-sacs**  
*(Source: personal photograph)*



Two cul-de-sacs connected by means of narrowing streets, then automatically discourage unwanted people coming into and maintain traffic giving residential character.



Fig: 58  
Two cul-de-sacs connected by means of narrowing streets  
(Source: Personal photograph)

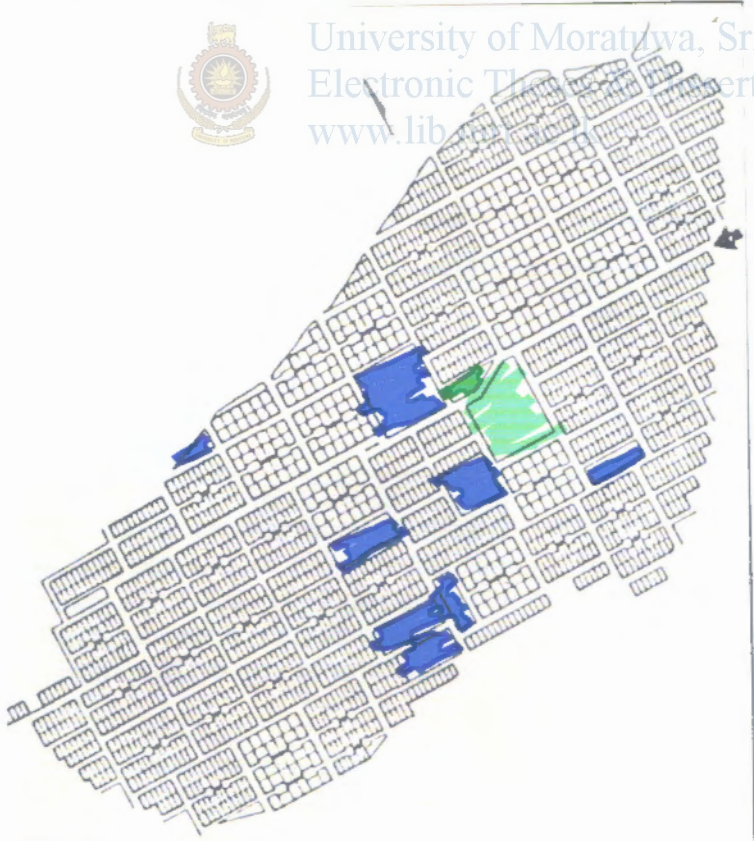


Fig: 59  
Public spaces and Grounds

There are several public open spaces scattered around the housing scheme. They act as communal centers. The smaller community groups created in cul-de-sacs get involved in larger community groups around these open areas. Primary school, community centers and some religious centers are placed nearby these open spaces.



Fig: 60

Open space near playground create a feeling in occupants mind that they are gradually get into a public domain  
(Source: Personal photograph)

University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
www.lib.mrt.ac.lk

There are three types of house units available in Raddolugama, as B, D and F. Both B and F type houses are designed as twin houses reducing the opportunity of residents from personalizing it. However the available front space and backyard have allowed the user a certain opportunity to demarcate their own territories.



Fig: 61

Type B as a twin house lack of provision is available to personalize it.  
(Source: Personal photograph)

By landscaping and fencing people try to give a personal flavour to their own houses.



Fig: 62

The house is personalized only by landscaping, without disturbing existing Architecture

(Source: Personal photograph)

Up to recent past they were not allowed to do any modification. But now the strong urge to express their identity and individuality from their houses is reflected by various changes done. These modifications have sometimes robbed the occupants their essential living requirements such as lighting and ventilation.



Fig: 63

Through Modifications express owner's identity and individuality.

(Source: Personal photograph)





Fig: 64

People like to have unique house as their own.

*(Source: Personal photograph)*



Fig: 65

Personalization

By using different colours

*(Source: Personal photograph)*

Type B is the smallest house unit in the scheme. Since it is small space within the house may not enough for the user in the case of the family is growing. That may be the reason for several changes occurred. The garden area which is in front of the house is concurred by extensions.

But even after twenty years later in Raddolugama it seems that changes are in minimum level.

### 3.3.1.3 Spatial Organization

The mini town centre is located at the main entrance to housing scheme. It provides all the daily needs of residents and due to its convenient location encourages residents to use it more often. The town center is used by occupants of the housing scheme and also people who live in villages around the housing scheme. Therefore the market area and bus stand acting as meeting place for housing scheme residents with outsiders, it is the most public and dynamic space of the housing scheme.



Fig: 66

The town center act as the meeting place for residents and outsiders.

(Source: Personal photograph)



Fig: 67

The market is located at the main entrance to the scheme.

(Source: Personal photograph)



Fig: 68

Town center is consisted with all the daily needs. Due to the convenient location it functions all the time.

*(Source: Personal photograph)*

Community center, market and the library help to keep the housing scheme more alive during most of the time, but absence of common facilities along the periphery of the scheme, give monotonous and character around the scheme and it is totally dead in most of the time.



Fig: 69

The periphery of the scheme is totally dead at most of the time because no any public activity is located

*(Source: Personal photograph)*

The housing scheme is provided with common facilities such as a play ground, market complex, library, health center, nursery school and a primary school.







Fig: 70

Community centre act as a semi public space

*(Source: Personal photograph)*

The playground is located at center of the scheme. It seems that it is not sufficient for the scheme. If there were number of small grounds dispersed through out scheme would have encouraged the occupants to use them more often.



Fig: 71

The playground is located at the center of the scheme, seems that it is not sufficient.

*(Source: Personal photograph)*

The primary school located within the scheme seems to be function as a part of the scheme. And also the nursery has good relationship with surrounding. Since it is located some where away from the busy area but in semi public area, one's feel 'inside'; and give more secure feeling.



Fig: 72

The location of the nursery seems to be functioning well.

*(Source: Personal photograph)*



Fig: 73

The primary school gives a very dynamic character to the scheme.

*(Source: Personal photograph)*



Fig: 74

Children's Park is located near primary school

*(Source: Personal photograph)*



Fig: 75

The children's park acts as a part of the scheme due to its location, that people feel 'insidness.'

*(Source: Personal photograph)*

Religious places are located all around the scheme. Some of them are existing from the beginning of the scheme while some are built in near past according to user needs.



The temple with a Bo tree in the middle of the town center acts as a landmark. It symbolizes an entrance to the housing scheme while giving residential character. In side of the scheme there are several catholic and Buddhist shrines are placed in small left over spaces. This has been created Support structures for small community gathering.



Fig: 76

The temple demarcates an Entrance to residential area, Starting point of private domain.

(Source: Personal photograph)



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)



Fig: 77

Religious shrines in left over spaces create an environment to small communal gathering.

(Source: Personal photograph)

The road network of the housing scheme give more residential feeling in occupants minds. Starting from town centre the width of the street gradually decreased, it feels the user that he is moving towards more private domains. When come to residential area sometimes road width is only about four feet, which increase close relationship with neighbours.



Fig: 78 - Roads starting from Town center



Fig: 79 - Gradually decreased in width towards residential area

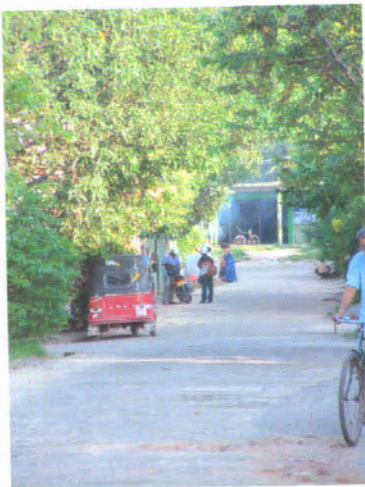


Fig: 80



Fig: 81

This increase social interaction while create an ambience of more residential.



Fig: 82

The road becomes a part of their territory, as children's play area, small gathering area and as an extended living area.



Fig: 83

The road become narrower and connected with Cul-de-sacs in between

University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
www.lib.mrt.ac.lk



Fig: 84

The road width in some areas only about four feet, this increase the interaction among people while creating an environment of a traditional village to comfort residents.

*(Source: Personal photograph)*



### 3.3.2 Keppetipola Housing Scheme

#### 3.3.2.1 Introduction

The Keppetipola Housing Scheme was constructed for in 1976 for the Non-Aligned Summit conference. Its intention was to fulfill the need of the housing contingent of international journalist visiting for the purpose of this summit.

However, the project has been conceived much earlier to fulfill the need for high density low rise housing for middle income government servants. The intention of the Architects was to plan a middle class housing scheme with all amenities such as shops and recreation.

The nature of the site with its magnificent trees and old colonial bungalows required the use of labour intensive method in order to cause the least amount of damage to the existing environment.

Circumstances have worked out in the Architects way allowing them to fulfill their desire of keeping every single tree in tact.

The original proposal was to house a total of five thousand persons, as 167 persons per acre. This was to be obtained by building 960 living units of 985 sq.ft. each. But finally only 180 units were built with a density of 30 persons per acre. The objective of this scheme was to create a high density low rise building for government servants. They need to build a multi storey complex but without the use of elevators since that would have cost too much. Thus the maximum heights of the buildings were restricted to 45 ft.

This housing scheme is now occupied by upper middle class or elite class families of high profile government servants who have higher degree of

sense of individuality. Even in social activities they attend to establish a selective sub group among them selves. This housing scheme caters well to this need.

### 3.3.2.2 Layout

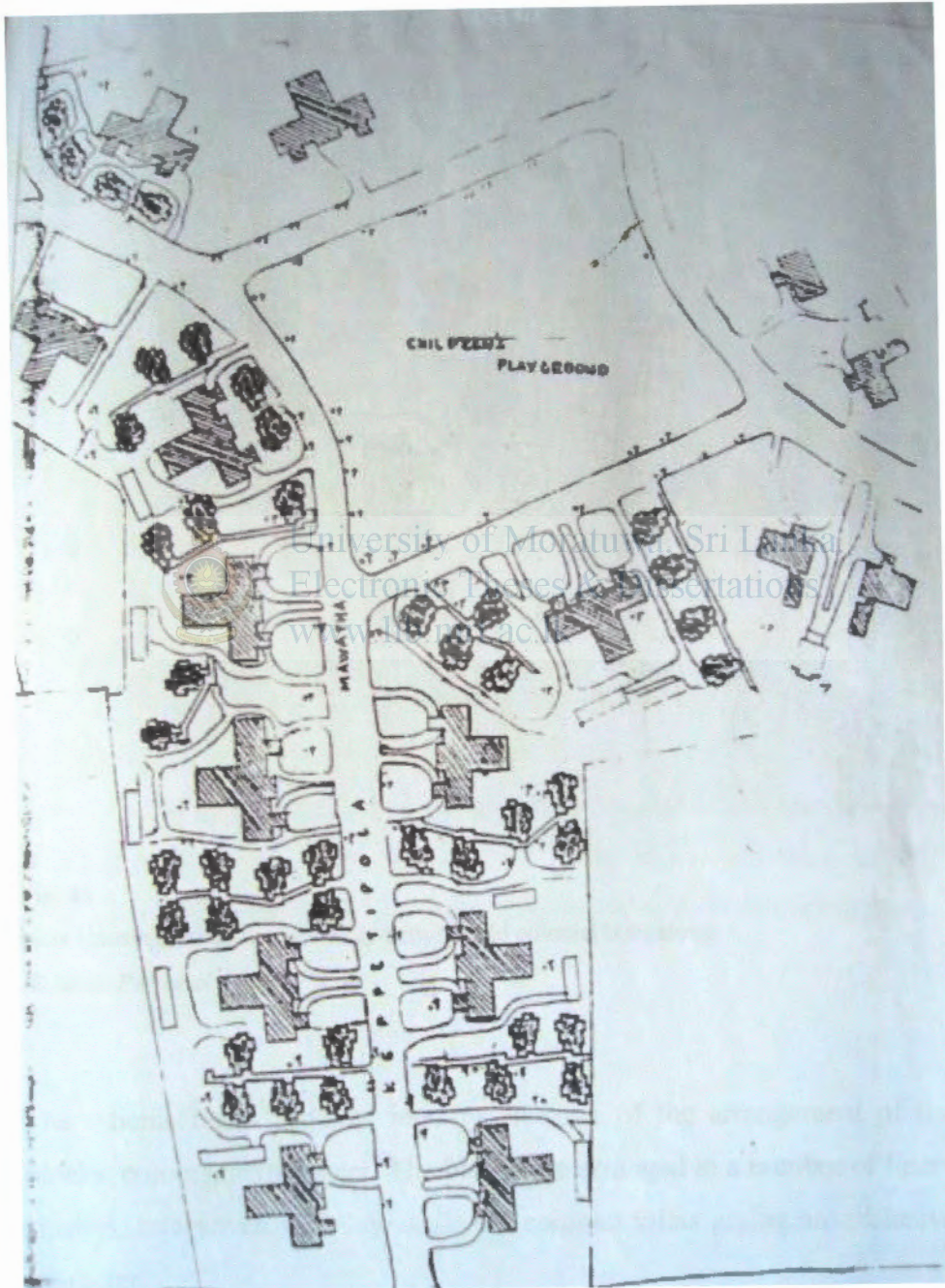


Fig: 85

Layout plan

(Source: SLIA Journal)

Flats are arranged in a manner, that all the front side is oriented to internal streets. In upper level also each and every house unit is connected through corridors. This connection ensures the sense of security in occupant's minds. This connection helps to integrate all house units together giving more residential character. Further, the common access to upper level helps to control access to that level, discouraging intruders.

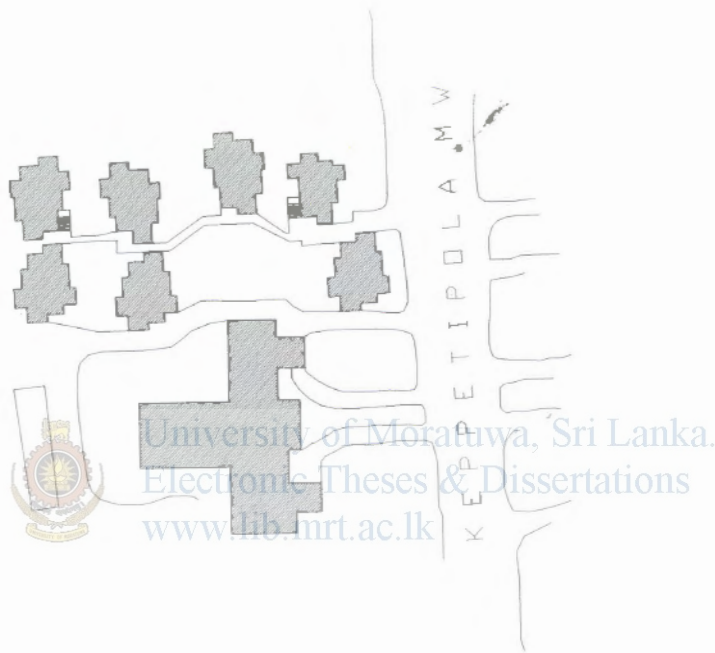


Fig: 86

New Housing blocks are placed in-between old colonial bungalows

(Source: Personal dwg.)

The scheme has a separate identity, because of the arrangement of the blocks, colours, textures ect. The blocks are arranged in a number of linear clusters, intervoven with low scale old colonial villas giving an exclusive character.





Fig: 87

The housing scheme has a separate character and identity due to its colour and texture

(Source: SLIA Journal)

The shady atmosphere with trees, the balanced break of facades, gable roofs, rich colour and texture reduction of the impression of the scale due to play of solid and void are blessings to create a relaxed home environment. The scheme has a lively atmosphere in a very passive manner.

### 3.3.2.3 Spatial Organization



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
www.lib.mrt.ac.lk

Each flat has four units of houses. Although the block comprises of four floors, the scale and proportion needed for a two storied dwelling is still maintained by access streets, which threaded through the blocks, connecting all the blocks at upper level. This open air bridges with walkways widening in front of the entrance to each unit. This creates access to each unit unique and personal, which is help not to feel 'flat environment' to user.



Fig: 88

Open air bridges with walkways provide separate access to each unit even in upper levels.

(Source: SLIA Journal)

The height of the flat is quite short the proportions give a residential character to the scheme. Roof form also contributes to the human scale of the houses. Instead of having one roof over the whole block, it has been broken down to smaller ones, giving each unit certain individuality.

This human scale helps to enhance sense of belonging in occupant's minds.



Fig: 89

Proportions and roof form give domestic character to the scheme, which feel sense of belonging in occupants mind.

(Source: SLIA Journal)

University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
www.lib.mrt.ac.lk

Often uniform and monotonous appearance of housing scheme is cut down to a greater extent by staggering the walls and incorporating various elements such as canopies and balconies. (Fig. 90)



Fig: 90

Separate service entrances to each unit at upper levels, increases privacy and each unit has a service terrace which give more comfortable feeling to user..

(Source: SLIA Journal)

Design approach with mechanism to enhance the visual connection with the outside world such as rear balconies, walk ways at upper levels, and walls of relatively low height contribute a lot in psychological satisfaction of the user. The shady trees enhance the comfort in the environment and create an intimate environment suitable for housing.

Housing scheme has clear demarcation of public; semi public and private domains. Successful integration of these places provides both physical and visual links and enhances the spatial quality. Territorial demarcations between public streets and semi public open spaces, maintenance of the hierarchy of spaces enhances user's safety needs and strengthen and the sense of security. The veranda which is in front of each unit act as a semi public space in between public and private spaces, each house owner can put his furniture and by planting he can personalize it. Then it acts as a personal space while being a part of public realm.

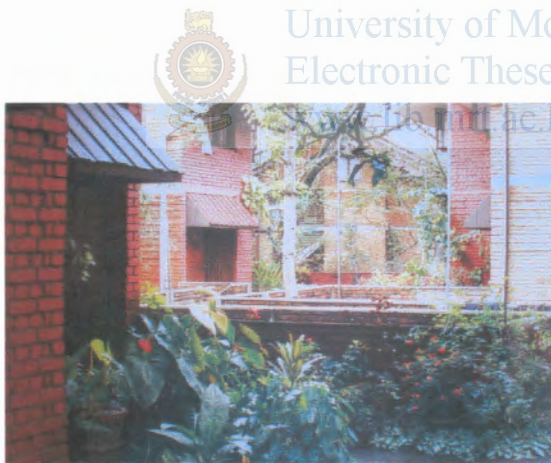


Fig: 91

Veranda in front house unit is personalized by planting  
(Source: SLIA Journal)

The clear demarcation of the semi public ,semi private by using textures, space enclosures ,level changes by the design it self has reduced unwanted territorial demarcations by the user.

The uncovered walkways allow the upper level residence to feel as if they were living in ground.





Fig: 92

The uncovered walkways allow the upper level residence to feel as if they were living in ground.

(Source: SLIA Journal)

The layout should also be appreciated in terms of its contribution to the manipulation of the built environment to capture the prevailing wind and avoid hazard of the sun. It increases the physical comfort and reduces unwanted user responses of shading devices, block edges of openings. The tree cover creates a relaxed and comfortable spatial experience.

The walkways get widen in front of the house unit and these widen areas act as meeting places. Even they are not functioning very well; it has much potential in being an element that encourages interaction. These are acting well as play areas for small children.



Fig: 93

Widen areas in walkways acting as play areas for small children.

(Source: SLIA Journal)



Fig: 94

On the ground the tall walk way structures acts as overhangs protecting the walk way below.

(Source: SLIA Journal)

In between places are look after by residence as their own spaces, still there are few 'no mans land.'



Fig: 94

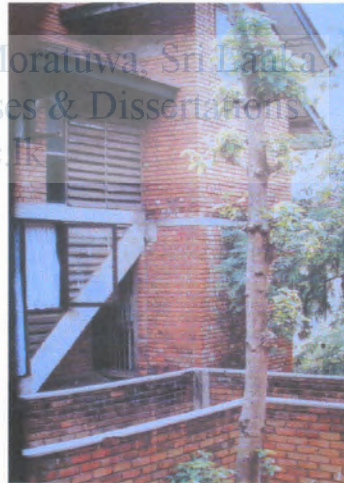


Fig: 95

In between places are look after by residence as their own spaces, still there are few 'No mans land.'

(Source: SLIA Journal)

In the housing scheme the define pockets in between housing blocks play major role in generation various activities. Therefore a particular cluster or a house hold and its immediate neighbourhood have its own identity. Temporary play spaces, successful socializing spaces enhance the quality of the housing scheme by fulfilling the users' physical and emotional needs.



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)





University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

## **Conclusion**



## Conclusion

### *Intention*

Sense of Belonging is a major aspect in Built Environment. The cold space within the concrete shell becomes a warm secure personal place if the ambience of the space created by Built environment gives the feeling of that the user is being accepted by the particular environment. The feeling of sense of belonging is the most important factor of human beings, in order to achieve his goals and to succeed his intentions within an environment.

Considering all created physical spaces, Home is the place where man has his roots, the foundations of his existence and expression of identity. The Home built an emotive bond between man and the living environment, therefore it fill with sense of belonging. Thus ultimate goal of Housing should enable Home making.

Public Housing scheme to be successful, the user should have accepted the given environment as their own. For that, they should feel that they are being accepted by the environment.

The study therefore proposed to examine the 'concept of Belonging' and its relationship to Architecture and to demonstrate its dynamics through selected examples. The main intention was to point out that it is possible to achieve an environment which gives the feeling of sense of belonging to user in Housing schemes through well designed spaces by using a systematic method.

## *Methodology*

The study was to be carried out through analyzing ambience of particular Architectural spaces and how to achieve Sense of belonging in Housing schemes by using identified ambiances. The decided methodology was to carryout the study by observations of the author on the basis of available literature and interpretation of them. And also consider the statements made by scholars, because in the field of Architecture there are Architects who successfully experienced the play of concept of Belonging and its applicability in the built mass. By using one or more of these methods it was to identify the concept of belonging and to state that by establishing a methodology it is possible to design successful Housing schemes which deliver sense of belonging.



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

## *Rethinks*

The study was based on the literature and statements and their interpretation by author. Identification of ambiances in the course of observation was not successful within the limited period of time. Even though a survey with the user of Housing Schemes would be given positive results regarding concept of Belonging, it was not an easy task for this particular study period. Therefore few assumptions are made on the basis of available literature. Also the statements regarding the concept of belonging had not easily found, yet some facts could be found as 'concept of Home', 'concept of place'. 'Enclosure, 'insidness, ect.

(P.34-44)



## *Case Studies*

Considering Case studies, it seems sense of belonging of occupants living in Housing schemes is the one of the factors often overlooked by designers of public Housing schemes in Sri Lanka. In some cases the used methodologies were succeeded and in some cases were not. It seems that even though the designers have tried by using several concepts they do not have clear methodology.

## *Results*

The Concept of Belonging already exists in different intensities in most Architectural spaces found. Yet, Lack of sense of Security, lack of sense of Privacy, lack of sense of Territoriality and lack of sense of Identity in Housing schemes are the factors which are contributed to lack of sense of Belonging. The study shows that, if enough consideration is given in early stages of the design, various modifications and alterations done by user could have been avoided.

In order to feel sense of Belonging in Housing schemes there are certain key concepts to be fulfilled.

Place making in Architecture plays a major role in achieving sense of Belonging. Among the psychological dimensions of space, namely; center, enclosure and continuation; enclosure is where one can feel sense of Belonging while other two support more or less as contributors of sense of Belonging. Therefore, through spatial organization in Housing scheme and also in house units sense of Belonging can be achieved. (p.34)

Insidness and Outsidness is another factor in Sense of Belonging. One should feel insidness in space to feel sense of Belonging. This insidness and outsidness can be overcome to sense, by place making in Housing schemes. In this context the significance of doors, gateways, and threshold becomes quite clear; but it is not only the boundary between inside and outside, but also the passage from one to another. Therefore, from entry point of a housing scheme through spatial organization and by using symbols, it can be felt by the residents that they are gradually getting in to inside. Then the residents would feel sense of Belonging to that particular setting. (p.40)

Properly maintained private-public ratio is another aspect in achieving sense of Belonging. This can be achieved through rules (manners, avoidance, hierarchies, ect), through psychological means (internal withdrawal, dreaming, drugs, depersonalization, etc), through behavioral cues, through structuring activities in time, through spatial separation, through physical devices (walls, courts, doors, curtains, locks, - architectural mechanisms which selectively control or filter information). (Rapoport, 1977) (p.41)

Outside the house unit through place making process achieve sense of Belonging is possible. But within individual house unit, it is not an easy task. Considering the successful housing schemes in the world, user participation in design process is a successful method. Even though surveys carried out before designing and identify a collective identity of user is not enough in the case of housing because the house is the symbol of self.

In this sense user personalization is a major aspect in Housing schemes in order to achieve sense of Belonging.  
(p.45)

Flexibility a design may be the main solution for this matter. The occupants should be facilitated to merge their internal spaces according to their needs and aspirations. The basic structure of the house can be provided where the occupants can arrange the internal spaces in accordance with their needs.

### *Insights*

'Composition is the main way of achieving Sense of Belonging. Each and every human being has desires, through 'principles of Composition' and its' encode level or the degree, the degree of the feeling it generate depends. Therefore, the better the composition the greater the meaning it generate which leads to feel sense of Belonging.

When it comes from Human being to a user group a good physical composition is not enough, cultural and social aspects of the particular sub culture or collective identity of user should be considered as well.

Then coming to an individual user within the user group or sub culture, individual identification is essential. Every individual belongs to a type, therefore identify psychological aspects of user type and designing for them generate sense of Belonging.

Therefore it seems that the degree of feeling sense of belonging depends on the user. According to the degree of



composition of Architectural spaces, Architectural elements generate sense of belonging in deferent intensities.

The greater insight of the study is user personalization is an essential factor in Public Housing to achieve sense of Belonging for individual user.


In the past, people use to make their own house guided by their own intuition and simple tradition. But with the complexity of lives that task has become an activity, in which the professional involvement is needed. Here, the Architect has to play the enahlers role that is to give design solutions in such a manner that overtime they will grow in to personalized places of living in the tenderly hands of occupants.



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
[www.lib.mrt.ac.lk](http://www.lib.mrt.ac.lk)

In conclusion it can be said that this is not an area of study which can be completely covered in attempt like this. But the results of the study can be used for further studies which related to Concept of Belonging. The study is possible he more successful if using another methodology for the study. This will be an eye opener for those who are involved in designing public housing schemes for the unknown user, to consider an aspect which is then neglected, would be achieved through careful design.

## Bibliography

- Alexander, C. -*The timeless way of building*, New York, Oxford University press, (1979)
- Alexander, C. -*A pattern language*, New York, Oxford, University press, (1979)
- Antoniates A.C -*Architecture and Allied Design*, Hunt publishing co. USA, (1981)
- Bell, A.T -*Human identity in the urban environment*, London, butler and tanner Ltd. (1972)
- Bruce Allsopp -*Towards a Human Architecture*, Fedric Muller Ltd, London, (1974)
- Canter .D. & Lee .T -*Psychology of the built environment*, London, Architectural Press, (1974)
- Canter, D. -*Psychology for architects*, England, Applied science publications Ltd, (1974)
- Canter, D.  University of Moratuwa, Sri Lanka. Electronic Theses & Dissertations www.lib.mru.ac.lk - *Psychology of place*, London, Architectural Press, (1977)
- Charles Jencks & George Baird -*Meaning in Architecture*, Barrie & Rockliff: Cresset Press, (1969)
- Ching F.D.K -*Architecture: Form Space and Order*, Van Nostrand Reinhold, (1979)
- Ching, Francis -*Architecture Form Space and order*, New York, Van Nostrand Reinhold Co. (1979)
- Christopher Day -*Places Of the Soul: Architecture and Environmental Design as a Healing Art*, Butler and Tanner Ltd, London, (1990)
- Coomaraswamy A. -*Source of Wisdom: Art Man and Manufacture*, Ministry of Cultural Affairs, London, (1981)
- Correa Charles -*Charles Correa*, Thames and Hudson, (1996)

## Bibliography

- Alexander, C. -*The timeless way of building*, New York, Oxford University press, (1979)
- Alexander, C. -*A pattern language*, New York, Oxford, University press, (1979)
- Antoniates A.C -*Architecture and Allied Design*, Hunt publishing co. USA, (1981)
- Bell, A.T -*Human identity in the urban environment*, London, butler and tanner Ltd. (1972)
- Bruce Allsopp -*Towards a Human Architecture*, Fedric Muller Ltd, London, (1974)
- Canter .D. & Lee .T -*Psychology of the built environment*, London, Architectural Press, (1974)
- Canter, D. -*Psychology for architects*, England, Applied science publications Ltd, (1974)
- Canter, D. -*Psychology of place*, London, Architectural Press, (1977)
- Charles Jencks & George Baird -*Meaning in Architecture*, Barrie & Rockliff: Cresset Press, (1969)
- Ching F.D.K -*Architecture: Form Space and Order*, Van Nostrand Reinhold, (1979)
- Ching, Francis -*Architecture Form Space and order*, New York, Van Nostrand Reinhold Co. (1979)
- Christopher Day -*Places Of the Soul: Architecture and Environmental Design as a Healing Art*, Butler and Tanner Ltd, London, (1990)
- Coomaraswamy A. -*Source of Wisdom: Art Man and Manufacture*, Ministry of Cultural Affairs, London, (1981)
- Correa Charles -*Charles Correa*, Thames and Hudson, (1996)





- Correa Charles - *Housing and Urbanization*, the Urban Design Research Institute, Bombay, (1999)
- Dayaratne Ranjith - *Architects, Architecture and Housing: is support the way foreward*, SLIA Journal, VOL.101, NO.13
- Duly,C. - *The Houses of man kind*, London, Thames and Hudson Ltd, (1979)
- Fathy H. - *Architecture for the Poor*, Chicago: University of Chicago Press, (1972)
- Habraken, J. - *Supports; An alternative to mass housing*, New York, Praeger publications, (1972)
- Hamdi Nabeel - *Housing without Houses; Participation, Flexibility, Enablement*, Van Nostrand Reinhold, (1991)
- Khan Hassan-Uddin - *Charles Correa*, a Mimar book. (1987)
- Lang J,Burnette C,Walter V. - *Designing For Human Behavior: Architecture And Behavioral Sciences*,Dowden Pennsylvania,Hutchinson And Ross INC,(1974)
- Lawrance R.J. - *Housing, Dwelling and Home; Design Theory, Research and Practice*, John Wiley and Sons Ltd, (1987)
- Levi David - *Design for Human Behavior: The Gestalt psychology of Expression in Architecture, Community Development Series*, Hinstead Press, (1975)
- Lynch, Kevin - *Managing the Sense of a Region*, Cambridge, MIT Press, (1976)
- Mohan,I - *Environment and Habitat*, Ashish Publishing House 8/81, Punjabi Bagh, New Delhi
- Norberg-Schulz - *Genius Loci: Towards Phenomenology Of Architecture*, Academy Edition, (1980)



University of Moratuwa, Sri Lanka.  
Electronic Theses & Dissertations  
www.lib.mrt.ac.lk



- Norberg-Schulz -*Intention of Architecture*, Cambridge, the MIT Press, (1965)
- Oliver P. -*Shelter sign And Symbol*, Harward University press, London, (1975)
- Pierre, Von, Meiss -*Elements of Architecture*, Van Nostrand Reinhold, (1990)
- Proshansky M.H. -*Environmental Pshchology; Man And his Physical settings*, NY, (1967)
- Rao Hanumantha -*Comparative Aesthetics*, Printing and Publishing House, Mysor, (1974)
- Rapport A -*The Meaning of the Built Environment*, California, Sage Publications, (1982)
- Rapport A. -*House Form and Culture*, entice Hall, Inc, (1969)
- Rapport A. -*Human Aspects of Urban Form*, London, Pergamon Press Ltd, (1977)
- Relph E. -*Place and Placelessness*, London, Pion Ltd, (1976)
- Richardson A.E, Hector O -*The Art of Architecture*, Attick Books, GB, (1993)
- Sommer R. -*Design Awareness*, USA, Rinchart Press, (1979)
- Sommer R. -*Personal Space-The Behavioral Basis of Design*, New Jercey, Prentiss Hall INC, (1969)
- Taylor Brian Brace -*Geoffrey Bawa*, A Mimar book. (1986)
- Wickramasinghe T, Karunaratne U -*Planning and Designing of Housing units in the larger scale with particular reference to a work examples: an application of pattern landguage*, SLIA Journal, VOL 100, NO:9



University of Moratuwa, Sri Lanka  
Electronic Theses & Dissertations  
www.lib.mrt.ac.lk

