

# UNITY IN DIVERSITY



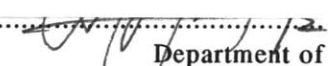
: A DESIGN PROJECTION FOR A PARTICIPATORY HOUSING IN KUALA LUMPUR

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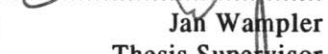
submitted to the Department of Architecture in partial fulfillment of the requirements for the degree of **Master of Architecture** at the Massachusetts Institute of Technology

February 1992


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Khas untuk ayahanda dan bonda

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UNITY IN DIVERSITY:  
A Design Projection for a Participatory Housing in Kuala Lumpur

by:  
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Submitted to the Department of Architecture on January 17, 1992 in partial fulfillment of the requirements  
for the degree of **Master of Architecture**

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## ABSTRACT

This thesis is an exploration towards an alternative design approach for a public housing in Malaysia. It stems from a conviction that the design of public housing should be based on the lifestyles and ways of living of the people it is intended for. Since the Malaysian people are composed of three diverse cultures: Malay, Chinese, and Indian, this thesis proposes a participatory approach which allows each group to accommodate their cultural needs in the design of their dwelling places. Recognizing that public and communal activities are very much a part of the living environment, the thesis attempts to accommodate these activities into the design process. Because each of the three cultures has different ways and needs, the design of both private dwellings and public/communal spaces is based on the supports concept, which is organized around a system of frameworks. This thesis is the second part of a two part work:

Part I is a research of the various types of dwellings: traditional, squatter, and public housing; to discover the important principles and elements that persist in all the dwelling types shared by Malays, Chinese and Indians.

Part II is a design projection of those principles for a participatory housing project in Kuala Lumpur, involving four of the thirty families surveyed in Part I research. The design exercise includes exploring various transformation possibilities to produce a whole range of variations that satisfy the needs of the diverse Malaysian cultures.

Note: Part I and Part II are documented separately into a S.M.Arch.S and M.Arch theses respectively. Each document is a complete, independent thesis, but very much interrelated. Therefore, it is recommended that they be read in sequence.

*"Personal liberty is a shallow word only unless society and its architectures enable the possibilities of personal activity"*

Werner Ruhnau

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*" The true basis of any serious study of the art of architecture still lies in those indigenous, more humble buildings everywhere that are to architecture what folklore is to literature, or folksong to music, and with which academic architects were seldom concerned.... These many folk structures are of soil, natural. Though often slight, their virtue is intimately related to environment, and to the heartlife of the people. Functions are usually truthfully conceived and rendered invariably with natural feelings. Results are often beautiful and always instructive."*

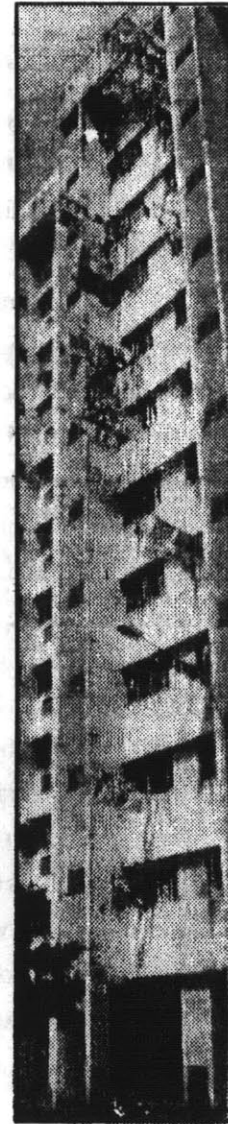
**Frank Lloyd Wright**  
*"The Sovereignty of the Individual"*



## PREFACE

I grew up in a low cost housing project, just outside the city centre of Kuala Trengganu. There were ten of us including my parents, crammed up in the two bedroom rowhouse. It was a typical modern house with a generic floor plan that is built all over the third world countries.

Despite the modern furniture that filled the house, our day to day life was anything but modern.



We still entertained our guests in the living room sitting on the floor. We still ate our meals in the dining room, on the floor. My mother still prepared the meals on the floor. We all, except my Father, slept on the floor. The only difference now was that the floor was a cement floor, instead of the wooden floor raised above ground as in my grandmother's house. The traditional customs and rules of the house remained, even though the house was no longer traditional. We were required to take off our shoes and wash our feet before entering.

I pitied my friends who lived in the walk-ups or "flats" as we called them. We all played in the same dirt, but they had to be careful not to dirty their feet because living in the flats, they could not wash their feet before entering their house. They could not even get their shoes dirtied because unlike us who lived in the rowhouses, they kept their shoes inside the house since outside their front door was the public corridor. Another traditional custom was that children and women were not allowed in the public zone of the house, i.e. the living room, when guests were entertained. We, the children had to walk around the entire length of the row houses which had 15 units per row, to get to the front yard to play in order to avoid passing through the living room. We considered ourselves lucky because at least our house had a kitchen entrance, i.e. back door. Our friends in the flats had to wait in agony until all the guests had left before they could come out to play because their house only had one entrance. Our kitchen entrance and the area around it was also the area where my mother or my elder sisters entertained their female friends. The tiny and awkward area was nothing compared to the "ladies' living room" that my grandmother had in her house, but it was better than nothing. Those mothers who lived in the flats had to make do with their 8x8 kitchen as the socializing area.

I have experience both living in a traditional house and in a modern house.



from Lat, the Kampung Boy, 1979

## PREFACE



from Lat, the Kampung Boy, 1979

Reflecting on those experience, I feel compelled to devote my thesis research on the lifestyles in public housing and to study the cultural needs and values of the Malaysian people and incorporate them into the design of future public housings.

Malaysia presents a unique case because its people are multiracial. The Malaysian population consists of the Malays, the Chinese, and the Indians, each with its own distinct culture. For decades, architects had ignored the significance of this cultural diversity. Instead they designed the public housing based on the western concept of dwelling, which had nothing to do with the way the Malaysia lives; not the Malay, not the Indian, nor the Chinese. However, it would be unwise economically or politically, to build a separate and different housing for each of them. For that reason, I focus this thesis on developing a Support System which is derived from the common elements in the living patterns and the built forms of these three cultures.

One of the legacies that colonialism had left behind in Malaysia was the deep chasm, dividing the three ethnic groups as a result of the "divide and rule" policy. The Malaysian society after the Independence was not simply a multiracial society, but rather a pluralistic society where the ethnic divisions of the society have ramifications in every aspect of life. But that had not always been the case. For centuries prior to colonialism era, the Chinese and the Indians had been living harmoniously with the Malays, exchanging not only goods but also knowledge of each other's culture. These cultural exchanges and assimilation still evident today. As the Malaysian societies are becoming more urbanized, racial and cultural factors are no longer the attributes of a social division. Rather, it is income that sets the lines in a social strata. It is important to note that this thesis is not about racial integration or segregation; it is simply about people - the Malaysian people.

It is about the way they live, then and now. Its purpose is to help myself and other architects understand their cultural needs and values when designing their dwelling places.

There are many positions architects can hold as far as public housing is concerned. This thesis explores the support system as an alternative because I believe every individual dweller has a right to participate in the creation of such an important and personal belonging as a place of dwelling. Working towards a support design has taught me to think of the supports as the Malaysian essence that all of us, Malays, Chinese, and Indians share; and the variations it generates as the identities that each of us brings out from deep in our roots.

## PREFACE

# SECTION 1



## INTRODUCTION



## As I begin my journey...

Being an idealistic person, my vision of Malaysia is one in which everybody - Malay, Chinese, or Indian - lives together, accepting each other's cultural and religious differences without any form of suspicions or prejudice; a place where there exist no racial boundaries within the settlement patterns.

In Malaysia today, the Malays, the Chinese, and the Indians live side by side, yet separate. Kuala Lumpur is a mosaic of diverse social and cultural worlds. There are Chinese Chinatown of Pudu and Petaling Street, Malay's urban villages of Kampung Baru, and Indian quarters of Brickfields and Sentul - together forming a fragmented scene where the people mix but do not combine.

Since Independence, the central theme of Malaysian politics has been the idea of ethnic unity and harmony. Catchy slogans and media images of a contented, harmonious society have been largely propagated and permeated into the psyche of the population. Various campaigns aimed at redressing the inequalities among the ethnic groups have flourished and gone. Curiously though, the process of restructuring the society did not seem to include the most evident manifestation of ethnic segregation - the housing of the society at large. Instead, many housing projects in Malaysia tend to distribute each ethnic group into separate blocks of housing, which is contradictory to the whole idea of unity! In Singapore where the population make up is similar to that of Malaysia, the government has a deliberate policy of integration in which the tenant population of all housing projects are required to



consist of a certain pre-determined percentage for each ethnic group.

Therefore, in the summer of 1990, I began my research by comparing the public housing environment in Malaysia to that in Singapore, to determine what could be gained, or lost, if the people were to live as neighbors in a "neutral" (ethnically undefined) ground.

The one month period I spent in Singapore totally changed my attitude towards the subject of housing in Malaysia.

Although various ethnic groups lived peacefully next to each other, I could not overlook the fact that what was achieved in Singapore bore little resemblance to my idealistic definition of ethnic unity. The ethnic groups still tended to interact among themselves to the exclusion of other groups, especially among the minority Malays, who felt they had to preserve their identity in a predominantly Chinese society. The people, therefore were no longer physically segregated, but were still socially segregated. Furthermore, what was truly lost in this situation was the essential sense of community that was so prevalent in the





traditional *kampung* (village) of South-East Asia. I often look back to the days I spent in my own *kampung* with fondness, and so it was with dismay that I heard how Malay communities in Singapore were split apart, and how the older generation family members were still willing to travel from one end of the island to the other just to maintain their old *kampung* ties.

As I tried to visualize this form of housing in Malaysia, it became apparent to me that it would not work. The rural migrants to the cities of Malaysia would only be coerced into living together with other ethnic groups to the detriment of all involved. Instead of a harmonious society, friction between the groups would only escalate as each one sought to blame the other for the difficulties brought on by the situation. Unlike Singapore, the different ethnic groups of Malaysia were not ready to accept such change. Thus, the reality of the situation forced me to accept the fact that my idealistic vision of society would not be realized in the foreseeable future.

I then realized that instead of formulating integrated housing policies, it may be best that the people decide for themselves where they want to settle, and with whom they want to be neighbors. In Malaysia, although the cities are divided into separate enclaves of different ethnic groups, each of these enclaves is a vibrant social and cultural environment. The people feel that they belong to the place because their individual identity forms part of the collective identity of the place.

At this point in time, a single collective identity in Malaysia has yet

to emerge. Therefore, an integrated living environment is not presently suitable and any attempt to create such an environment is misguided. However, the future holds promise for a collective Malaysian identity to be forged by the natural process of cultural assimilation. As it is today, one can already see many evidents of this cultural assimilation occurring. It is evident in the buildings, food, clothes, and even the languages of the people. Through the education policy of the Malaysian government, children today are more exposed to the ways of their other ethnic friends because of integrated schools and a common language. In the modern world of today, where everybody, regardless of race, is striving for economic betterment, the racial boundaries in the settlement pattern are slowly fading away and the people are more inclined to live where their wealth can bring them to.

So, a day will come when their children, or their children's children will identify themselves first and foremost as Malaysian, living with other Malaysians who may belong to a different race, but in all other respects is as Malaysian as he or she is.

With this realization in mind, my vision of Malaysia is more vivid than ever. But instead of the naive attitude of housing integration, I believe that public housing should accommodate the cultural needs and differences of the Malaysian people, yet it should also nurture the transformation process that the society at large is undergoing. Therefore the design should be sensitive to the needs of the Malay, Chinese and Indian cultures, at the same time allow for other interpretations as the people are gradually modernized towards a new lifestyle whether or

not it is an assimilated "Malaysian" culture.

In order to achieve this, the housing itself should not be in the form of a "complete package" which the government is currently building, but rather a system of frameworks that involves the participation of the people in its final completion. Similar to John Habraken's Supports concept, this system allows for many levels of control in the decision making process, but in the context of culturally rich Malaysia, although the support should be neutral enough to accommodate the different cultures, this support system should also be culturally defined enough so that the Malays, the Chinese, and the Indians can identify with. Therefore, the design should be based on the shared elements in the builtform and patterns of use of the Malay, Chinese and Indian houses. At the same time, it should take into consideration the differences in the religious requirements and ways of living of these people.

With those goal in mind, I spent the summer of Malaysia researching the different kinds of living environments: traditional, squatter, and public housing of the Malays, Chinese and Indians and understanding their ways of life and living patterns. With the help of two assistants, Ismat who is an Indian, and Sue Ho, a Chinese, I did a survey of the squatter area in Kampung Sentosa which composed of different ethnic enclaves, and of the Sri Sentosa squatter resettlement housing project.

This thesis is about these people.



### **The Malaysians I get to know...**

Over the one and a half months period, I met with thirty families from the Kampung Sentosa area. Some live in the squatter areas and some live in the flats. The followings are four of the families whose backgrounds and lifestyles are representative of the Malaysian people in general. These narratives will offer the reader a look at the lifestyles and living environment of the people I intend to design for. These four families will be the participants in the design of the housing units, which will be described in the final section of the thesis.

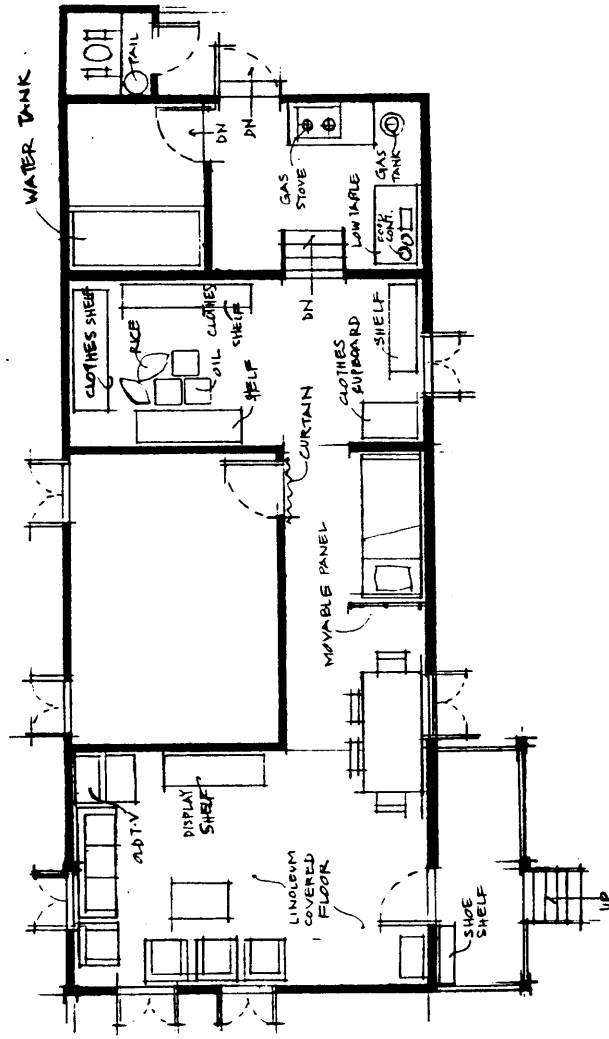
Family 1: Encik Muhammad bin Said

Family data:

Ethnic Background: Malay  
Religion: Islam  
household size: 8  
total family income: M\$800-\$1000 monthly  
Current place of resident: squatter house

Status	Age	Occupation	Education Level
Father	45	Street Vendor	Form 2
Mother	38	Street Vendor	Primary School
Son	20	Factory Worker	MCE (Form 5)
Daughter	17	Student	Form 5
Daughter	16	Student	Form 4
Son	12	Student	Standard 6
Daughter	8	Student	Standard 2
Daughter	7	Student	Standard 1





FLOOR PLAN OF CURRENT HOUSE.

Mr. Muhammad moved to Kuala Lumpur with his wife, from Johor, in the 70's. He and his wife took all kinds of odd jobs before started their small business selling fruits and cold drinks on the street, about five years ago.

His eldest son helped shoulder the economic burden of the family since he was 15. After finishing high school at the age of 18, he secured a job at a nearby factory.

The two eldest daughters, aged 17 and 16, do most of the house work since their mother works most of the day, and through the night on festive days or during "Pasar Malam"(a weekly evening market). They both attend secondary school during the morning sessions, from 7 a.m. to 1:30 p.m. Before leaving for school every morning, they prepare breakfast for the whole family and after school in the afternoon, they clean the house and prepare lunch and dinner. School work is done at night.

The two youngest children in the house attend primary school during the afternoon session, from 1 p.m. to 6 p.m. Mrs. Muhammad send them to school at 11 a.m. before rushing to the food stall to help her husband cope with the business at the busiest time of the day.

The youngest son aged 12, is at the final year in primary school, attending the morning session. Being very active in sports, he spends most of the afternoon practising soccer in school.

Mr. Muhammad hopes to someday open a small shop near the house, where he and his wife can spend more time at home with the children.

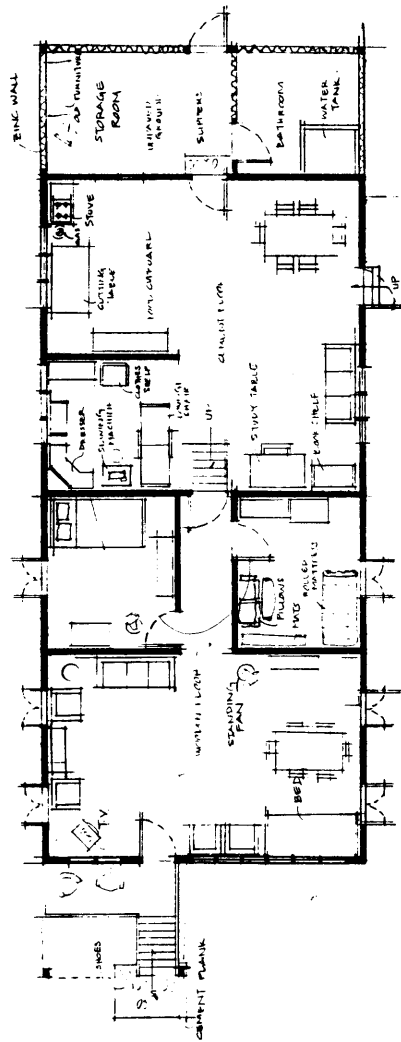
Family 2: Encik Syed Alwi

Family Data:

Ethnic background: Malay  
 Religion: Islam  
 Household size: 9  
 Total family income: above M\$1000 monthly  
 Current place of residence: squatter house

Status	Age	Occupation	Education Level
Father	67	Book Seller	Primary School
Son	27	Factory Worker	Form 5
Daughter	26	Housewife	Form 3
Son-in-Law	28	Factory Worker	Form 5
Daughter	20	Factory Worker	Form 4
Daughter	18	Factory Worker	Form 5
Son	17	Factory Worker	Form 5
Daughter	14	Student	Form 2
Daughter	11	-	Mentally Retarded





FLOOR PLAN OF CURRENT HOUSE

Mr. Syed Alwi came to Kuala Lumpur from Malacca almost 30 years ago, and has been living in the same squatter house he owns since 20 years ago. His wife died giving birth to their youngest daughter, now ages 11 and is mentally retarded since birth. His eldest daughter, Siti Aisyah, has been the substitute mother in the house ever since. That is why her husband moved into her family after their marriage, instead of vice-versa which is the norm in the Malay society.

Five of the family members work at the factories in the outskirts of Kuala Lumpur, not very far from the area they live in. Mr. Syed works in Petaling Jaya Old Town selling religious books. During Pasar Malam held weekly in the Sri Sentosa Flats, he and his sons set up a stall selling books and other religious items.

Siti Aisyah, who does not have children of her own, spends most of her time looking after her handicapped sister, and cleaning around the house. Cooking is a joint task shared with her other sisters, and is mostly done in the evening after they come back from work. With plenty of time in her hands, Siti Aisyah sometimes accepts "tailor work" from the neighbors to be done at home.

Her youngest sister is the only person in the house still attending school. She is a very hardworking person who spends most of her off-school time preparing for the national LCE examination which she will be sitting for next year.

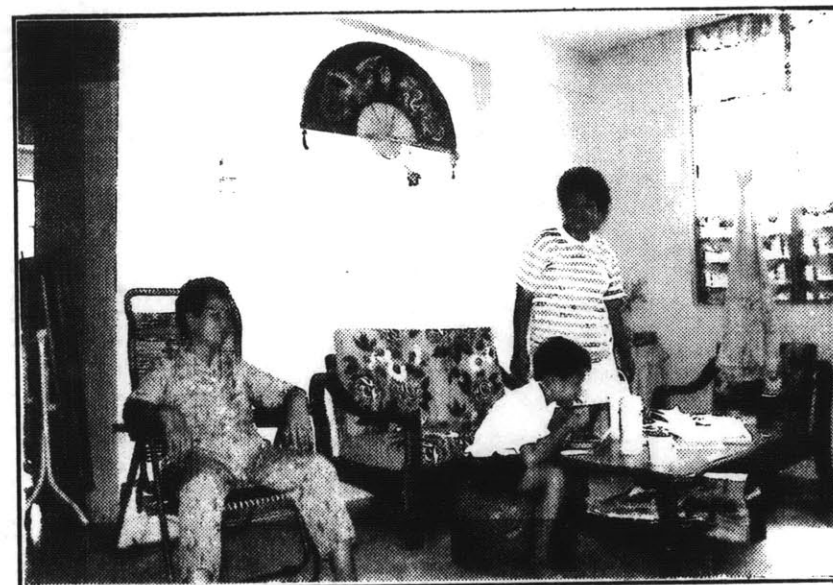
Mr. Syed Alwi is very active in the community organization, particularly the UMNO (United Malay National Organization) club. Often club meetings are held in his house during weekend nights. He also holds Quran reading classes for the children in the neighborhood.

**Family 3: Wee family**

**Family Data:**

Ethnic background: Chinese (Hakka)  
 Religion: Buddhism  
 Household size: 7  
 Total family income: Between M\$800-\$1000 a month  
 Current place of residence Sri Sentosa Flats

Status	Age	Occupation	Education Level
Grandmother	66	Housewife	-
Father	47	Street Vendor	Primary School
Mother	43	Street Vendor	Primary School
Daughter	15	Student	Form 3
Son	13	Student	Form 1
Daughter	11	Student	Standard 5
Son	7	Student	Standard 1



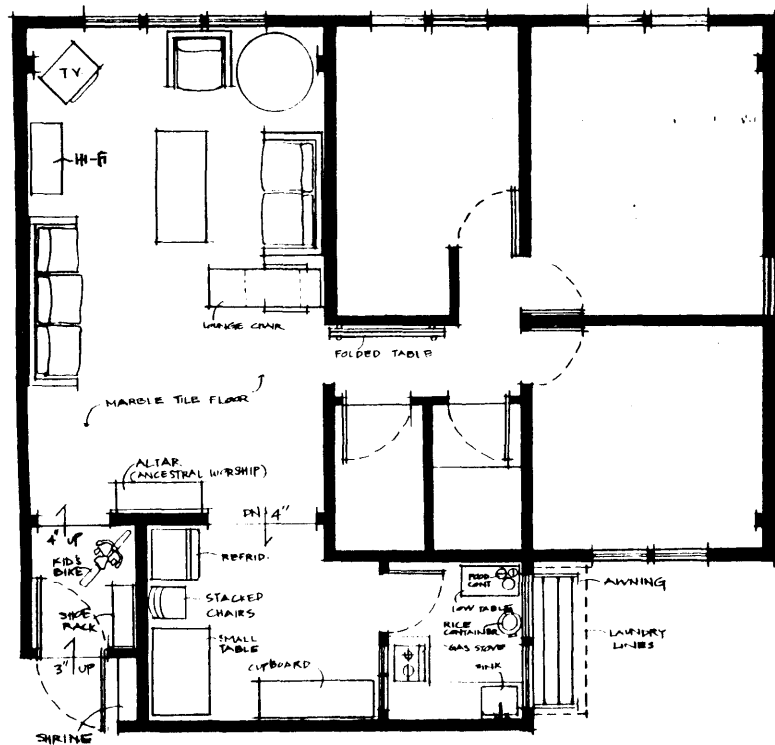


Mr. and Mrs. Wee were both originally from Ipoh, Perak. They came to Kuala Lumpur when their eldest daughter Wendy was 2. They first settled in Jalan Pantai, a Chinese squatter area in Petaling Jaya, for three years before settled permanently in Kampung Sentosa for the last ten years.

Both Mr. and Mrs. Wee are street vendors. Mrs. Wee has a small stalls in Petaling Jaya Old Town bus station, selling necessary items such as umbrellas, sandals, combs, etc. During Pasar Malam, they both set up a stall selling fabrics that Mr. Wee purchases in Thailand during his monthly trip. According to Mrs. Wee, most of their total income comes from the weekly sales during the Pasar Malam.

Since migrating to Kuala Lumpur, they have three more children, with the youngest ages 7. All of them are attending the nearby primary school. Mrs. Wee's mother came to live with them after her husband died five years ago. With her mother and her eldest daughter now ages 15, helping with the housework, Mrs. Wee are spending more time at the shop than ever, sometimes as late as 10 p.m.

The family is saving money to open a permanent shop selling fabrics. Mrs. Wee is even thinking of expending it into a tailor shop because both she and her mother used to do tailoring works while they were living in Ipoh.



FLOOR PLAN OF CURRENT DWELLING

**Family 4: S.K. Muthu family**

**Family Data:**

Ethnic background: Indian (Tamil)  
Religion: Hinduism  
Household size: 8  
Total family income: Above M\$1000 a month  
Current place of residence: Sri Sentosa Flats

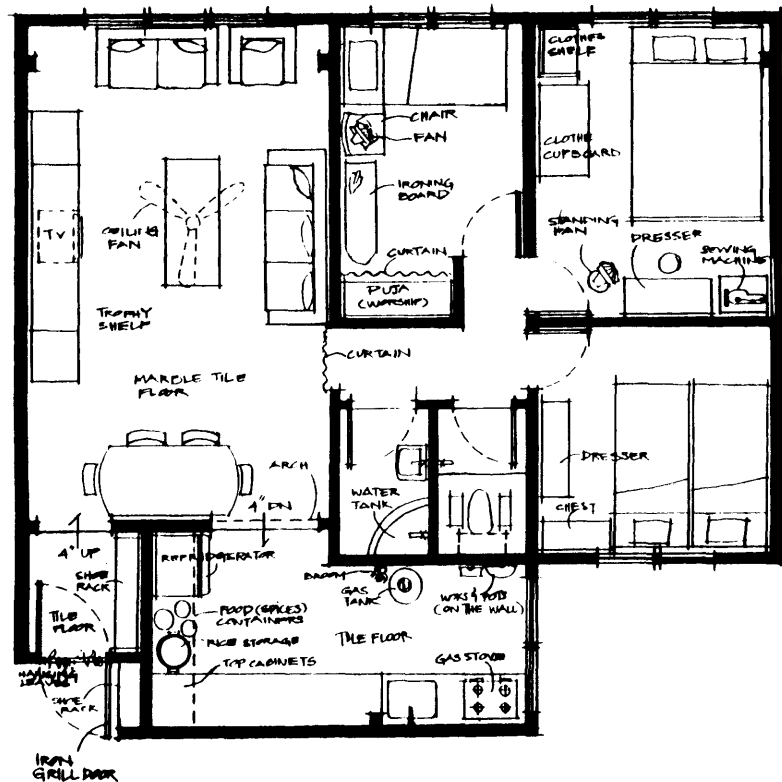
Status	Age	Occupation	Education Level
Father	42	Insurance Agent	LCE (Form 3)
Mother	38	Housewife	Primary School
Daughter	19	Student	Form 6
Son	18	Student	Form 5
Daughter	17	Student	Form 3
Daughter	12	Student	Standard 6
Son	10	Student	Standard 4
Son	9	Student	Standard 3



Mr. Muthu was originally from Kelang, a port city not far from Kuala Lumpur. His parents are still living there and often come to visit their grandchildren. Mr. Muthu came to this area after he and his wife got married 20 years ago.

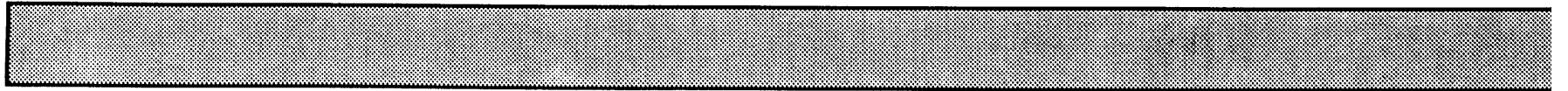
Mr. Muthu is an insurance agent whose work involves a lot of travelling around the country. His wife is a full-time housewife, taking care of the cooking, washing (laundry), cleaning, and other housework. Her eldest daughter sometimes helps her out but most of the time she attends preparatory classes to prepare herself for the national HSC examination which will determine whether or not she is going to a medical school next year. The second daughter is also sitting for a major examination this year, the MCE.

The eldest son is a star soccer player in his school. Their house is filled with his trophies. He rides a motorbike to school, and often fetches his younger brothers who are attending primary schools, to and back from school. He is very interested in becoming an architect, and is often given the responsibility to do the repair works around the house.

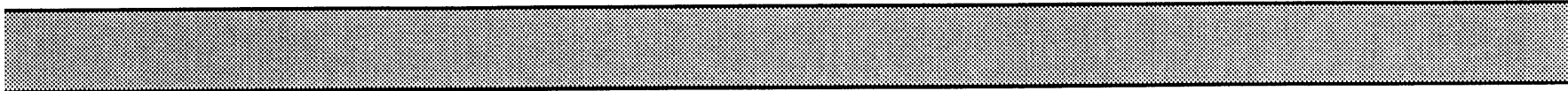


FLOOR PLAN OF CURRENT DWELLING

# SECTION 2



**BACKGROUND**





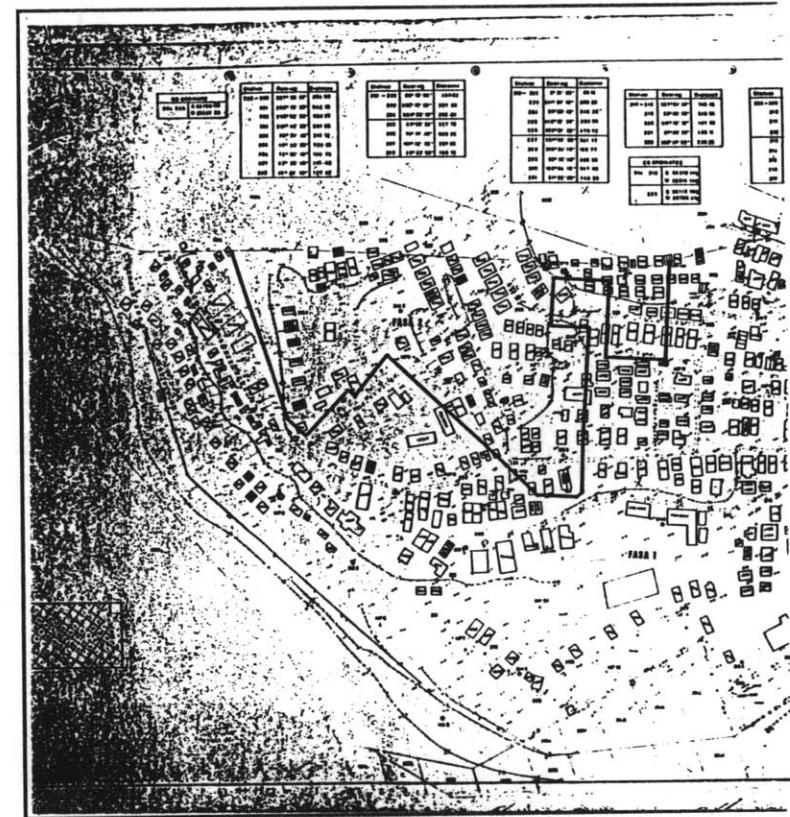
## About the site...

I decide to use Kampung Sentosa as my site because it provides a unique opportunity of using the real families who are living in the area as participants, and because Kampung Sentosa is currently being developed into a mixed income residential and commercial area, it also offers a comparison which I could use in evaluating my own design.

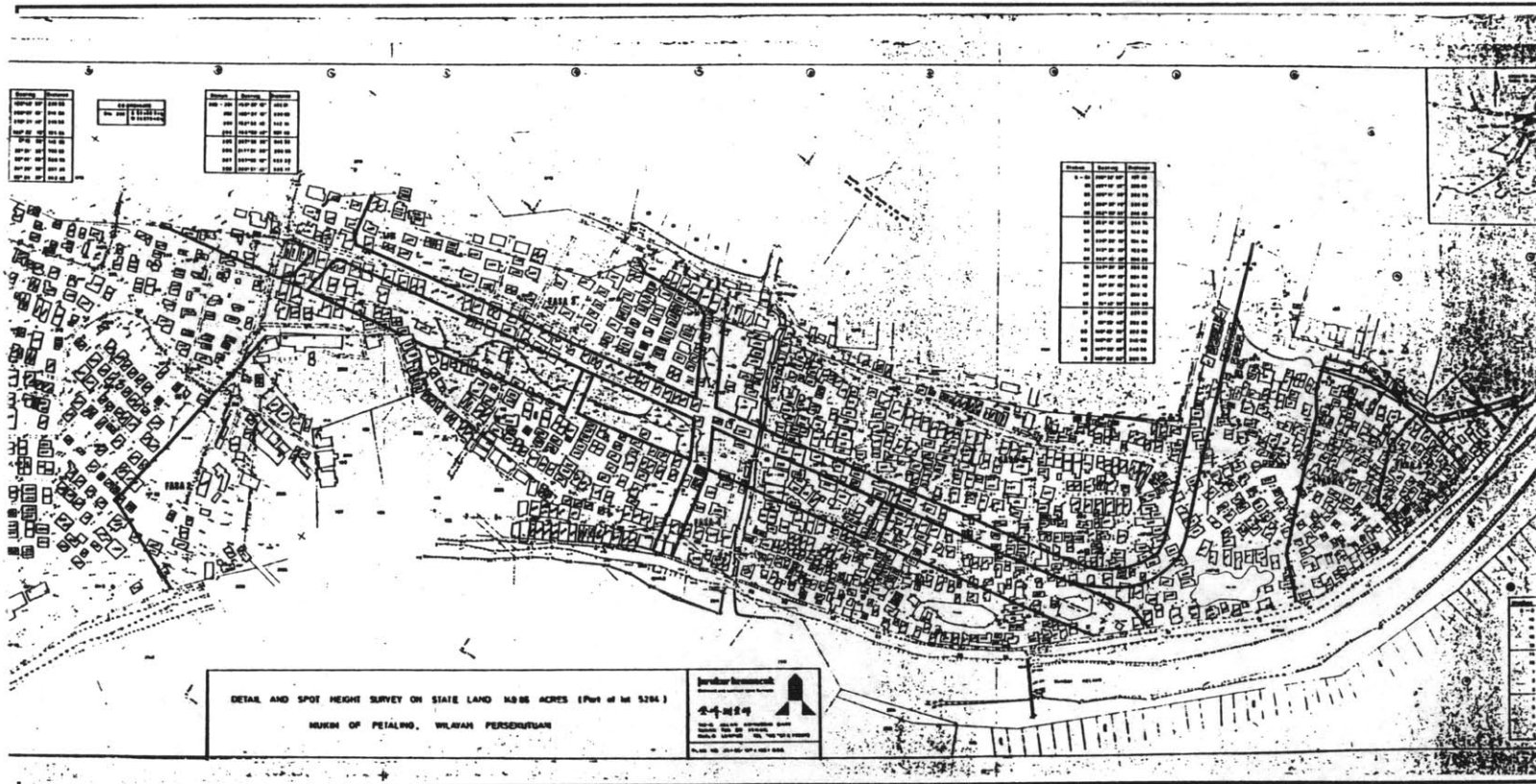
Kampung Sentosa has been a squatter area since the late 50's. Located in the middle between Kuala Lumpur city centre and Petaling Jaya industrial centre, it is a strategic place to live. Like most other squatter areas in Malaysia, it occupies a swampy land along the bank of a major river. Kelang River, along which Kampung Sentosa is located, is one of the two rivers which merge to form the confluence which Kuala Lumpur derived its name from.

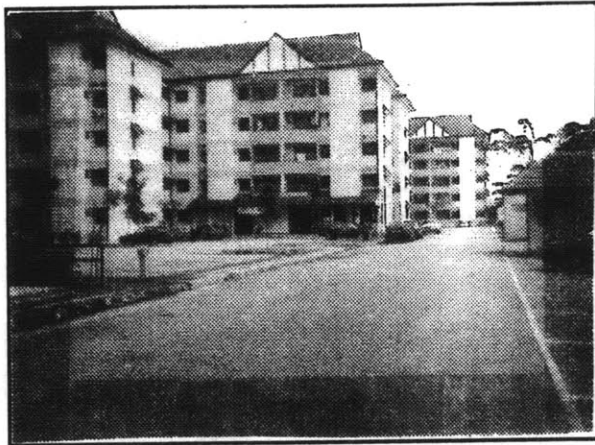
The development of Kampung Sentosa into Sri Sentosa mixed income residential and commercial area took place since the mid-80's. The development is divided into four phases. So far, only phase I and II has been completed and inhabited. Phase III is under construction, while the ground work for phase IV is just underway.

When I did my research in the summer of 1991, only a few pockets of squatters existed. The rest has been leveled to the ground. All squatters will eventually be resettled into the low-cost flats.

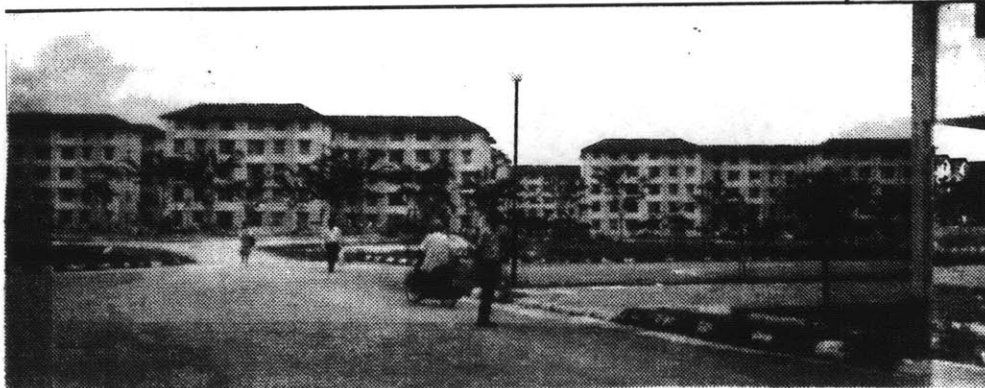


EXISTING SQUATTER SETTLEMENT PLAN

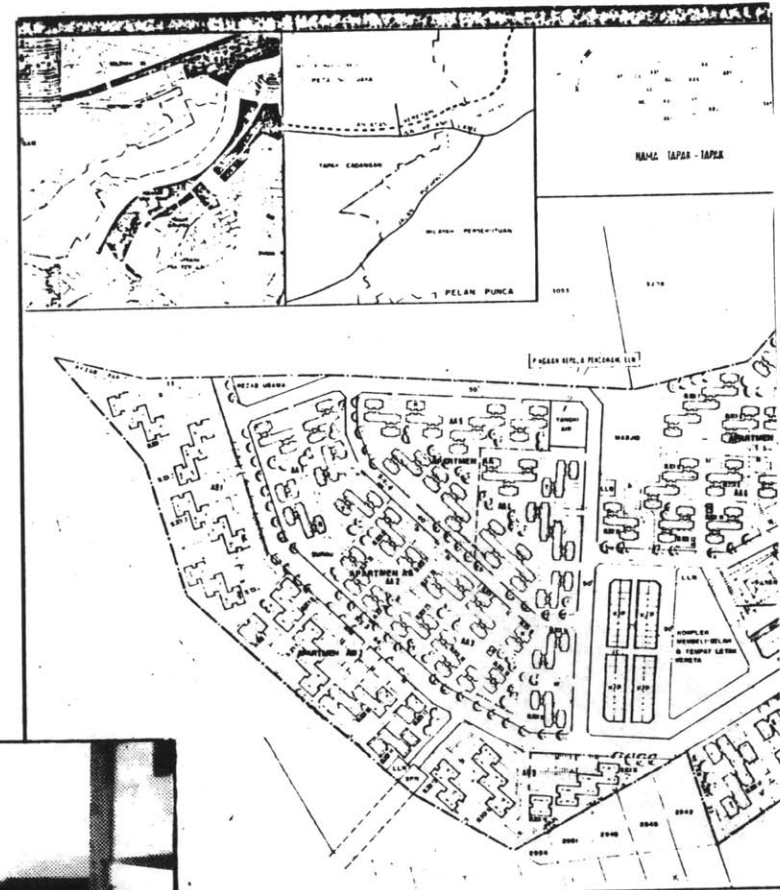




Middle cost flats



Low cost flats.



SEKIM PENSWASTAAN KEMENTERIAN WILAYAH PERSE

OVERALL SITE PLAN: EXISTING  
PROPOSAL





The area I choose for the thesis project was the parcel of land closest to the main Kuala Lumpur - Petaling Jaya street, and is located along the river bank.

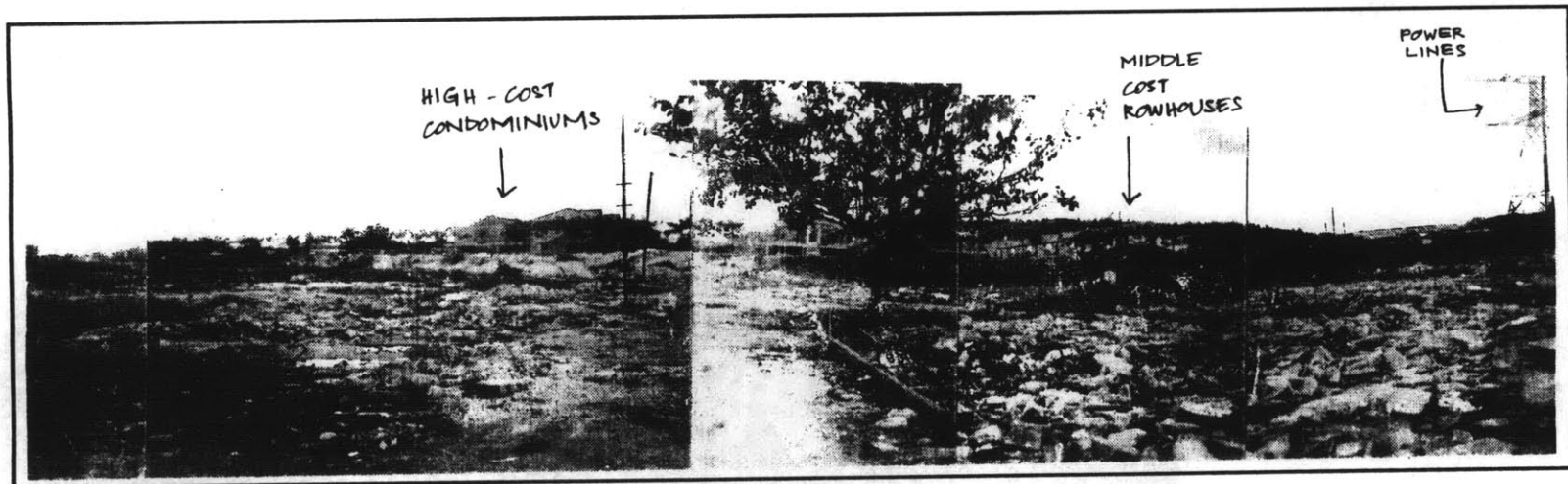
The reason for choosing this area is that I want to provide as much commercial activity as possible and therefore, it is essential that the site not be too far from the main street for it to attract people from outside of the Sri Sentosa area.

I also intend to include other public activities into the program because they are integral to the every day life of every Malaysian. Since this thesis is about living environment in Malaysia, I feel that the project would not be realistic enough if I do not make provisions for those activities to take place.

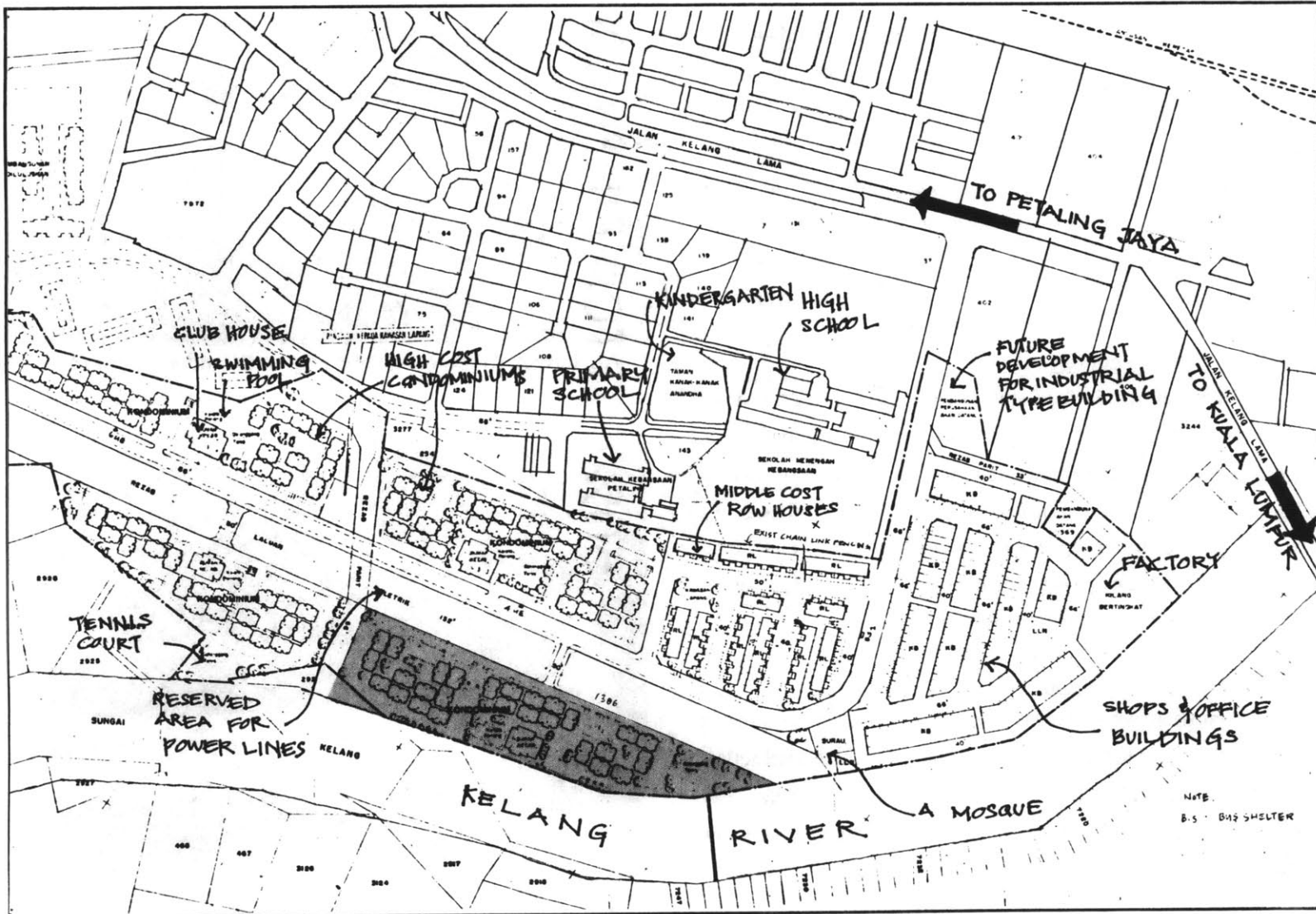
The area I choose is perfect for such project because it has a lot of commercial potential. Surrounded by the proposed shop/office

buildings and small factories to the east, and schools to the north, and an existing area of large housing development, this area can sustain many commercial activities such as street vending, "pasar malam", "pasar tani", hawker centre, and other kinds of petty trading.

The site being located along the river give me a perfect opportunity to explore various kinds of public spaces along the river, since many of the religious events in Malaysia, especially those of the Hindus and the Chinese, are connected to water. It also offers an interesting design challenge of integrating the public and private spaces.



View of the site after the squatter houses had been torn down.



PLAN OF THE CHOSEN SITE

### ... and the public places

One element that is ubiquitous in both rural and urban areas of Malaysia is street vendors. In fact, the survey I did on the employment profile of the Kampung Sentosa squatter and Sri Sentosa housing residents showed that over 70% of all wage earners in that area are engaged in some sort of street vending, either part-time or full-time.

Therefore, any kind of development, be it residential, commercial or even office building, should include provision for this lively activity to take place. There are several kinds of vendors:

#### Everyday Street Vendors

They sell mainly food stuff such as drinks, fruits, snacks, bread, ice-cream, and local "afternoon" dishes such as curry-puffs, *pau*, or *goreng pisang*. They are either stationary as in the case of vendors selling hot dishes, or mobile as in the case of those selling drinks, fruits, snacks, or ice-cream. Some vendors operate individually along street side, but most often they group with other vendors at street corners or any shaded areas to attract more customers.

#### Eateries (Hawker centres)

Almost anywhere there is an empty lot along a major street in Malaysia, there is a hawker centre. It is an area where food sellers set up temporary stalls and tables and benches for customers. They operate from morning to night, selling all kinds of food at very low price.



An Indian street vendor selling milk and Indian bread



Street side eating area (street hawkers)



A view of Pasar Malam



A view of Pasar Tani

### Pasar Malam

Literally means "night market", these vendors operate either weekly or bi-weekly, during the evening to midnight. During Pasar Malam, the street is closed to traffic and the vendors set up their stalls on the street, selling everything from clothes to houseware, from food to furniture accessories. The atmosphere during Pasar Malam is very festive-like because in many cases, this is the only time young women are allowed to go out at night on such public occasions. Therefore, Pasar Malam is not only about buying and selling, but also about meeting new people, or simply watching.

### Pasar Tani

Pasar Tani is a farmers' market held weekly during the morning. This is the time when the farmers from the neighboring farm areas come to sell their fresh produce directly to customers, without engaging middlemen. Therefore, the produce are fresh and cheap. They sell mainly fruits and vegetables.

I believe that for any public spaces to succeed, it should be able to hold many kinds of events, secular and religious. In Malaysia, there are many religious events and because Malays, Chinese, and Indians use different calendars, these events take place throughout the year, at different dates every year.

Although this thesis is about a housing project, I decide to take into accounts these public events because they are essential in fostering community spirits and sense of belonging to the neighborhood. This, I think, is much more important than simply designing the best dwelling unit.

The area I choose is special because of the river, which can be used in many religious rituals involving water. Some of these rituals are the Hindu *visharjan* ritual, which is the procession of a God's image to the river to be sunk, and the Chinese Dragon Boat festival.

None water-related rituals and festivals should also be taken into account. These festivals include the Chinese Nine Emperor Gods' festival and the Hungry Ghosts' month during which all kinds of entertainments are held such as the Chinese Opera, supposedly to please the Gods and the Ghosts. Similarly, the Indians celebrate the *Panguni Uttiram* by entertaining the Gods with traditional songs and dance. The Malays often organize Quran reciting competition during the fasting month of Ramadhan and religious shows during *Maulud Nabi*, the Prophet Muhammad's Birthday.



A Chinese opera actor

Among the many everyday activities that are common among all Malaysians is fishing, kite flying, etc. But perhaps the most popular of all is badminton. Often on small street, the children would set up imaginary lines as their court, and once in a while, they would stop their game to let cars pass through. Adults love the game too. Sometimes in the late afternoon, after watching the children play, the father would decide to take his turn, challenging a neighbor for a friendly game, wearing their sarong and Japanese sandals.





## About the houses ...

There four common characteristics inherent in the houses of the Malays, Chinese, and Indians in Malaysia which should be considered as basic criteria for the design of dwelling places for them. These characteristics are:

### The linear organization of interior spaces

Unlike the Western type houses in which function-specific rooms are organized around a general purpose space, the houses of the Malays, Chinese, and Indians are composed of several general purpose spaces organized in a linear arrangement, such a way that one experiences the house by progressing from one space to another in a linear axis.

### The tripartite zoning of the interior spaces

The linear arrangement of spaces is consisted of three zones: front, middle and back. Each zone is compartmented either physically, by means of a wall and a doorway, or conceptually, by the use pattern of the space.

Each of the three zones is a general purpose space even though it may be used for one type of function more often than the others. Although the characteristics of these zones vary greatly among the three houses, the general definitions of these zones are very similar. The front zone is always the most public zone. In Malay and Indian houses, it is also the male zone. In Chinese shophouses, this

zone is part of the continuous arcades for the general public. The back zone in all the houses of the three groups is always a service zone where kitchen, bathroom, and toilets are located.

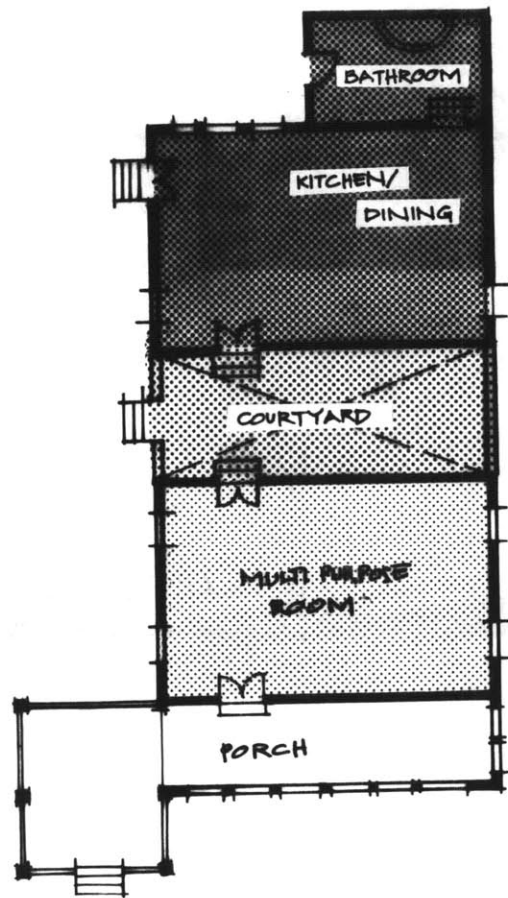
### The use of courtyard

In the center of the linear organization of these zones, i.e. the middle zone, is an open space, or courtyard, or light-well, which is interpreted either as a divider or a merger between the front and back zones, depending on how it is used in relation to the adjacent spaces.

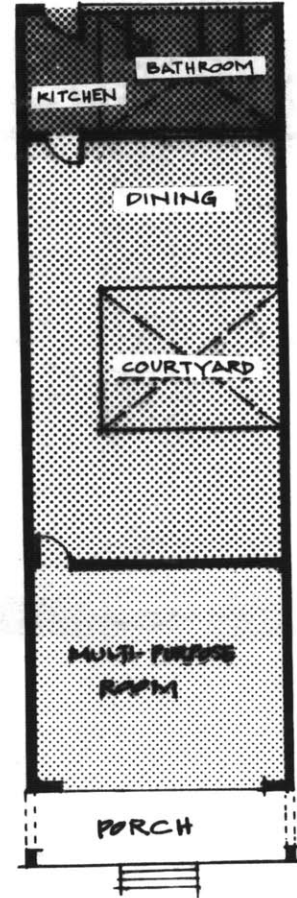
### Changes in floor levels

The spatial hierarchy of the three zones is denoted by the changes in the floor level. The front zone is at the highest level, and the middle zone at the lowest level. The differences in these levels is between 8 to 18 inches in Chinese houses, 8 to 24 inches in Indian houses, and between 8 to 4 feet in Malay houses.

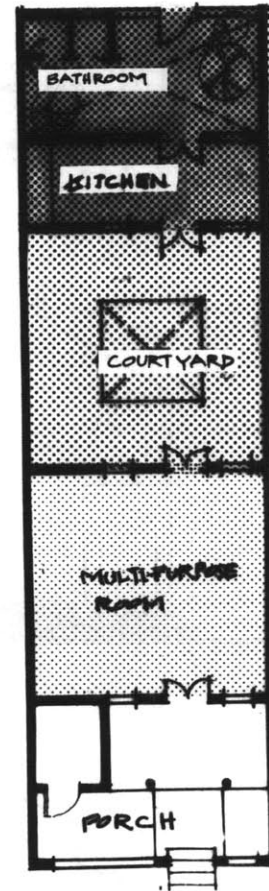




MALAY

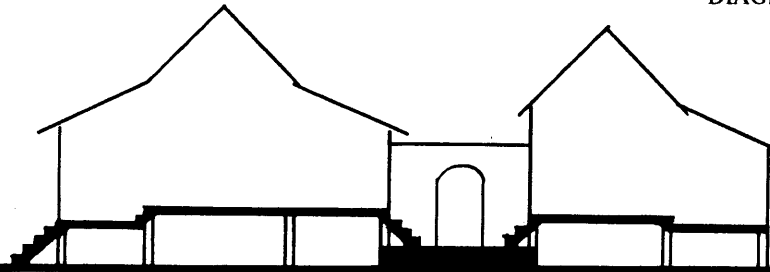


CHINESE

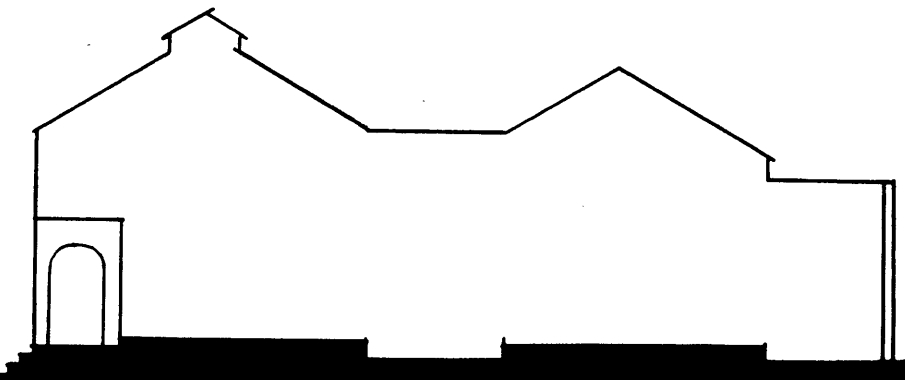


INDIAN

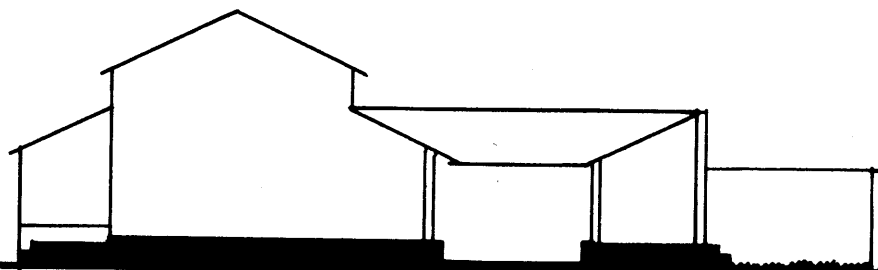
DIAGRAM SHOWING THE LEVEL CHANGES OF THE HOUSE



MALAY KAMPUNG HOUSE



CHINESE SHOPHOUSE



INDIAN ROWHOUSE



## ... and the common spaces

The common areas in the back yards are considered a female area. This is where the mothers, grandmothers and the housewives meet and chit-chat. Usually in the afternoon around 6 p.m., they would gather around benches or swings until the sun comes down before returning to the kitchen to prepare dinner. For elaborate dinners that require a long and laborious preparation, they often bring the work out in the common yard. And while chit-chatting, they all help out sharing the task together.

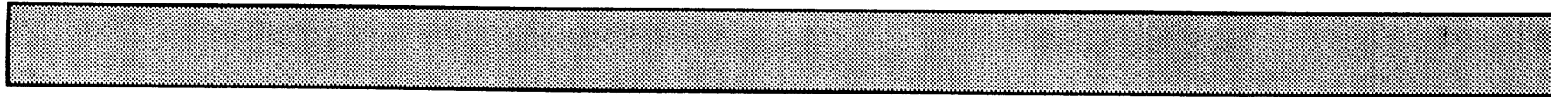
Young girls after the age of 14 or 15, also meet in this common yard, because at this age, they begin to shy away from men. Usually the girls meet to talk about boys, school, teachers, homework, etc. while grooming each other's hair.

Younger girls, around the ages of 9 to 12, sometimes play mock-cooking in the back yard, using small twigs from the trees as firewood.

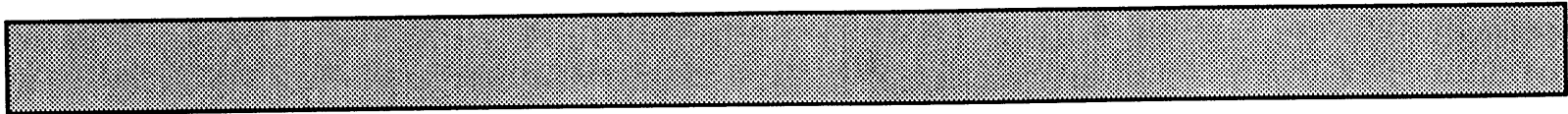
This area is also used for drying clothes, school shoes, and dried food such as anchovies, chillies, etc. Generally, clothes take a long time to dry in the humid weather of Malaysia. Therefore, women usually hang the laundry early in the morning and pick them up late in the afternoon.

In Chinese or Indian area, sometimes a shrine is built in this common yard by the residents. For those shrines, offerings are often made in the form of fruits or other kinds of food stuff.

# SECTION 3



**DESIGN**



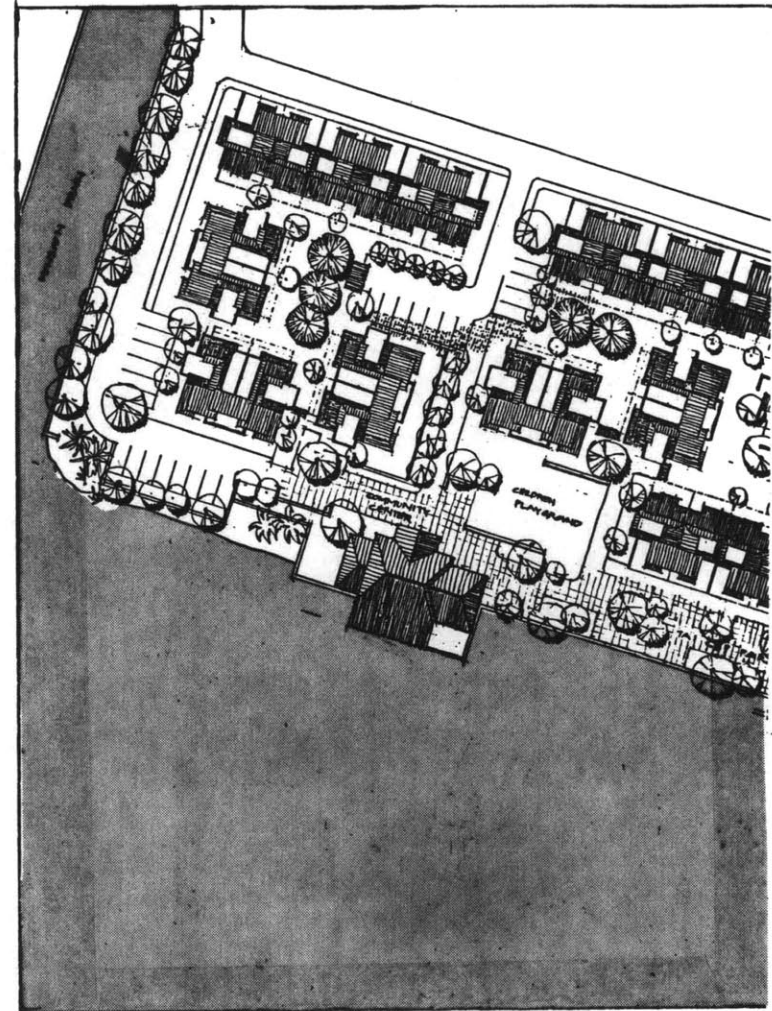


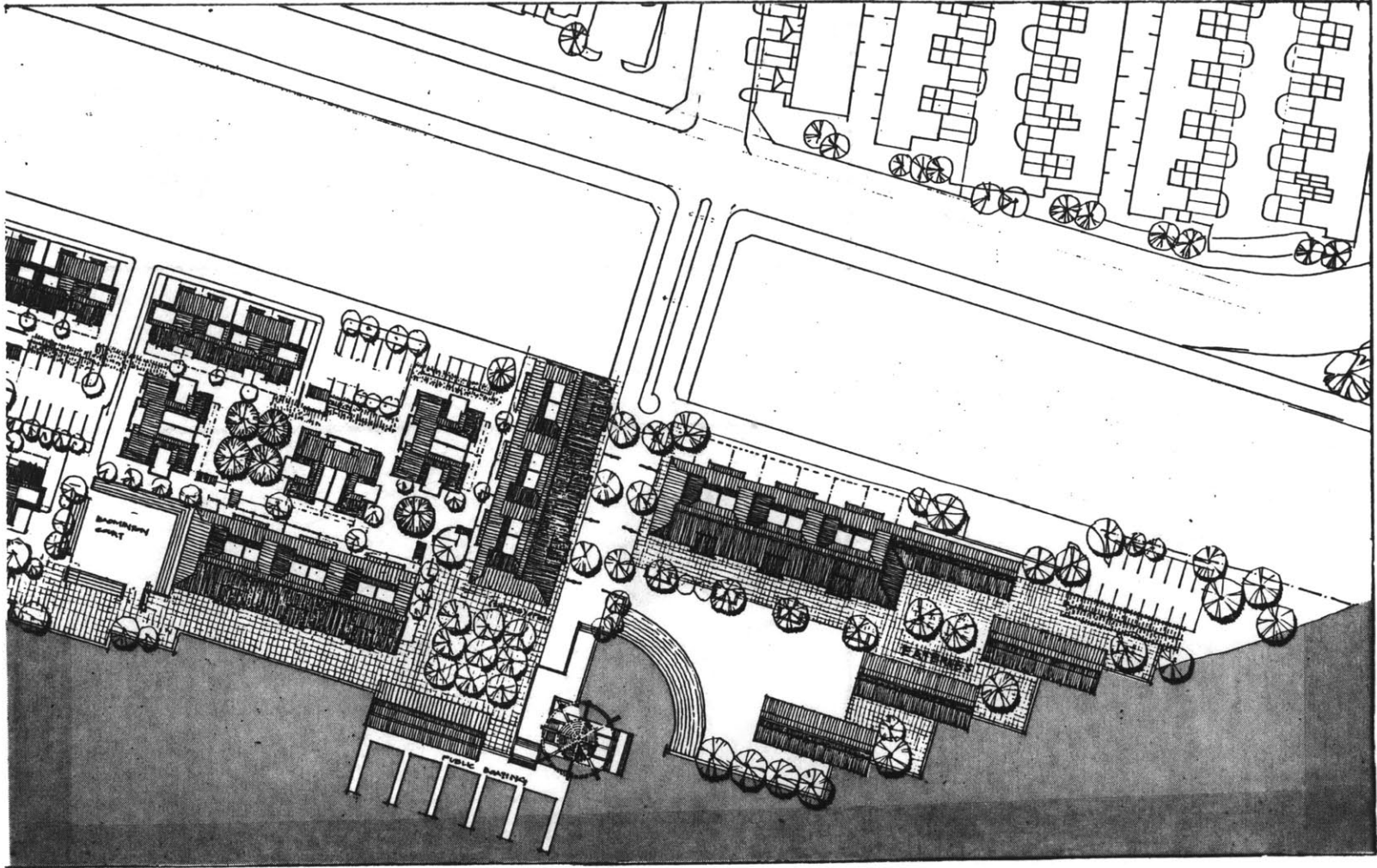
## Site Level

The intention of this project at the overall site level is to integrate all kinds of public functions common to all Malaysians of all ethnic backgrounds into the housing project, thus making it an integrative project. It is important to do so because those public functions (as described in the previous section) are part of the living experience and contribute significantly to the living environment in the housing project.

Therefore, in this project, I include 66 units of housing, half of which are half-commercial type houses, and several public structures including, a multi purpose hall, a pavilion and an open theater, a public boating area, a hawker centre and a badminton court area. I also provide open spaces that can accommodate weekly markets, and street vendors, and a public park with a children playground for all kinds of other activities. All public spaces are located along the river.

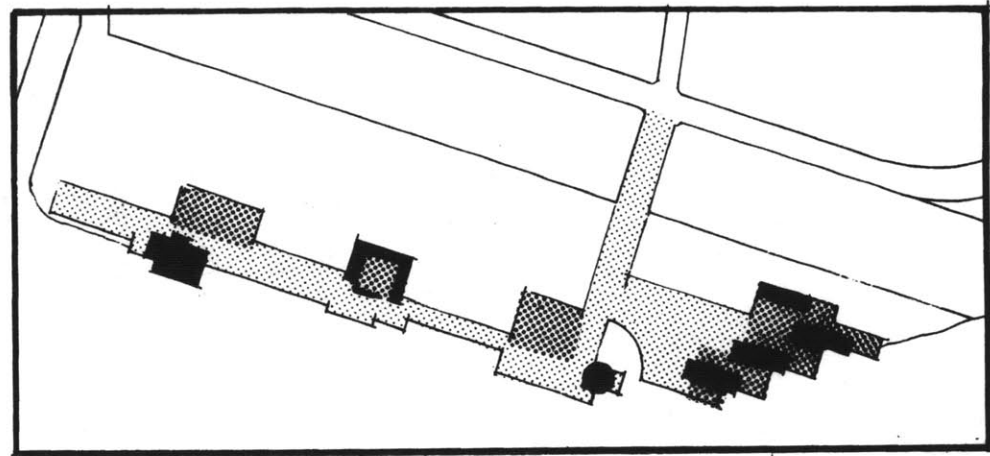
The site is organized based on the idea of a public "spine" running along the river which connects all the public structures together. Beginning with the drop off point at the entrance to the site, the "spine" is a pedestrian street and the only vehicles allowed are the street vendors' carts. The Pavilion becomes a major focal point from the entrance and also provides a visual connection between the public spaces along the river. Similarly, the shaded plaza area becomes an important nodes of activity, connecting the public "spine" along the river to the major pedestrian street coming down to the river from the entrance.





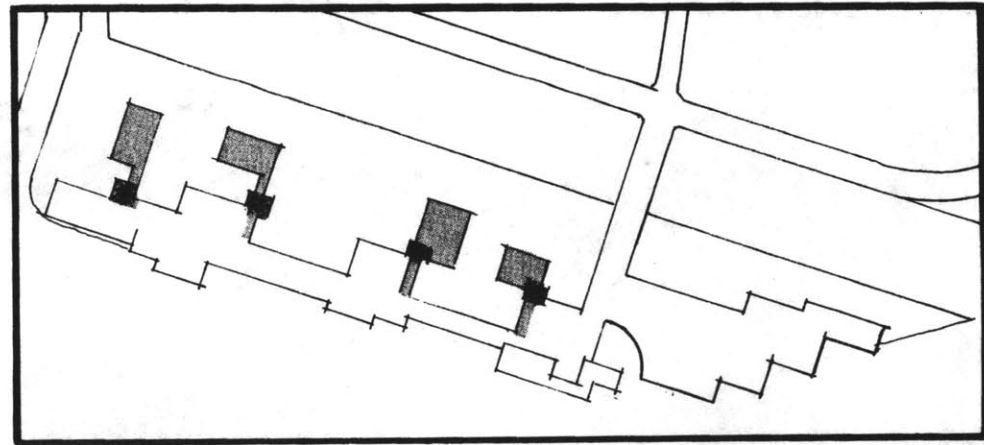
OVERALL SITE PLAN

The public places along the river form a major public "spine", connecting all the public structures together. The hawker centre, the open theater, the shaded plaza, the badminton court, the park, and the multi-purpose hall become the nodes of activities along the "spine".



CONCEPT DIAGRAM I

From this public "spine", a connection to the housing clusters are made through the semi public spaces that act as "gateways" to the semi private courtyard beyond.



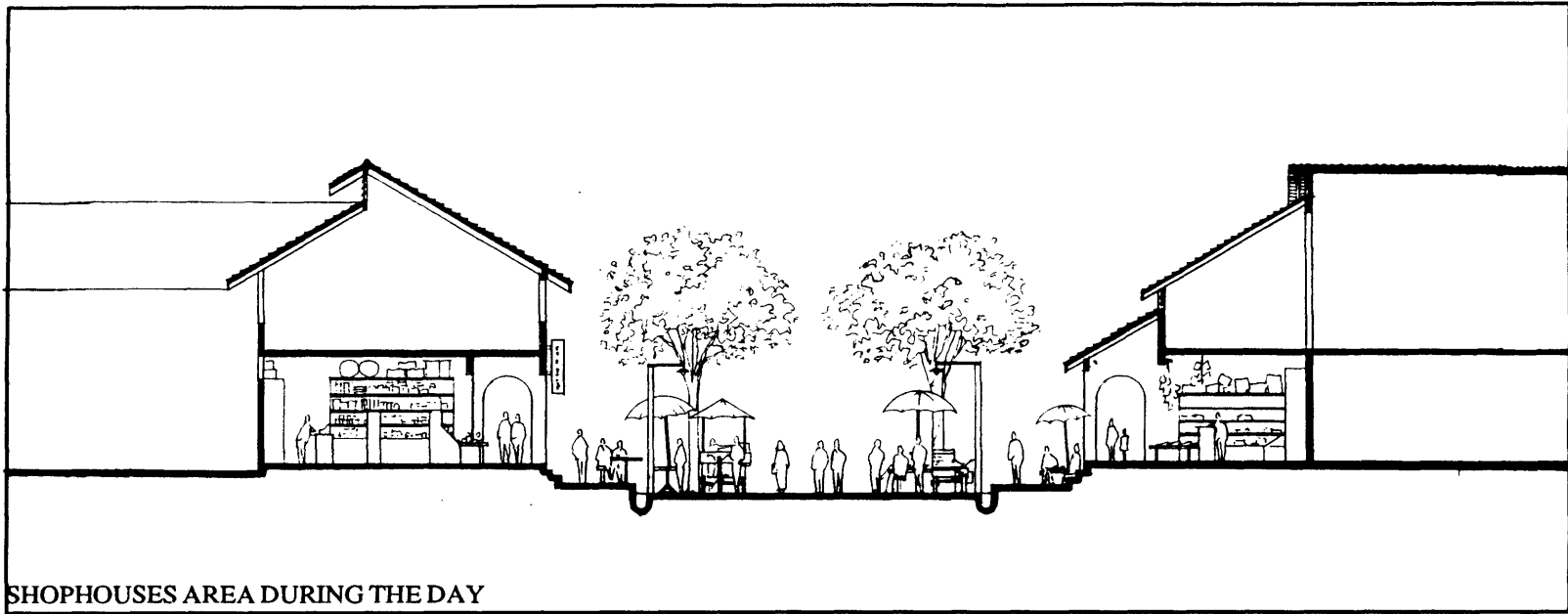
CONCEPT DIAGRAM II



The most important thing that I wanted to provide for when I think about the public places was the opportunity for street vending to take place, because most of the people I interviewed from this area were either full-time or part-time street vendors.

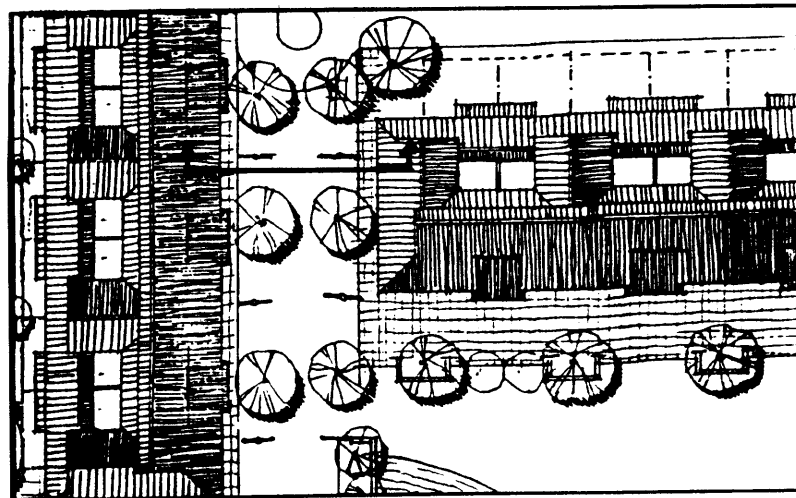
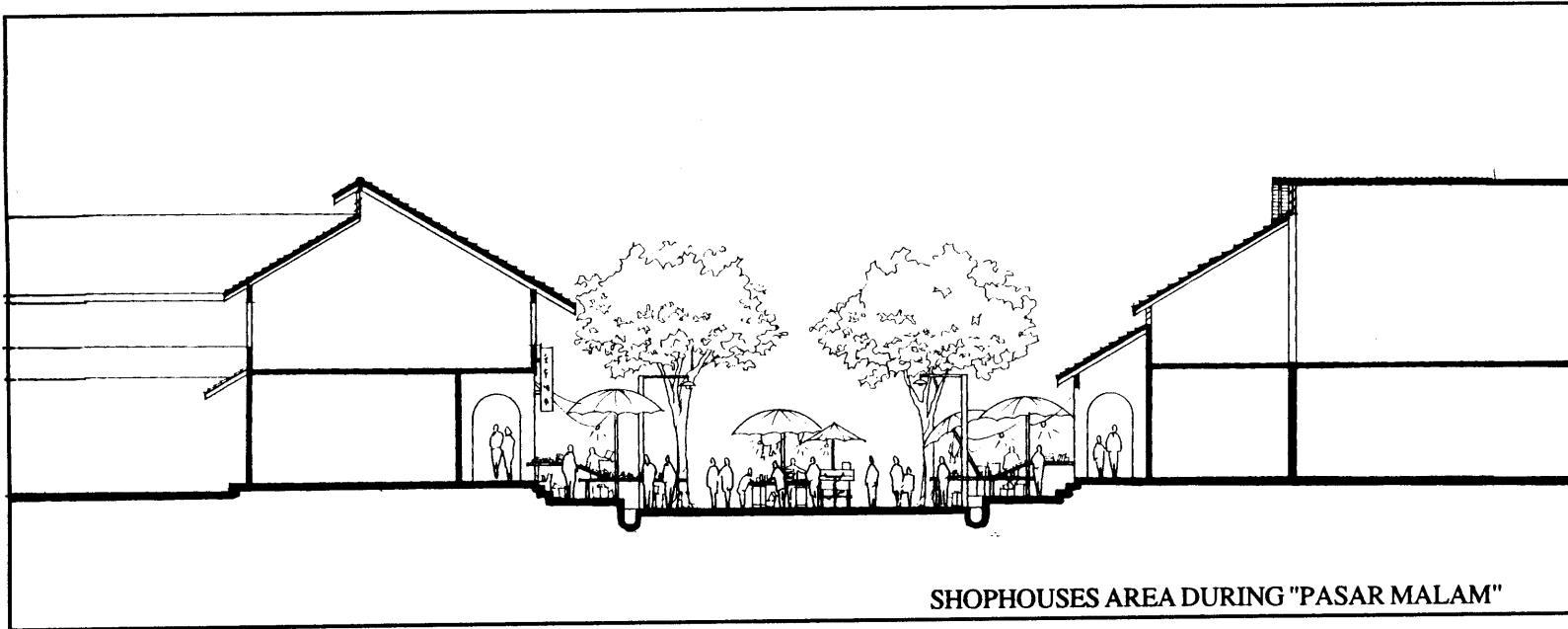
Therefore all the public activities that I provide for in the design involves some aspects of buying and selling. For example, the badminton court area is designed to be connected to the side of a shophouses block by a corridor, so as to contain vendors selling snacks and drinks during tournaments. The park and the children playground area, I envision to have vendors selling ice-cream, etc. This is also the area where the community can put up an arts and crafts fair, for example.

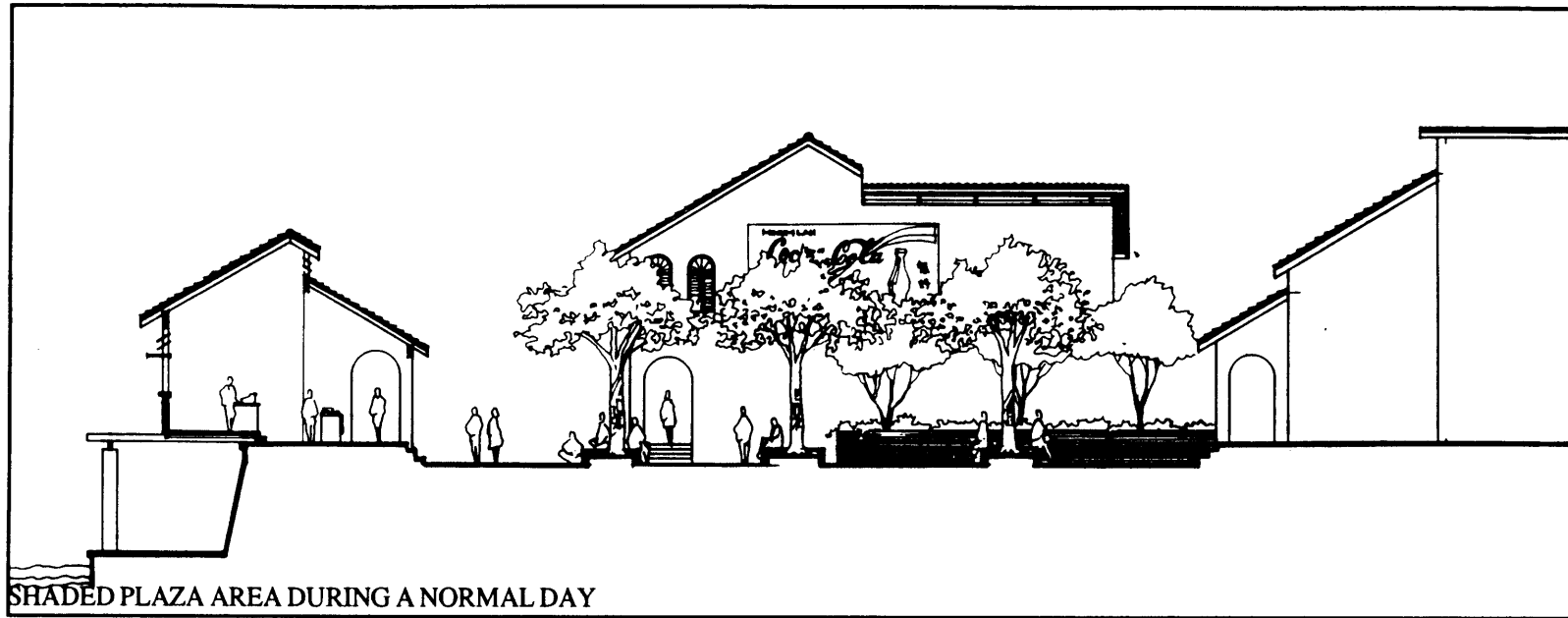
Another important consideration that I had was to design public spaces that can be used for different functions at different time, or day. For example, the open theater can be used to hold public entertainment by setting up a stage on the pavilion. It could also be use for religious rituals that involve water, and for normal day when there is no special events, it could become an eating area to support the activities from the adjacent hawker centre.



SHOPHOUSES AREA DURING THE DAY

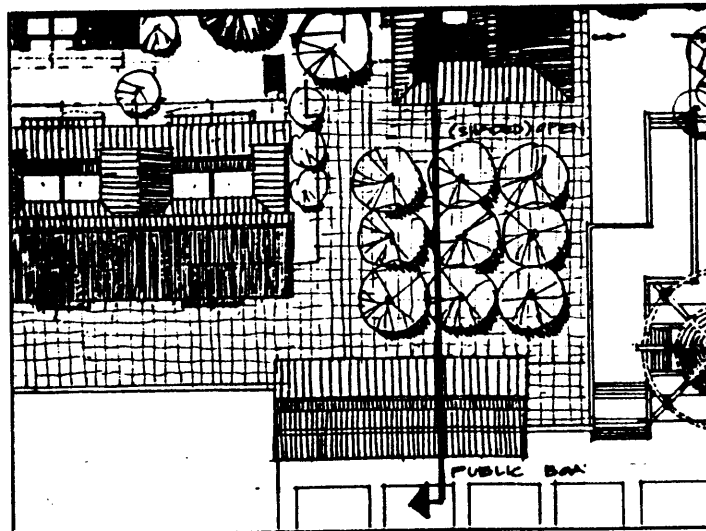
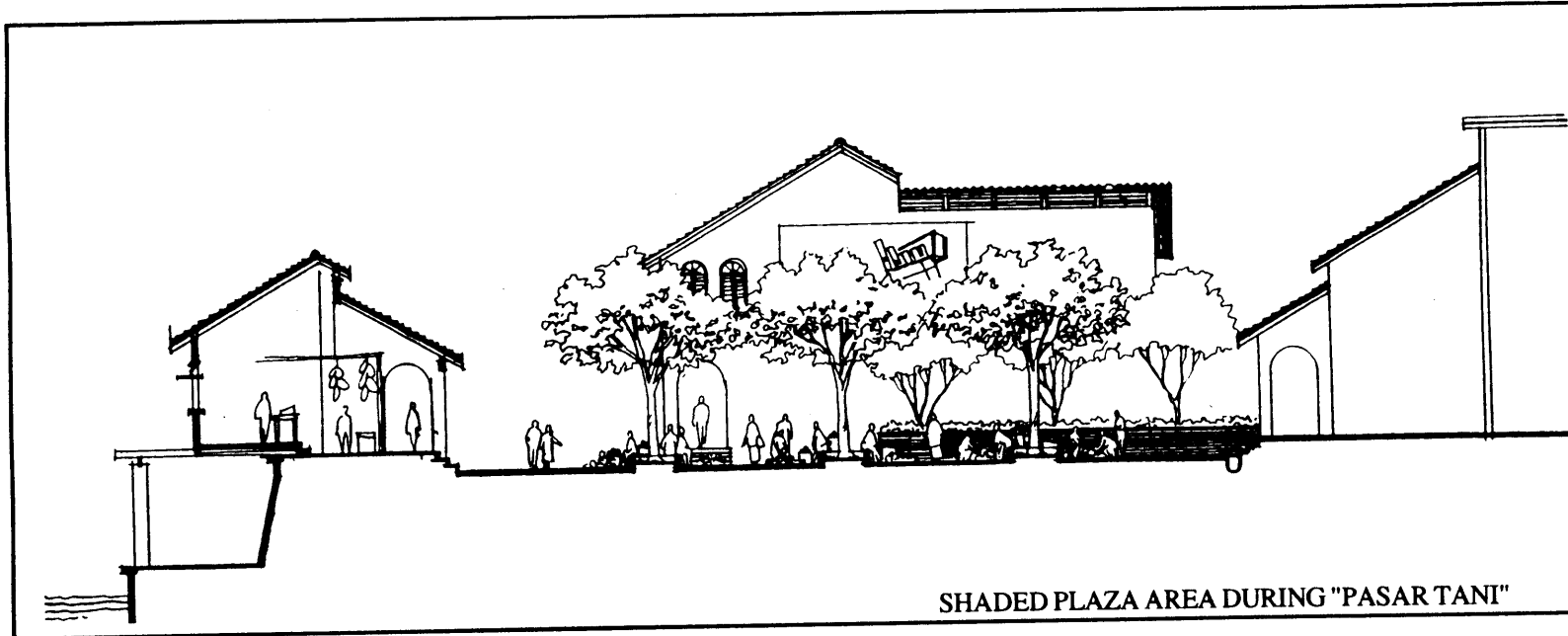
From the drop-off point area, the public spine is a pedestrian street with shophouses either along one side or on both sides of the street. The width of the street is designed to hold different use configurations during the day and during the Pasar Malam night.

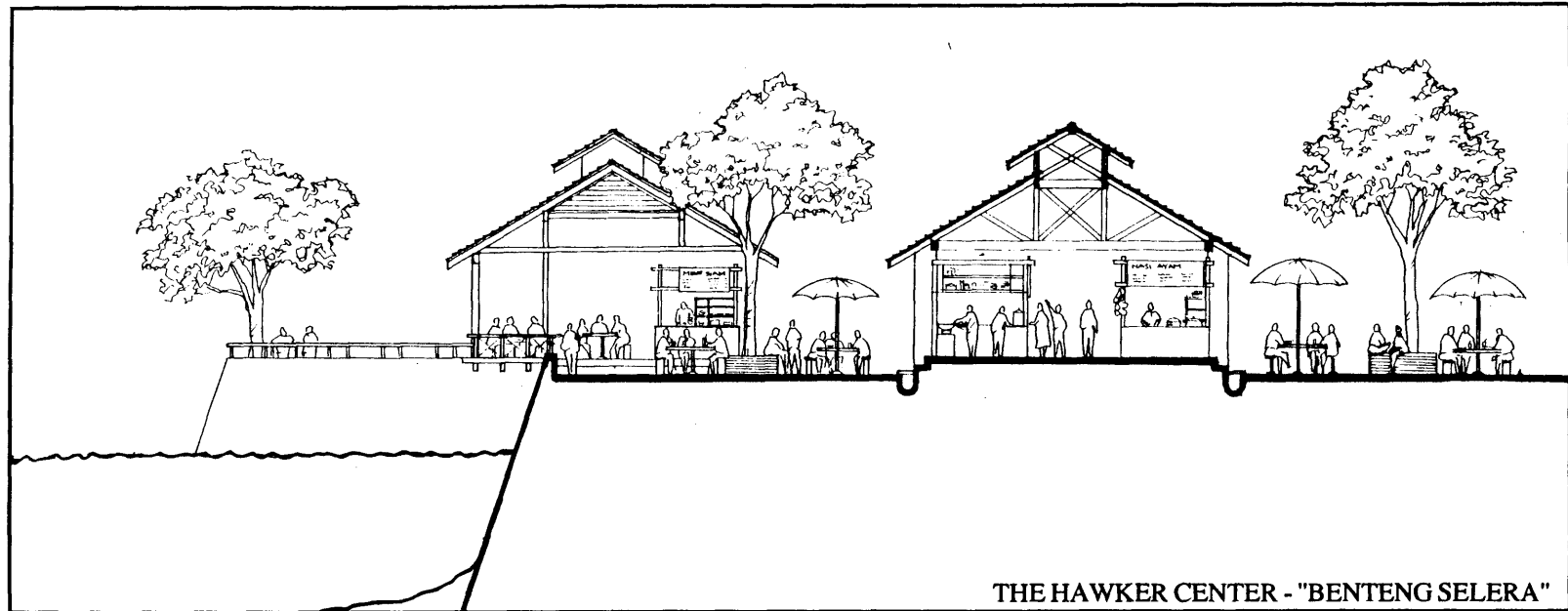




One of the key nodes along the public spine is an open plaza area shaded with canopy trees. This is a multi purpose space which can be used as a place to wait for or meet with friends. It is also a place where notices and flyers can be advertised using the thick tree trunks as the "notice board".

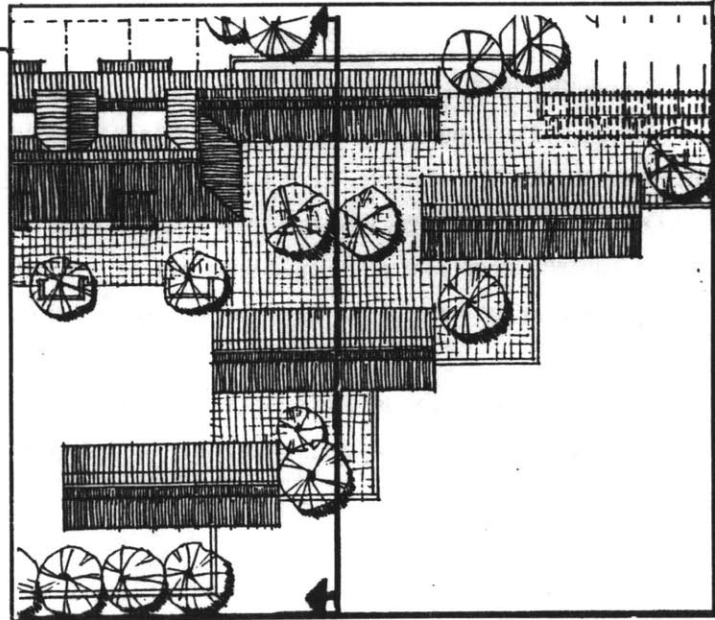
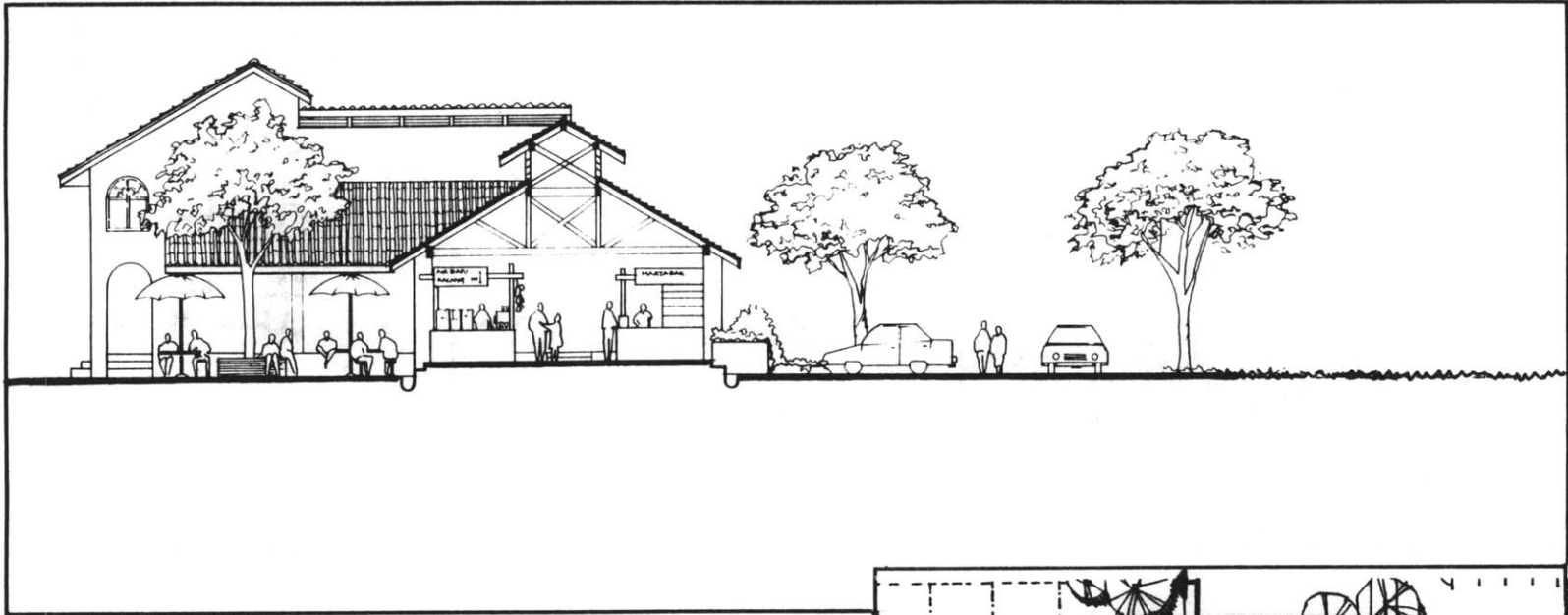
During the Pasar Tani, this area can be used as the market area where the farmers lay out their mats and display their produce. The trees provide shade for such events which may take place from morning to noon, and the 2 foot high tree boxes become the seatings for farmers who otherwise would have to squat on the ground level or bring their own stool to sit on.

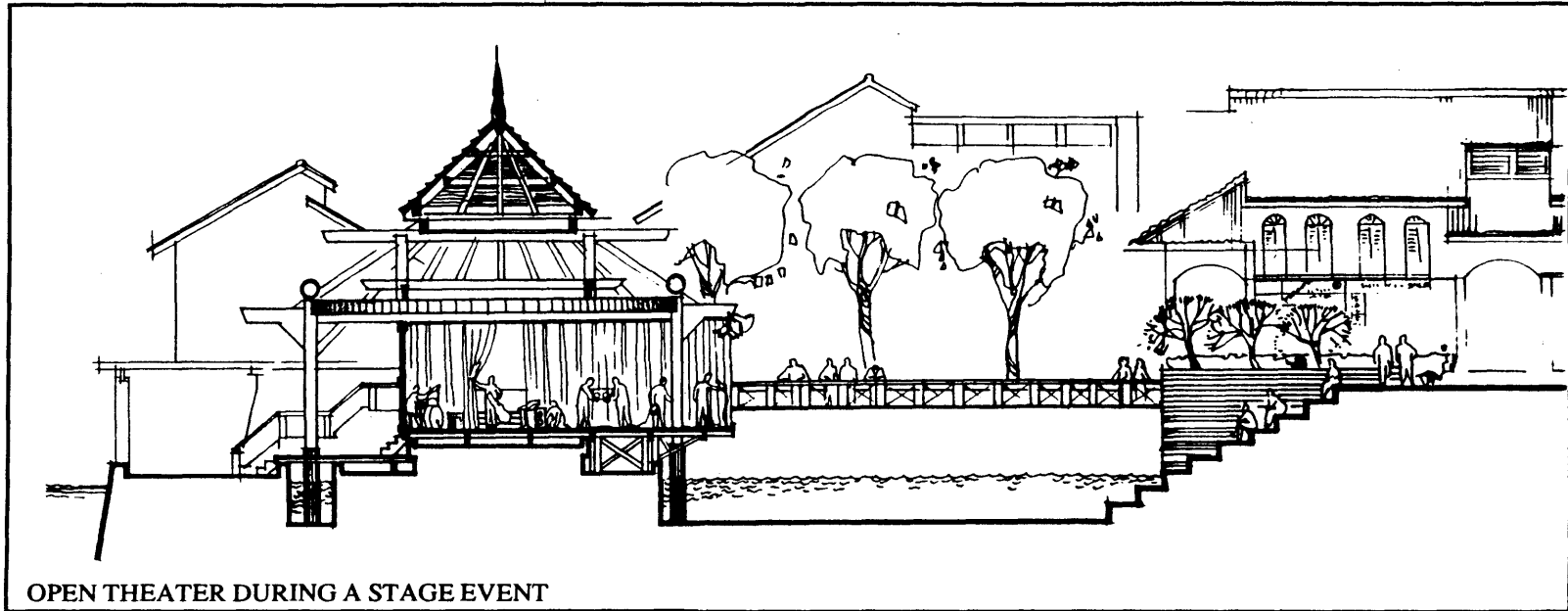




The area at the edge of the site, I intended for a Hawker centre because it is nearer to the shop/office buildings and small factory area of the adjacent lot. In the existing proposal, there is no provision for an eating place for these workers to have their lunch break. Therefore, in this project I included a hawker center consisting of open shed structures arranged parallel to the river to provide a cozy atmosphere to enjoy the lunch break during the day, or the evening dining-out. This hawker centre also provides an opportunity for the housing residents to supplement their income by opening a stall.

Being at the edge of the river, I decided to call this area "Benteng Selera", which is a local term for such a place.



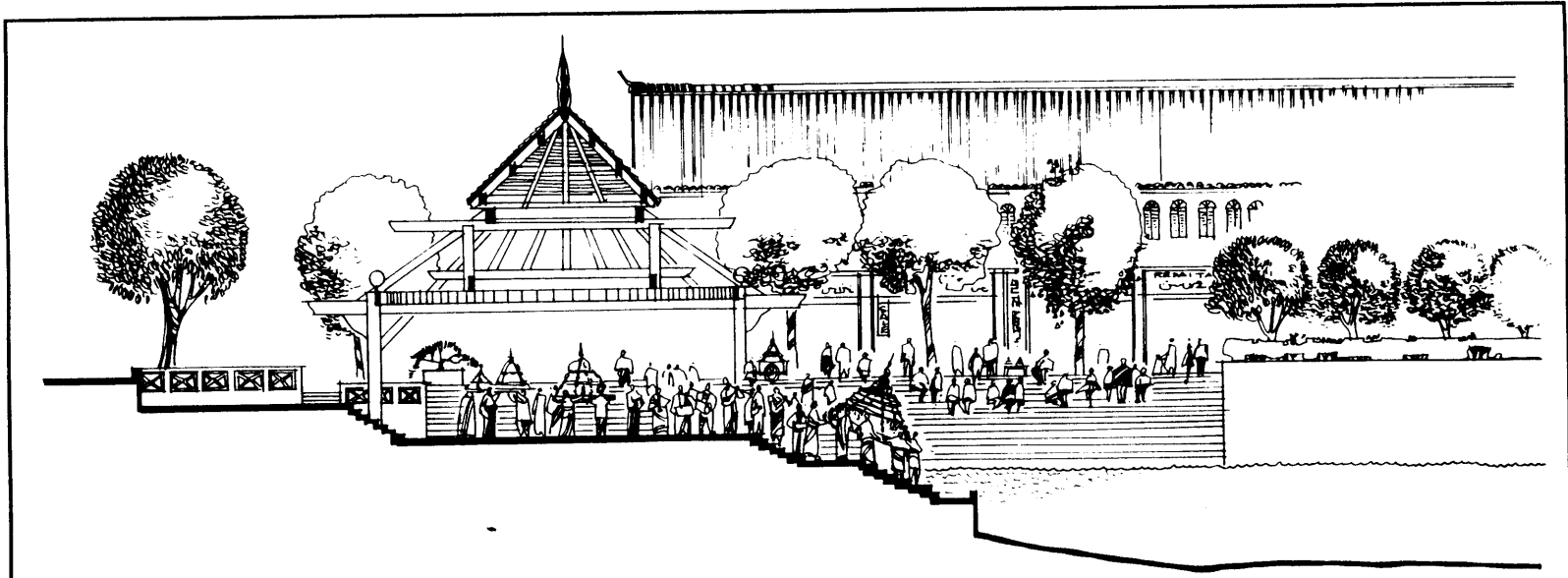


The pavilion designed for this open theater area can be used for many functions. The structure itself is very open and can be added on when need arises. For example, for stage events such as the Chinese Opera during the Hungry Ghosts Month, a stage can be set up and the partially open roof of the pavilions can be covered. Supporting spaces at the back of the stage can also be added on temporarily.

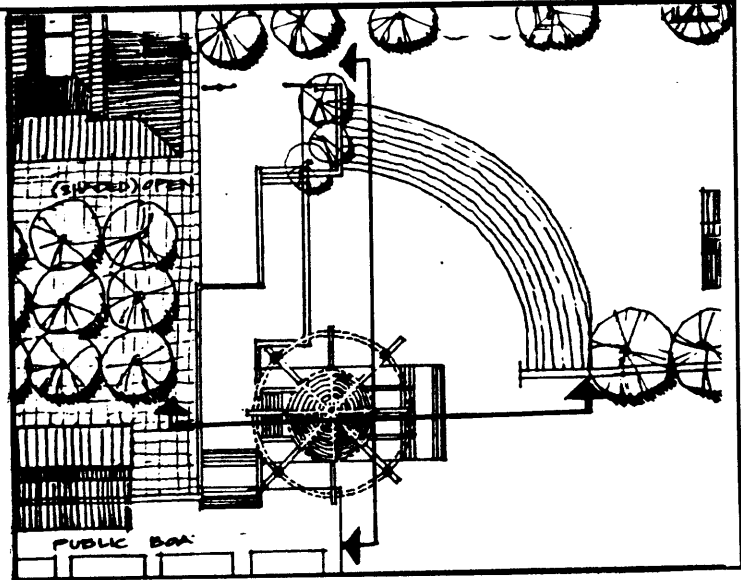
The pavilion can also be used for religious events such as the Hindu "Visharjan" which involves parading an image of God to the river to be sunk down.

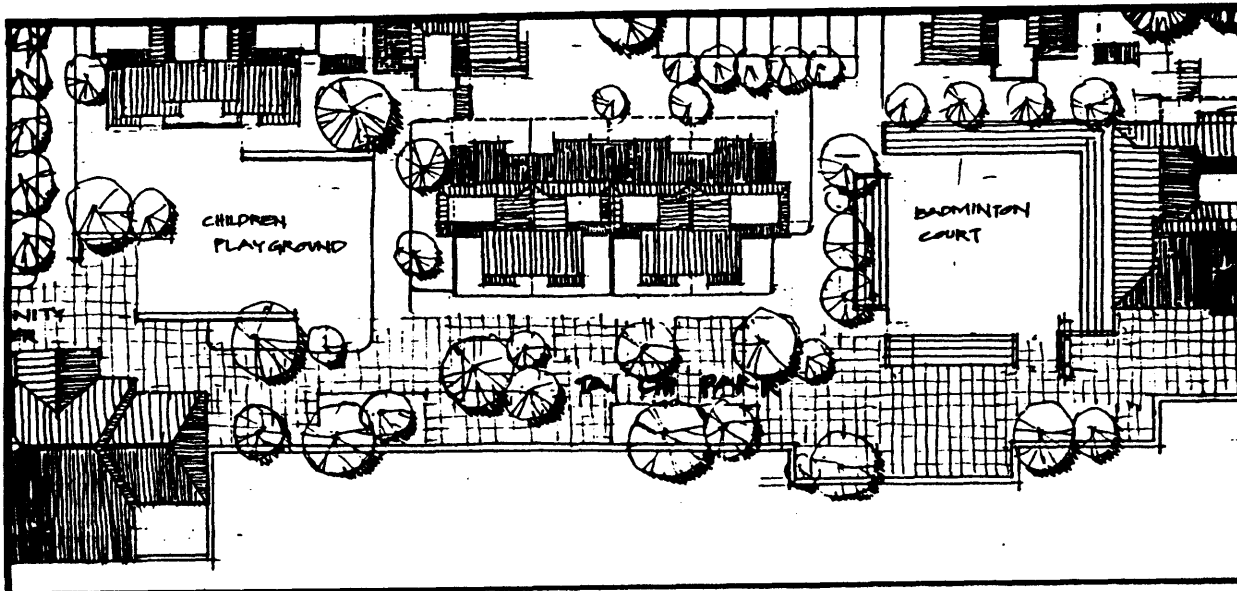
During normal days, the pavilion can otherwise be used for recreational purposes such as fishing, while the open theater as a place to sit and eat when the hawker centre is full.





OPEN THEATER DURING THE "VISHARJAN" RITUAL





PLAN SHOWING THE PUBLIC RECREATIONAL AREA

In this project I also include a non-commercial related public places such as a badminton court area, a small park, a children playground, and a multi-purpose hall.

The badminton is a popular sport among all Malaysians regardless of ethnic background and age groups. Therefore, I include a badminton court area in the program which can hold small tournaments within the neighborhood. It is connected to the shophouses by a covered walkway which can support snack and drink vendors during such events.

I design the park to be partially paved so that it can be used in many ways. For example, during "Hari Keluarga" or Family's Day, outdoor events such as display booths for arts and crafts or children

drawing competition, can take place in this area. On normal days, the people, especially the elderly men, can use it to relax and chat with their friends. The Chinese usually use the park every morning to do the "Tai Chi" exercise, which is why I decide to call it the "Tai Chi Park"

The multi purpose hall is designed to hold many community related functions, such as club meetings, adult classes, day care centre, and many more. The children playground is part of the day care centre but is also open to the rest of the community at all times.



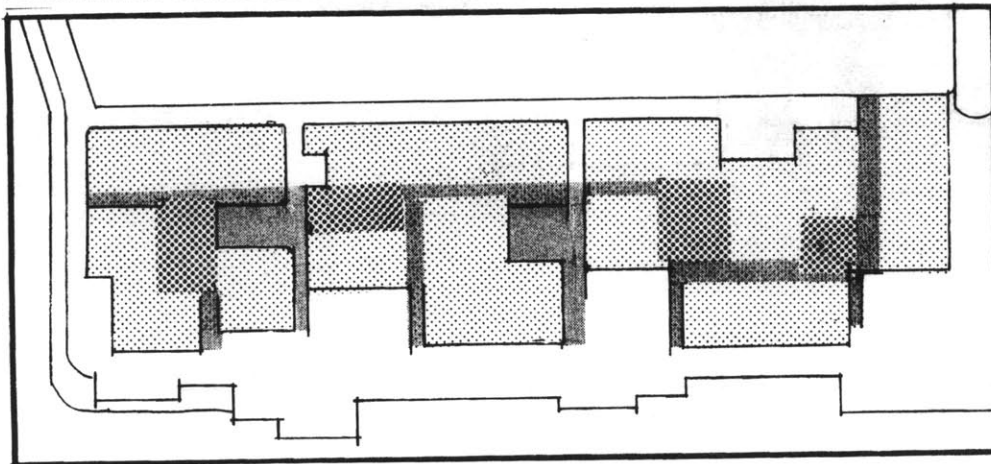
## Cluster Level

The housing area is divided into four clusters, each is organized around a courtyard. All these courtyards are connected from one end of the project to another by a series of pathways, sometimes covered with overhead trellises. The parking areas are also covered with trellises and are paved with open pavers to make the area part of the common spaces, instead of disrupting the continuity.

These semi-public courtyards are also connected to the public spine along the river by entrance "gateways" which act as transition zones from the public to the semi-public areas (see Site Level).

Each of the courtyard of each cluster is organized by several elements: the trees, the shallow drains, the conventional drains, low walls, benches, and special areas for small children to play and school girls to wash their school uniform shoes.

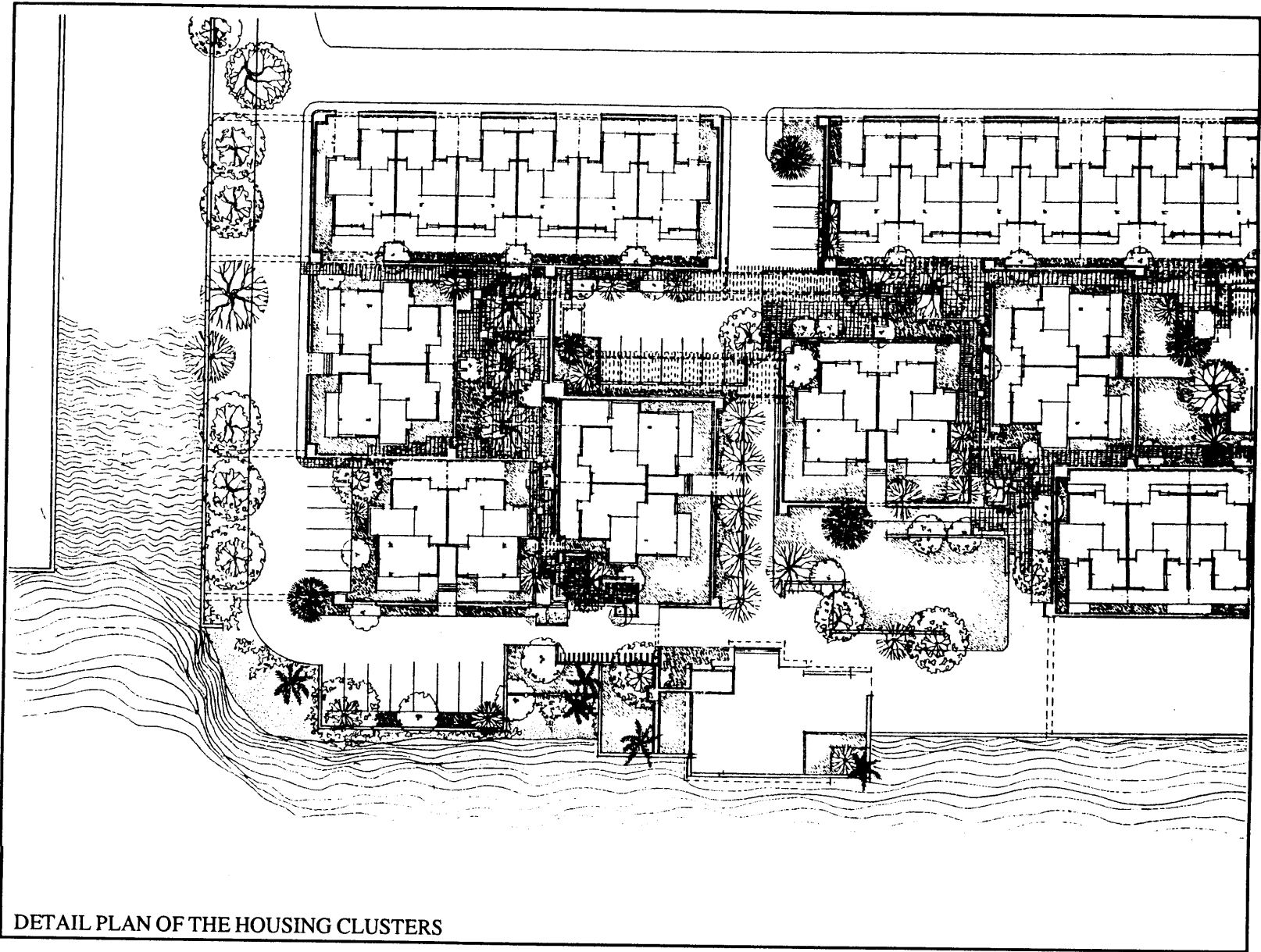
DIAGRAM OF THE GENERAL ORGANIZATION OF THE CLUSTERS



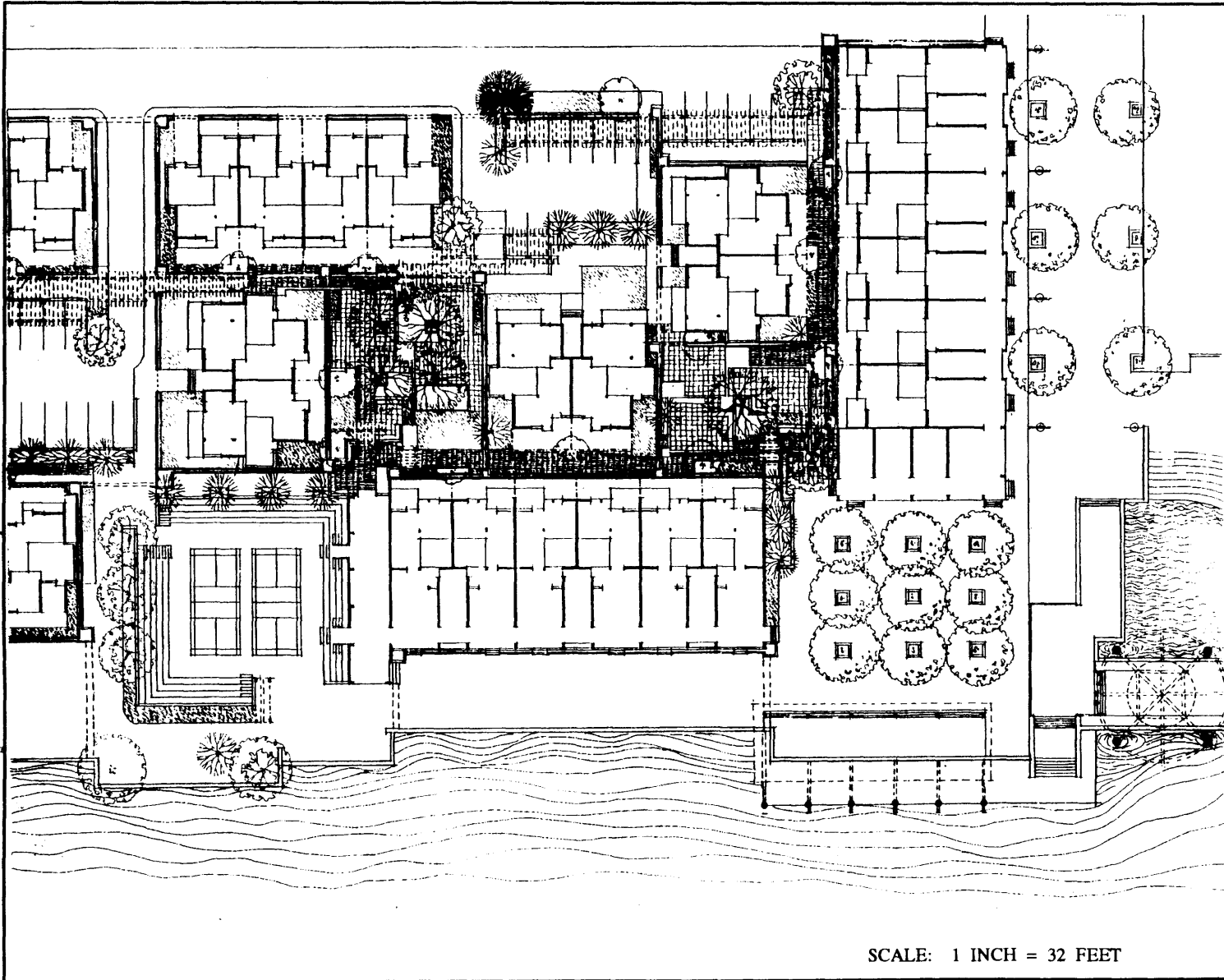
I decide to use Temple trees for the courtyards because the branches of these trees grow low to the ground and easy to climb, therefore can be used as sitting areas. Furthermore, the tree produces very fragrant flowers which many women, especially the Indians, use to adorn their hair. As a young girl, I used to pick up the fallen flowers and tied them in a bunch for a hacky-sack game. Coincidentally, all four clusters has one, two, three, and four Temple trees in each cluster. Therefore, I decide to name each cluster Cempaka Satu, Cempaka Dua, Cempaka Tiga and Cempaka Empat respectively (note: Cempaka is the Malaysian term for the Temple tree).

I use the drain as an organizing element because it is a functional elements that all buildings in Malaysia must have, but instead of using it as an afterthought in the design process, I decide to use it poetically, as well as functionally in my design. As a young kid, I remember playing paper boat race in the drain, and sometimes after a heavy rain, my friends and I used to catch

fish that had swam from the river inside these drains. Our parents used to scold us because it can be quite dangerous playing in these drains especially after a heavy rain. Therefore, with those fond memories in mind, I decide to provide a shallow drain for the children to play without worrying their parents. These shallow drains are connected by a small shallow pools which in some cases becomes the area for washing shoes.



DETAIL PLAN OF THE HOUSING CLUSTERS

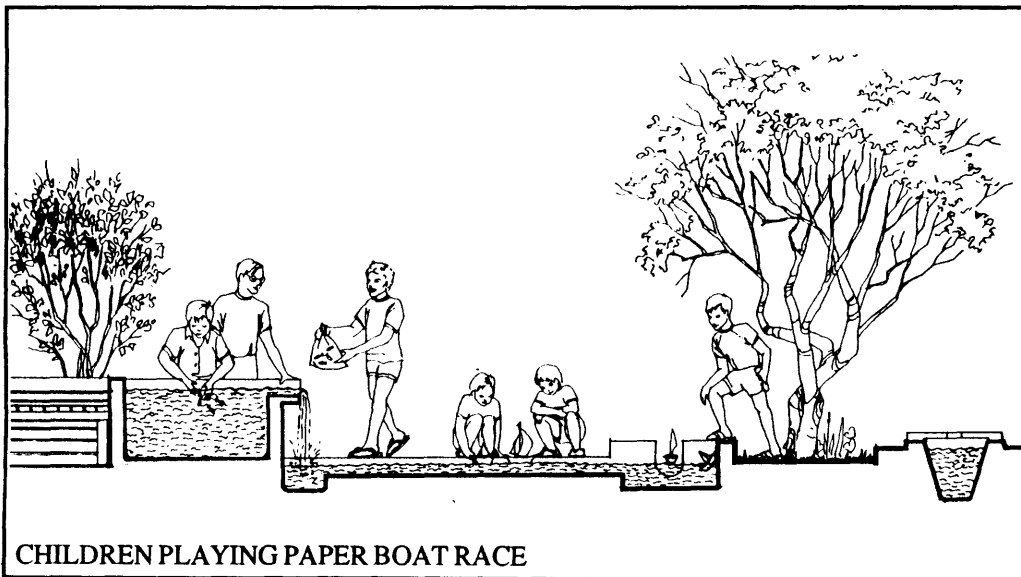


SCALE: 1 INCH = 32 FEET



GIRLS WASHING THEIR SHOES DURING WEEKENDS

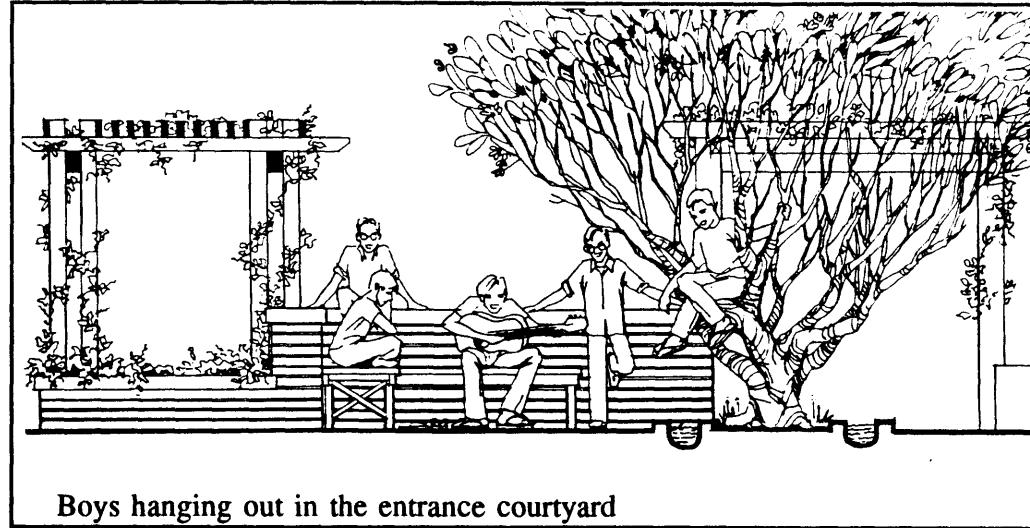
In Malaysia, every primary and secondary school students wear the same school uniform, which also includes white canvas shoes. Every Monday morning in school, there would be an inspection to make sure that every student wear clean uniform and white clean shoes. Therefore washing school shoes every weekend becomes a dreadful ritual that every student has to endure, especially the girls. To make the chore more fun for these girls, I provide a special area in the courtyard for them to do the washing with friends.



CHILDREN PLAYING PAPER BOAT RACE

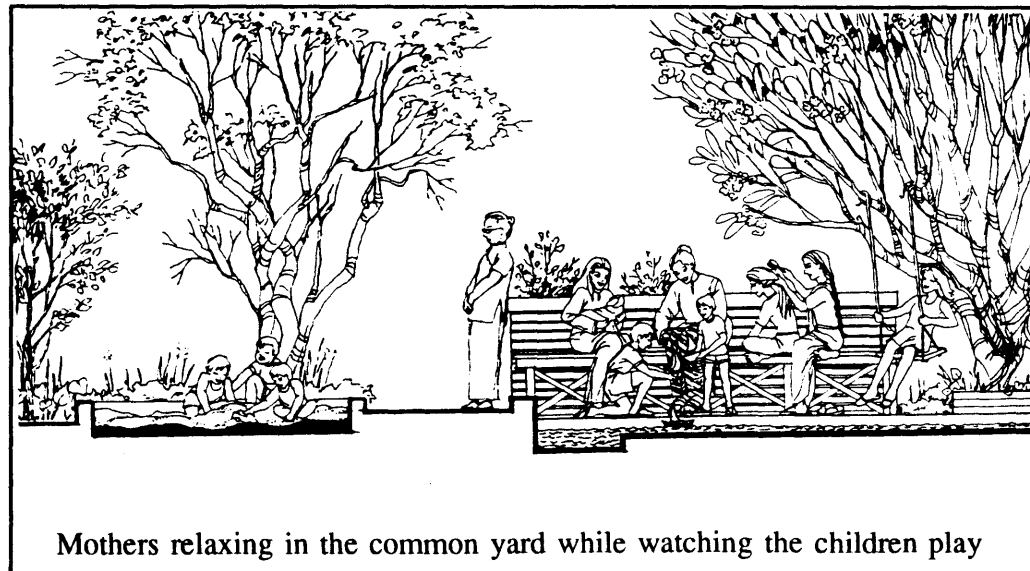
The shallow drains in the courtyard are designed to contain water only after a rainy day. Otherwise, they become a dry grooves in the pathways, thus making them not only sculptural in the form, but also practical in the uses. The children can play paper boat race in it, or to catch fish after a heavy rain when the fish accidentally swim into the drain from the river.

At the entrance of every courtyard from the public spine, is a smaller courtyard designed to act as a "gateway" to the cluster courtyard. As such, it is more public in nature, and therefore, I see it as a place for boys to hang out with their friends, playing guitar or simply watching passers-by.

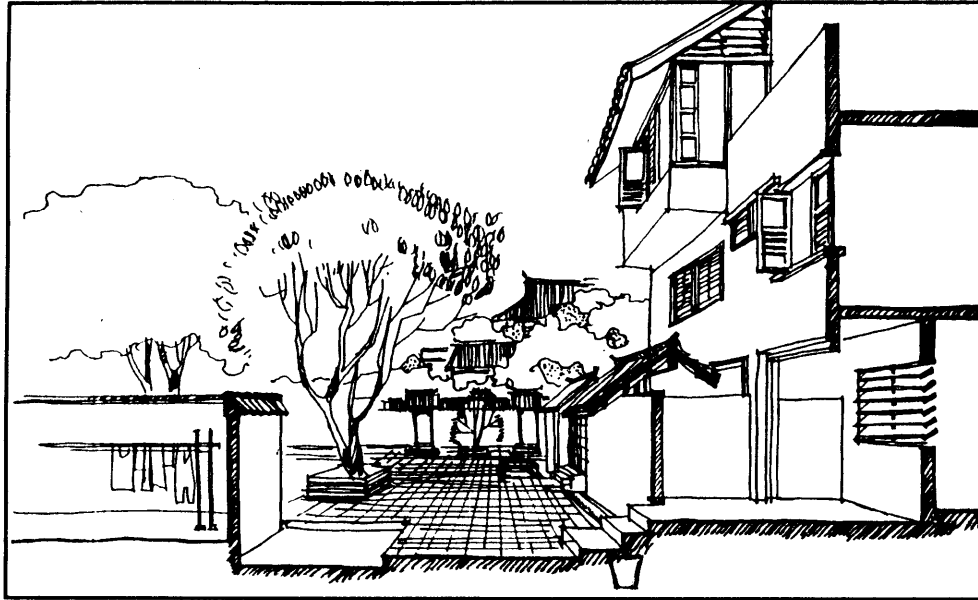


Boys hanging out in the entrance courtyard

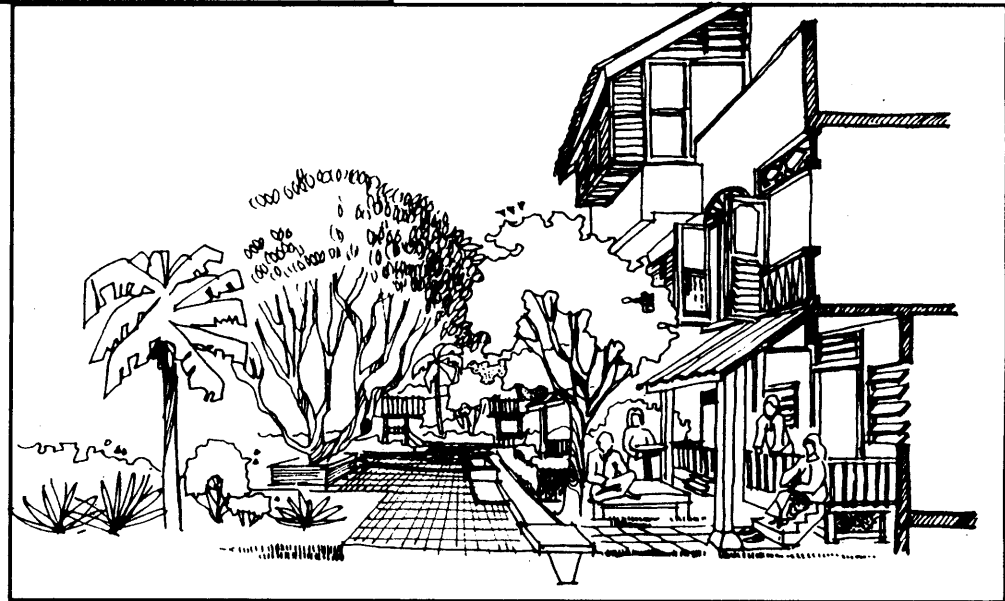
The courtyard is also an area for the mothers or grandmothers to relax and chit-chat with neighbors, while looking after their small children playing in the sand box or in the shallow drain. Since kitchens are always at the back of the house which opens out to the courtyard, they can also do some of the cooking preparation such as cleaning rice, or drying fish, in the courtyard while chit-chatting with neighbors.



Mothers relaxing in the common yard while watching the children play



SECTION THROUGH THE BACKYARD OF CHINESE HOUSES



SECTION THROUGH THE BACKYARD OF MALAY HOUSES

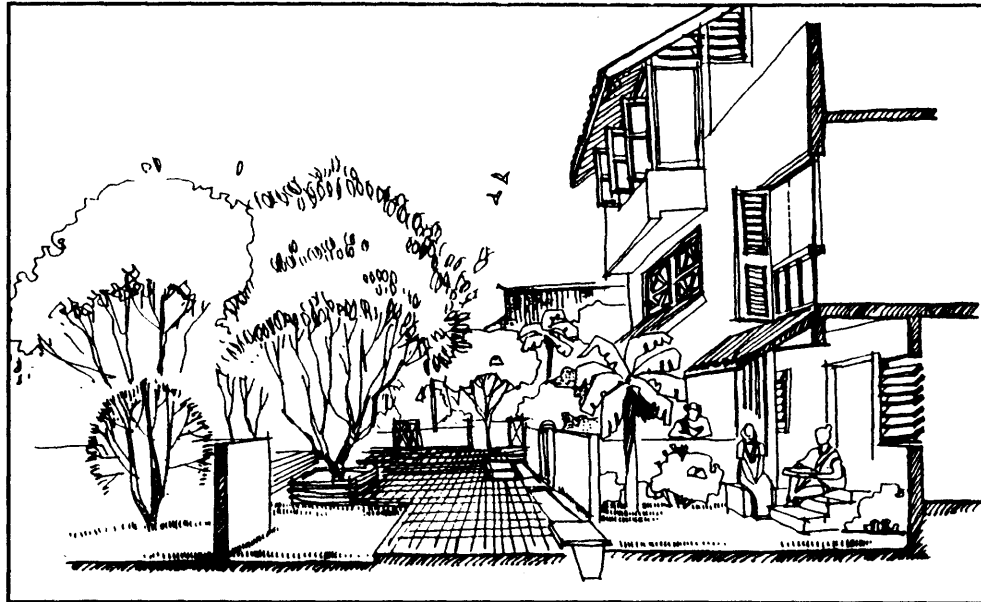


The character of the cluster courtyard depends on the characters of the backyard of the houses surrounding it. Malays, Chinese, and Indians have different interpretation of what a backyard is. Therefore, the clusters belonging to different ethnic groups have very different atmosphere.

A Chinese backyard is usually walled and paved. It is often used as an extension to the kitchen area, or a laundry area. Therefore, the clusters which are predominantly Chinese, are most likely be very private and well defined by the backyard walls of the houses.

A Malay backyard on the other hands, is very open and is rarely fenced. Therefore the private backyard and the public courtyard merge to become one large yard. Because Malays often plant fruit trees and cooking plants, the courtyard of a Malay cluster is probably very shady and lush.

An Indian backyard is somewhat in the middle compares to the Malay's and Chinese'. While the backyard is often walled like the Chinese ones, it is planted with fruit trees and cooking plants like the Malay's backyard.



SECTION THROUGH THE BACKYARD OF INDIAN HOUSES





## Unit Level

The design of the units is based on a system of frameworks which determines the various roles of the different individuals involved in the process of completing the final dwelling.

### Framework I

Framework I involves the design of the supports itself, which is the responsibility of the architect and developer, and the rest of the design team. In this project, I design the supports based on the research I did on the traditional houses of the Malays, Chinese, and Indians, and on the survey I did on the squatter houses in Kampung Sentosa, and on the existing Sri Sentosa housings.

### Framework II

Framework II involves the architect and the dwellers, to determine the basic variations that need to be figured out before the construction of the supports. In this framework, the dwellers participate in the final design of his support unit by deciding on the location of kitchens and bathrooms in the back zone, and the location and direction of the staircase to the upper floors of the unit. In Malaysia, a central sewage system is not yet implemented. The system that is normally used is the septic tank system, while the water from the kitchen and bathroom goes to the river through conventional drains. Therefore,

before the supports are built, the locations of the different waste outlets need to be determined for the final blueprints.

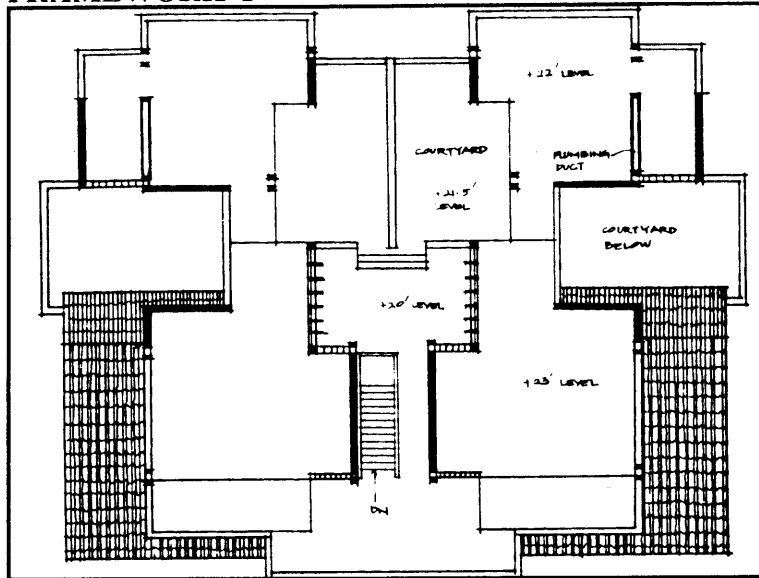
### Framework III

After the supports are built, the process of configuring the various layouts depends on the dwellers and local craftsmen or traditional builders, consulting a resident architect who is involved in the design of the supports. For this project, I provide a chart of different variations by dividing each supports into several zones. For each zones, I show several examples based on the Malay, Chinese, and Indian houses. The combination of these zones produces a whole range of variations for the possible layout of the unit, to satisfy the different cultural requirements.

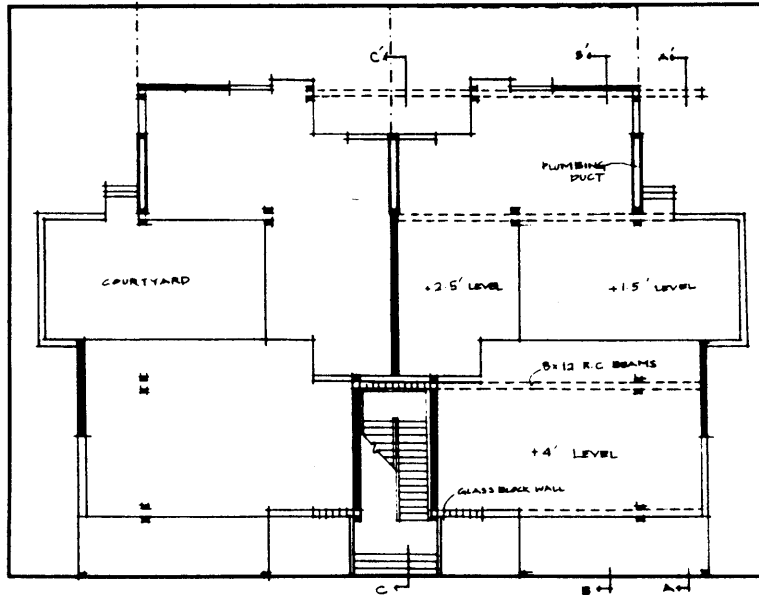
### Framework IV

This is the final phase where the dwellers move into the supports and personalize the space by the furniture layouts and other house work, such as fences, wall decorations, etc.

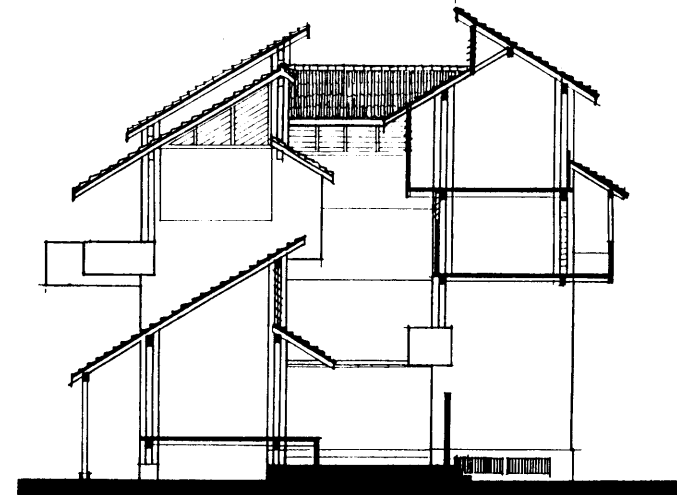
**FRAMEWORK I**



SECOND STOREY UNIT



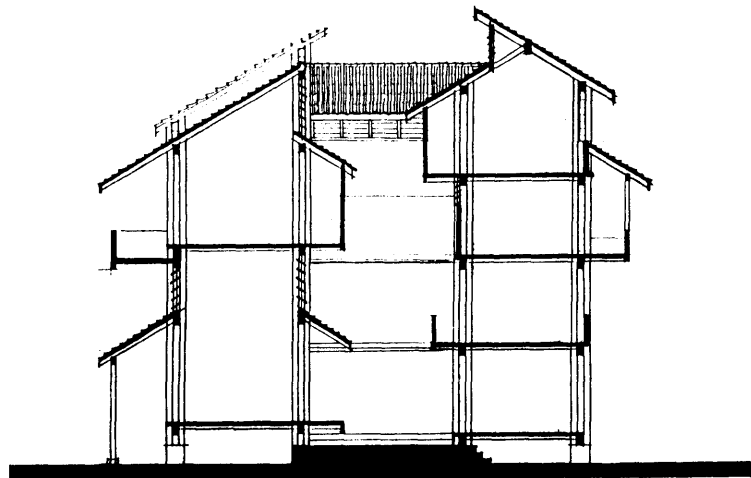
GROUND STOREY UNIT



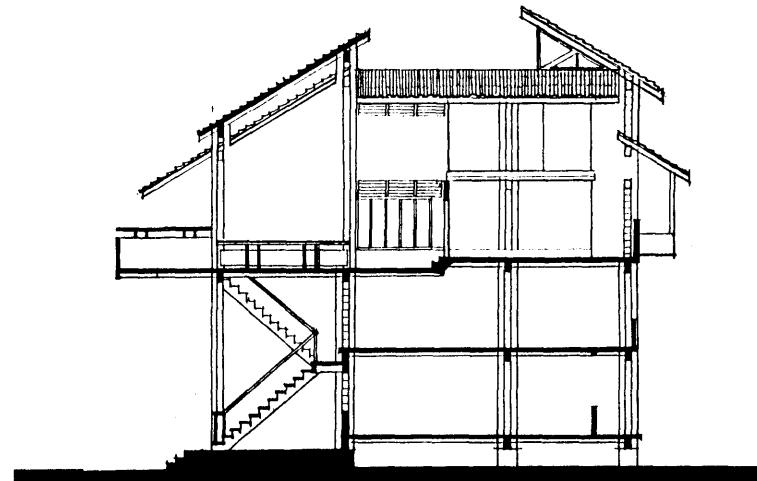
SECTION A-A'

## PLAN AND SECTIONS OF HOUSE TYPE A

Type A are located in the middle of the residential area, facing either the cluster courtyard or the parking area. It is a duplex type unit consisting four units of dwellings. All of these units have an upper level mezzanine space which is normally used as sleeping area. The ground level unit has a backyard, but not the front yard. The upper level unit has neither. However, both top and bottom units are provided with internal courtyard and two means of access to the house. These unit types are suitable for a small to middle size nucleus type families.

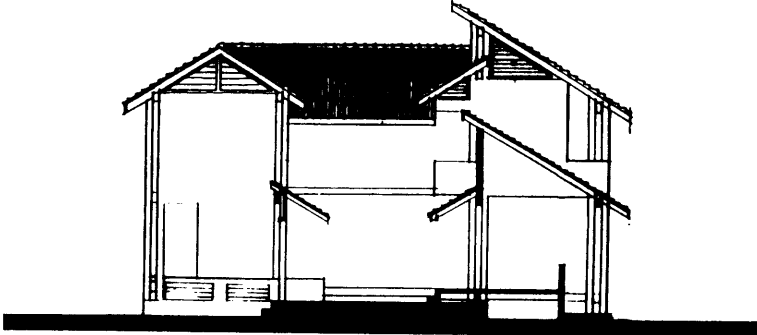
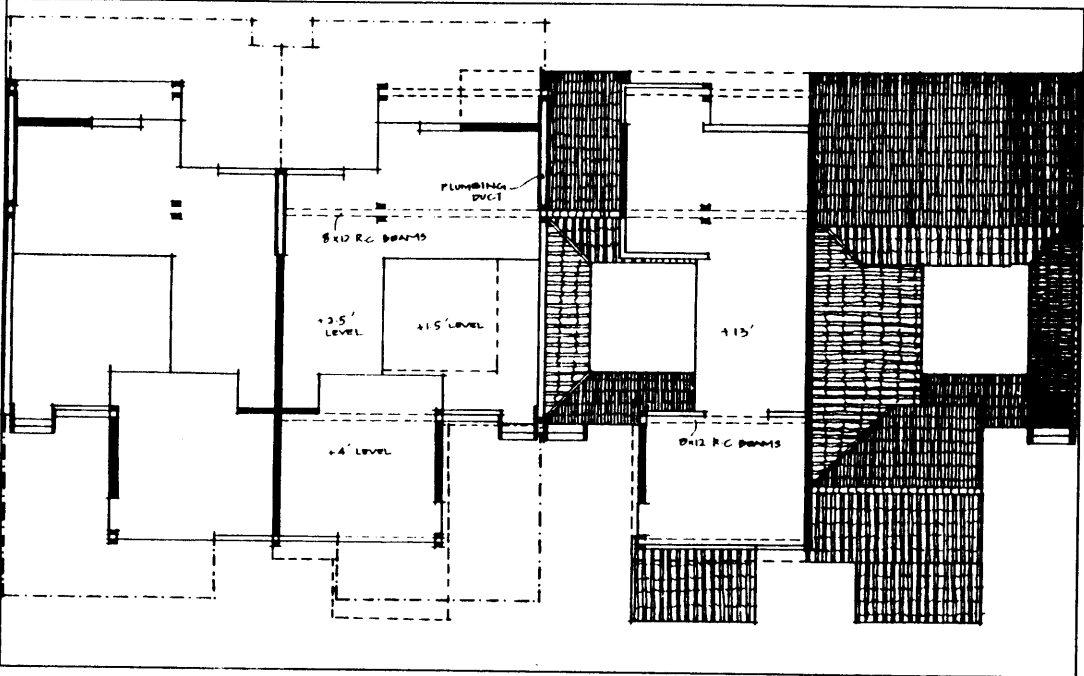


SECTION B-B'



SECTION C-C'

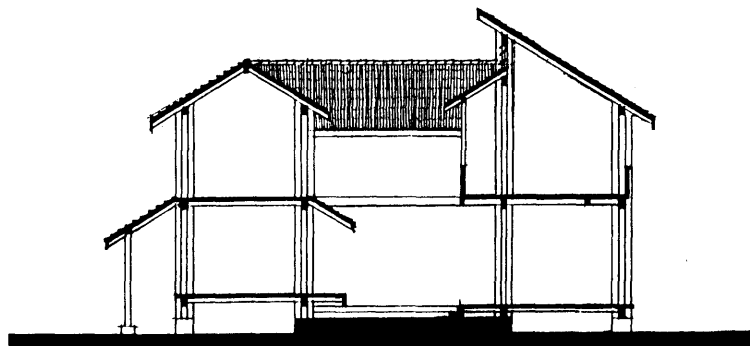
**FRAMEWORK I**



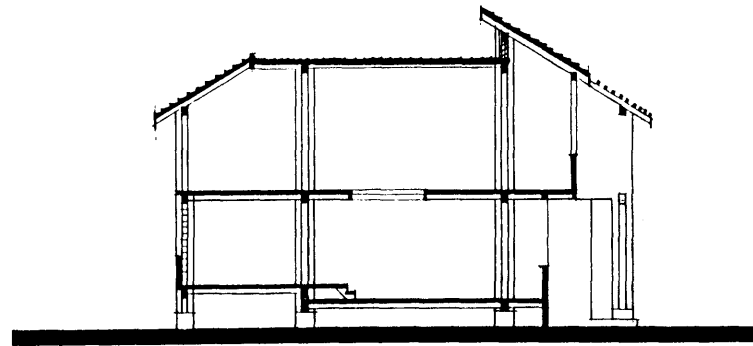
**SECTION A-A'**

PLAN AND SECTIONS OF HOUSE TYPE B

Type B units are either facing the street or facing the public spine. This type has a front zone which could be converted into a small shop or a parking garage. This unit is suitable for those who want to supplement their income by operating a small family type shop that can be run by the housewife or children. It is also for those who want to have their car parked right in their front yard. Since this house type has both front and back yards, it can hold more possibility of future growth. Therefore, it is suitable for extended or complex families.

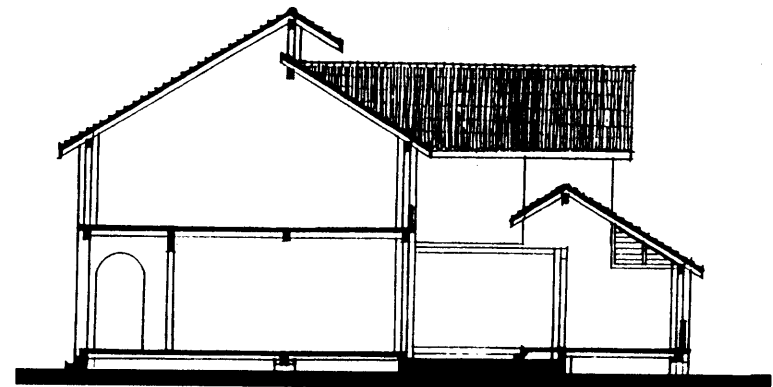
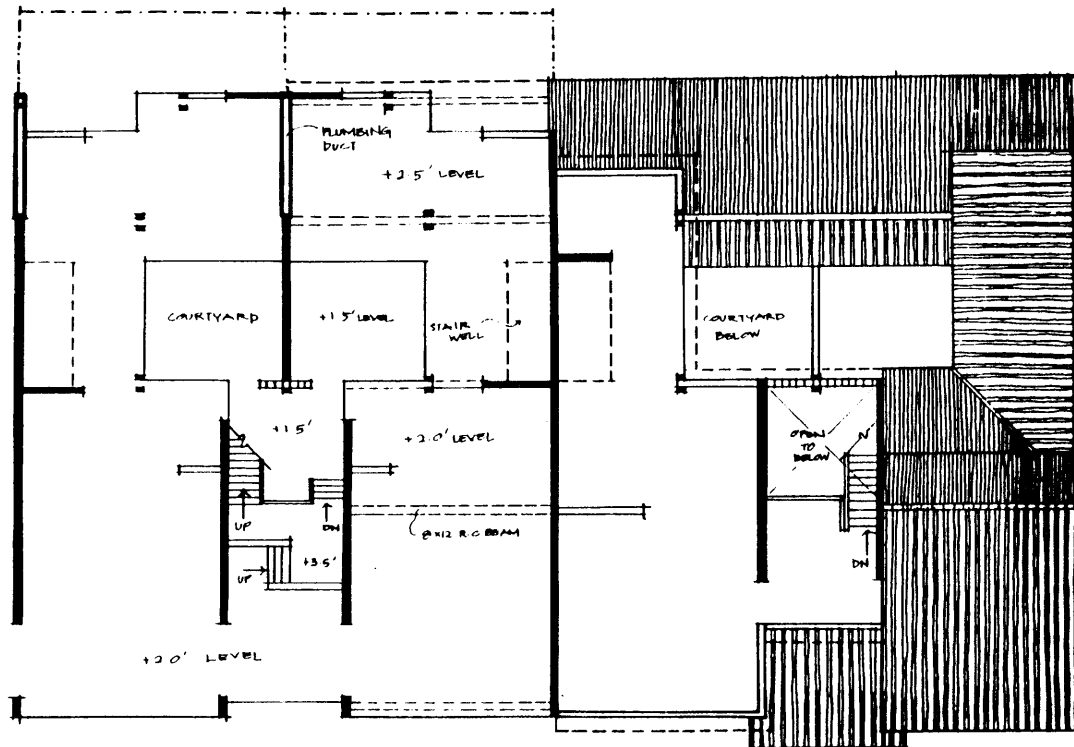


SECTION B-B'



SECTION C-C'

# FRAMEWORK I

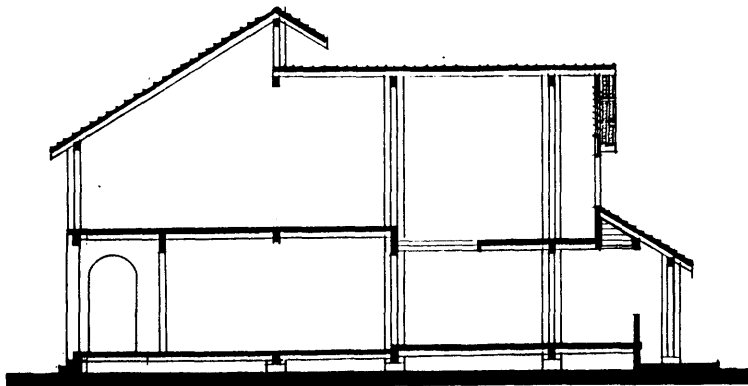


SECTION A-A'

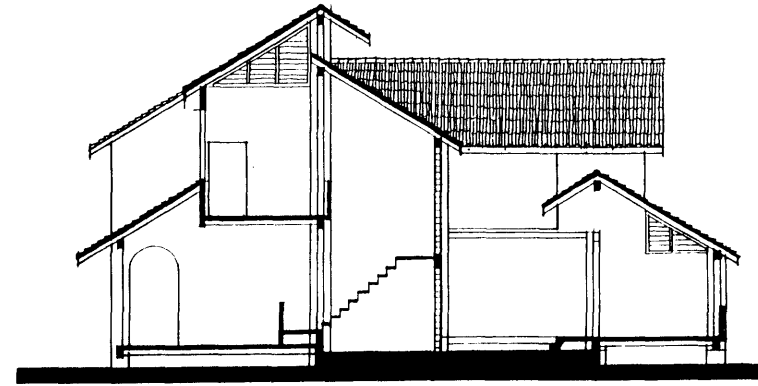


## PLAN AND SECTIONS OF HOUSE TYPE C

Type C is a shophouse unit located along the public spine. Like the Chinese shophouses in Malaysia, the front porches of type C units form a continuous arcades along the shop fronts. But unlike the traditional shophouses which normally have only one means of egress and that is through the shop front, Type C shophouses has a private entrance along the continuous arcades so that friends and relative can enter their house without going through the shop, or the private backyard.



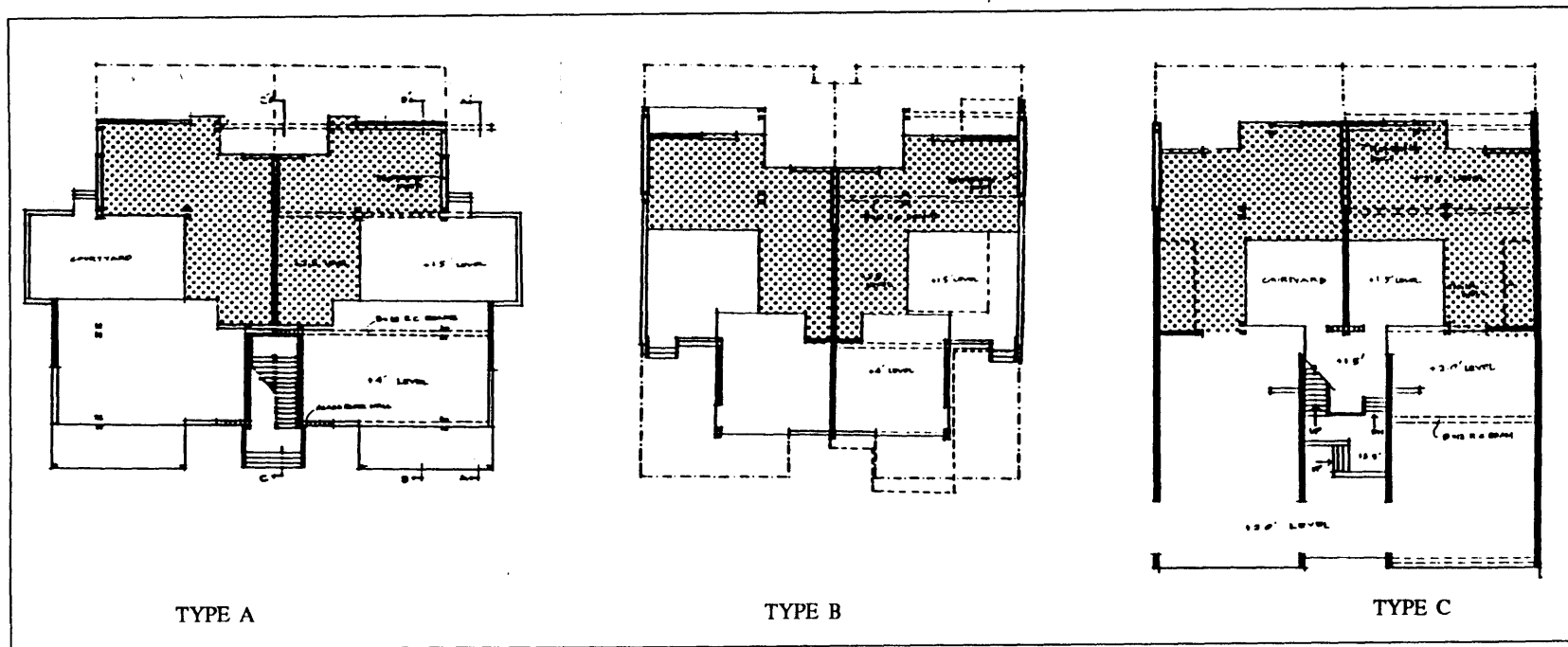
SECTION B-B'



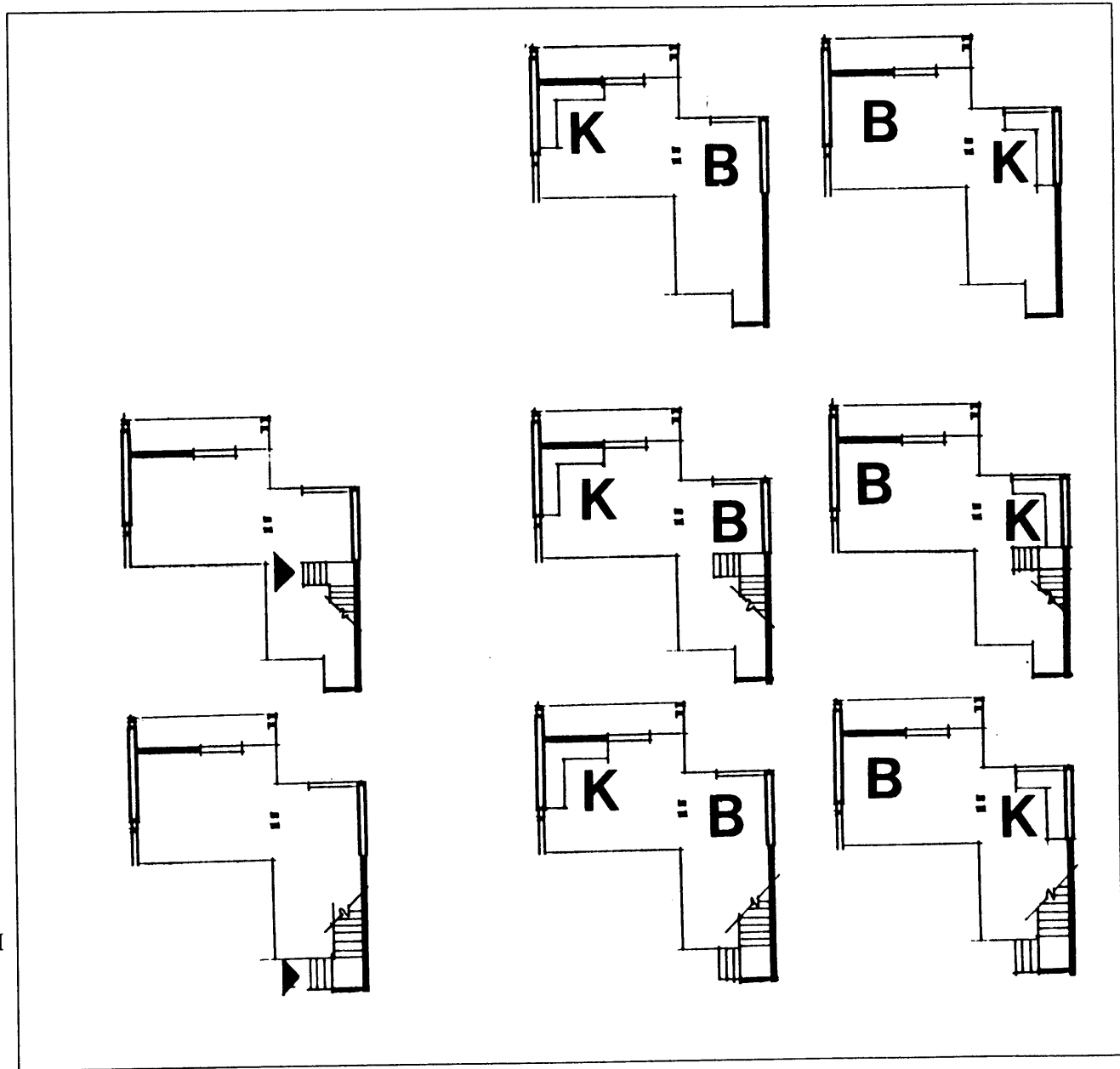
SECTION C-C'

## FRAMEWORK II

Framework II involves determining the locations of the kitchen and bathroom in the back zone, and the direction of the staircase to the second level in the middle zone. The decision is made by the dwellers by consulting the architect in charge.



**K** IS KITCHEN  
**B** IS BATHROOM



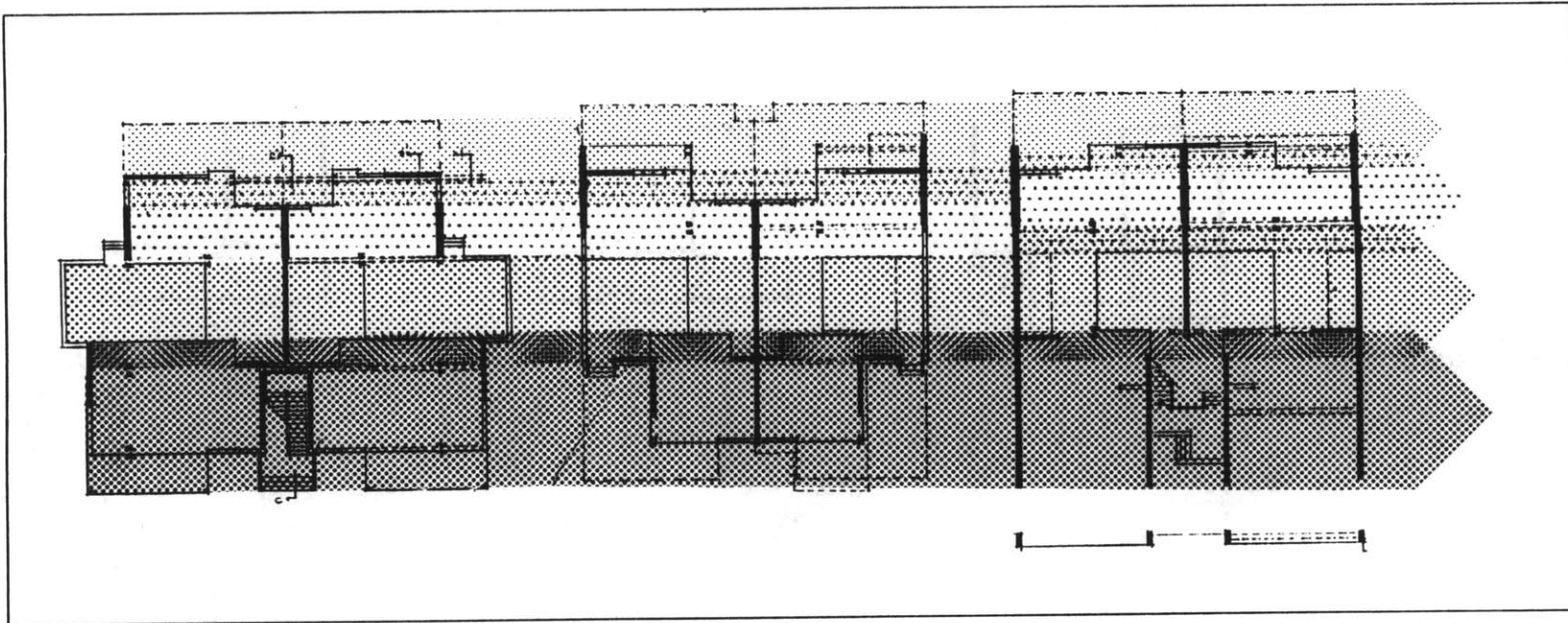
### **FRAMEWORK III**

Framework III involves configuring the interior layout of the unit. The decisions regarding the layout depends on the dwellers, after consulting with the architect and the craftsmen who will be in charge on building the infill.

The following pages are some of the charts showing the variations of each of the zones in each unit type.

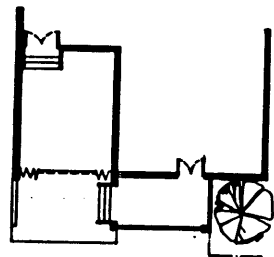
Each house type is divided into 4 to 5 zones depending on whether it has a front yard and each zone can produce many variations depending on the dimension chosen. Because all the zones overlap to produce a margin area, they can have a range of dimensions. The dweller can decide on the dimension based on his needs. For example, a Chinese family may want to have the largest possible dimension for the kitchen zone because it is the family area where most family interaction occurs.

ZONING DIAGRAM FOR FRAMEWORK III

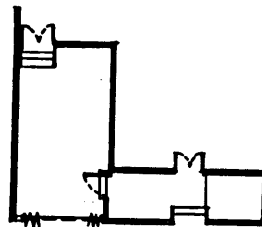


ZONE 1 - TYPE B

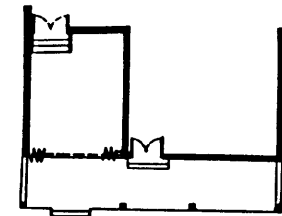
MALAY



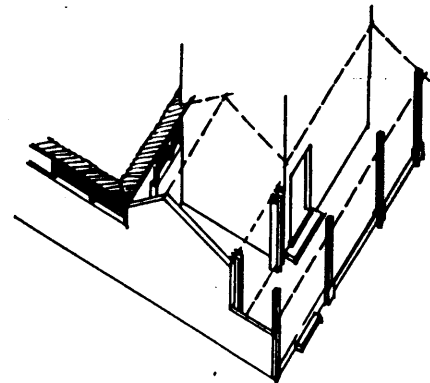
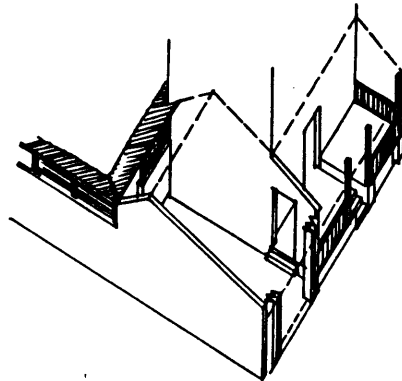
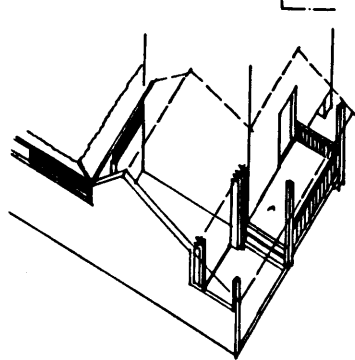
INDIAN



CHINESE



FRONT PORCH & SHOP

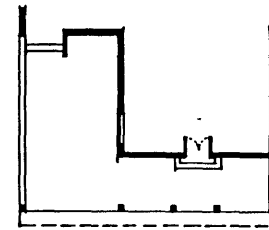
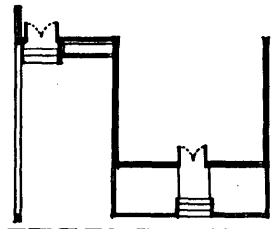
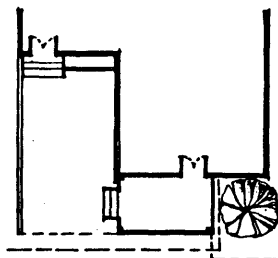


MALAY

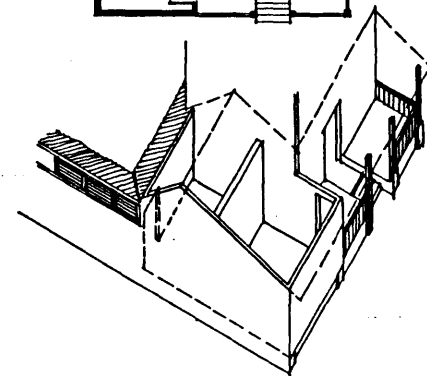
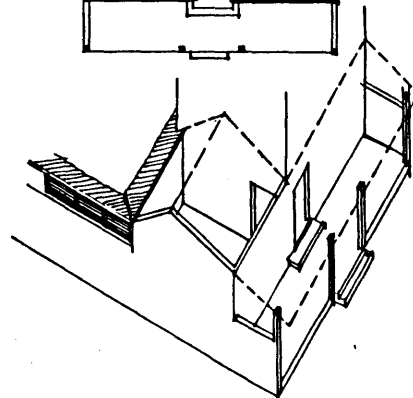
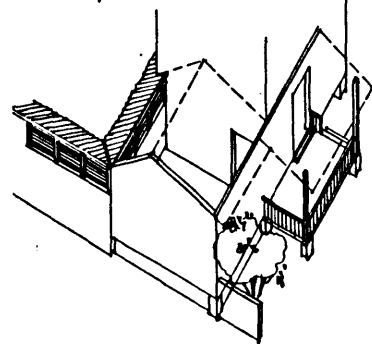
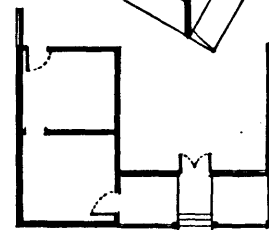
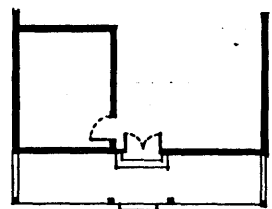
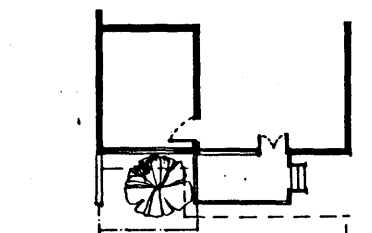
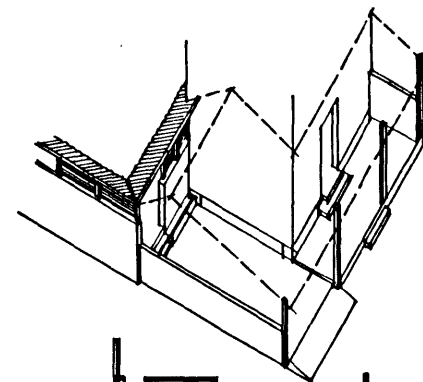
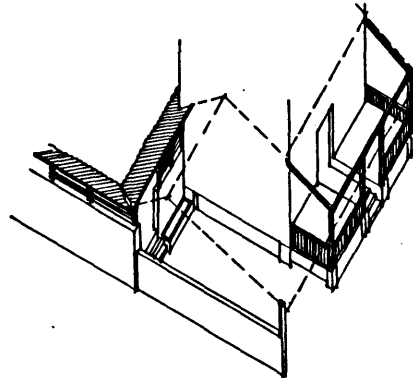
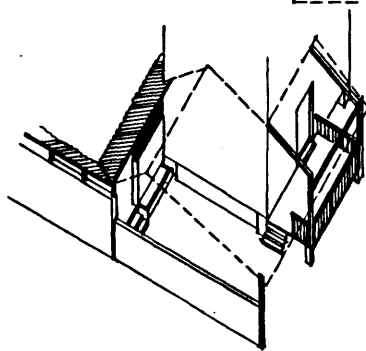
INDIAN

CHINESE

FRONT PORCH & GARAGE



FRONT PORCH & ROOM

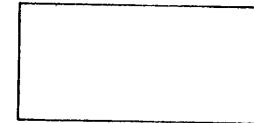
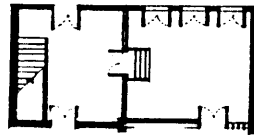
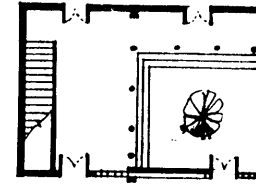
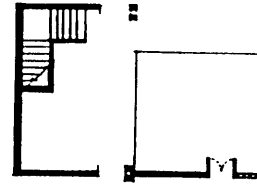
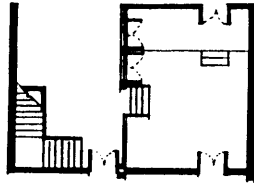
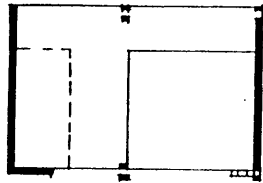


ZONE 2 - TYPE C

MALAY

CHINESE

INDIAN



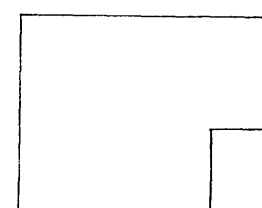
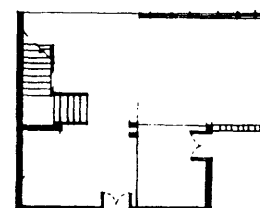
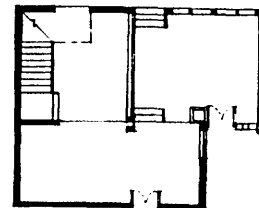
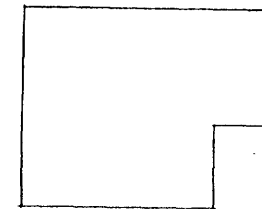
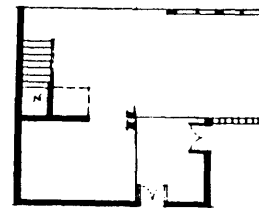
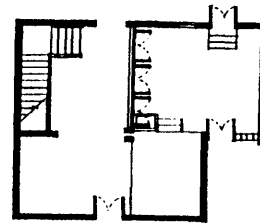
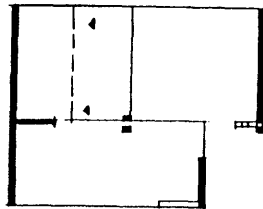
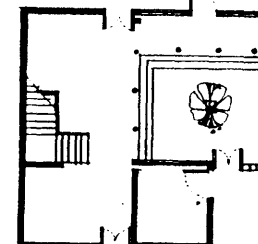
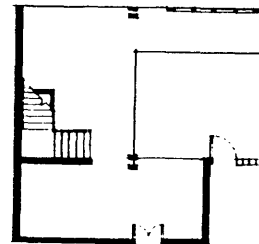
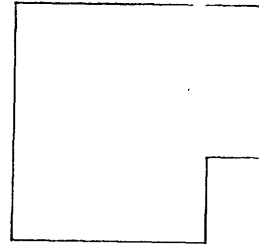
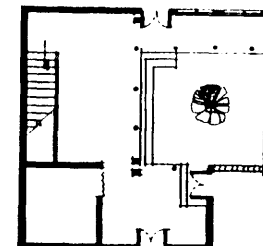
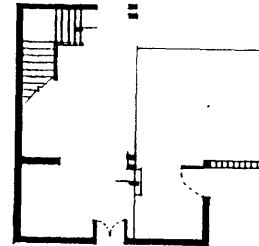
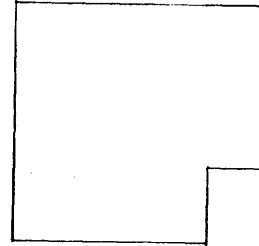
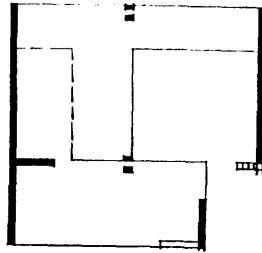


ZONE 2 - TYPE C

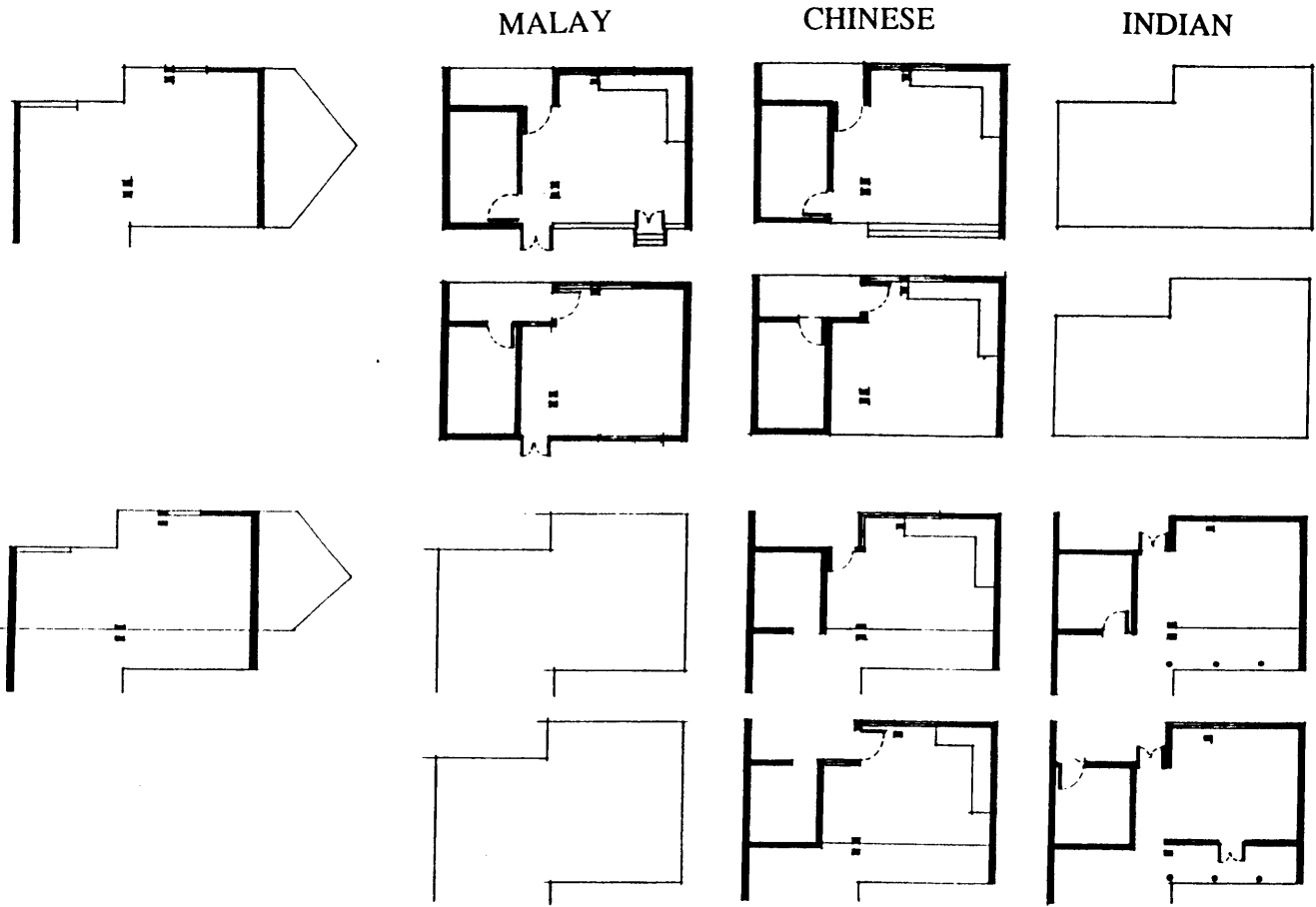
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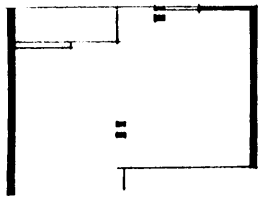
CHINESE

INDIAN

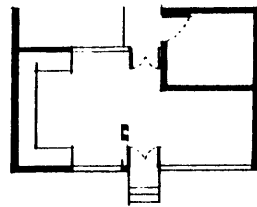
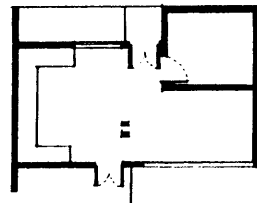


ZONE 3 - TYPE C

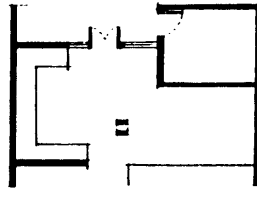
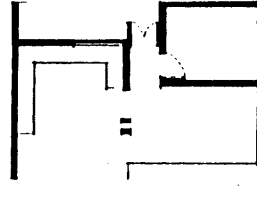




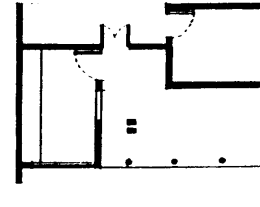
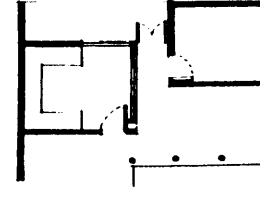
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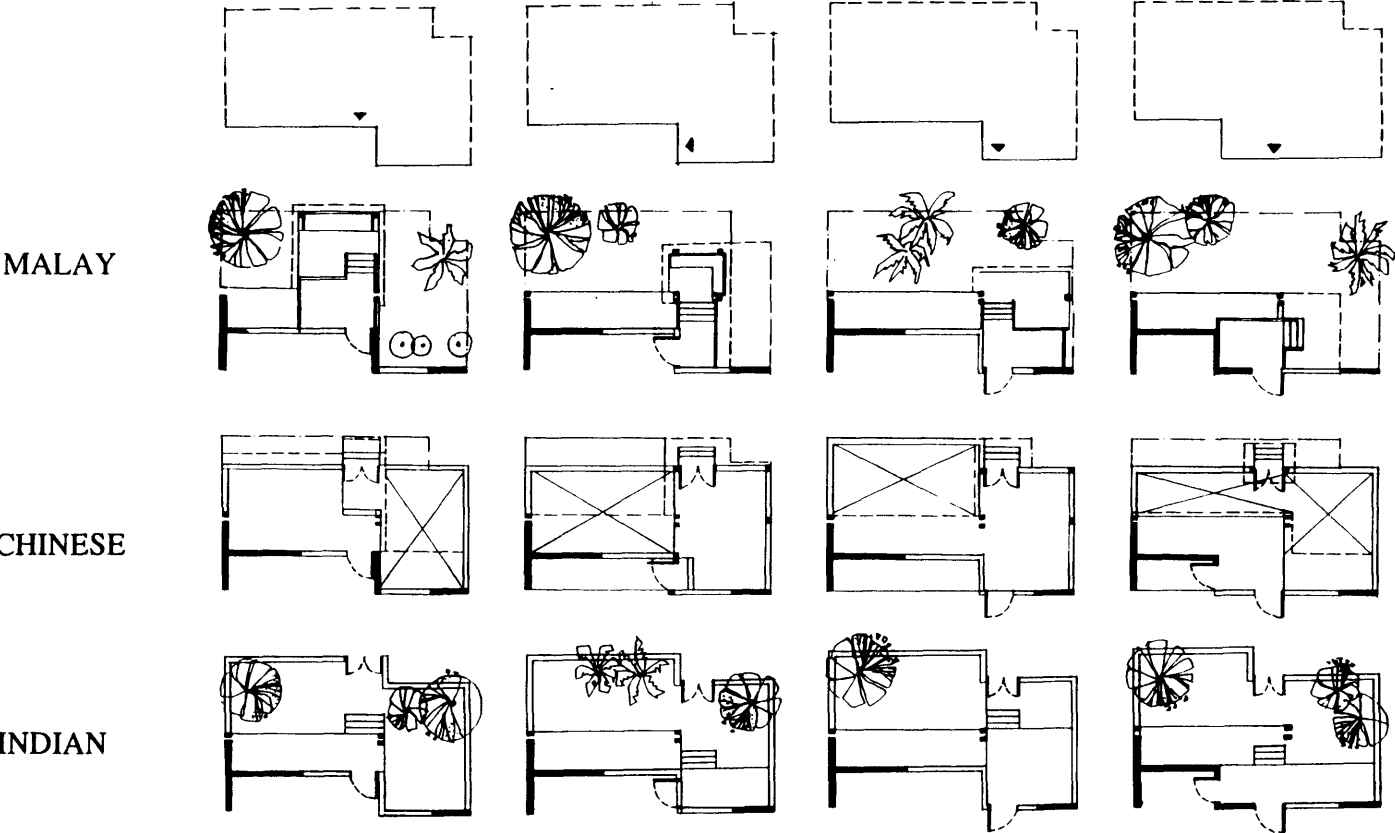
CHINESE



INDIAN

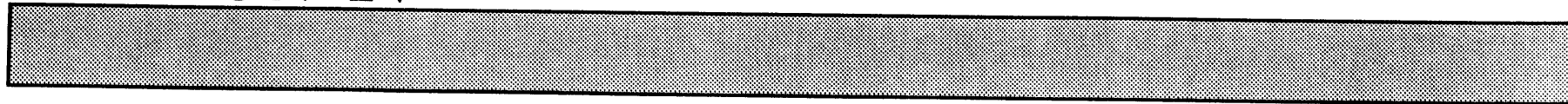


ZONE 4 - TYPE A, B AND C

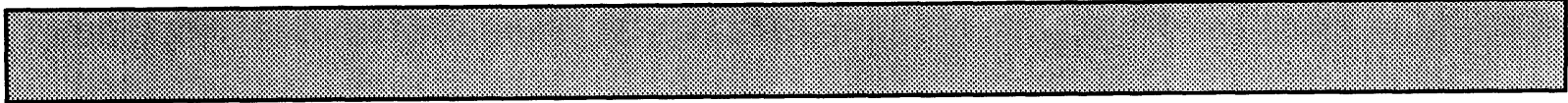




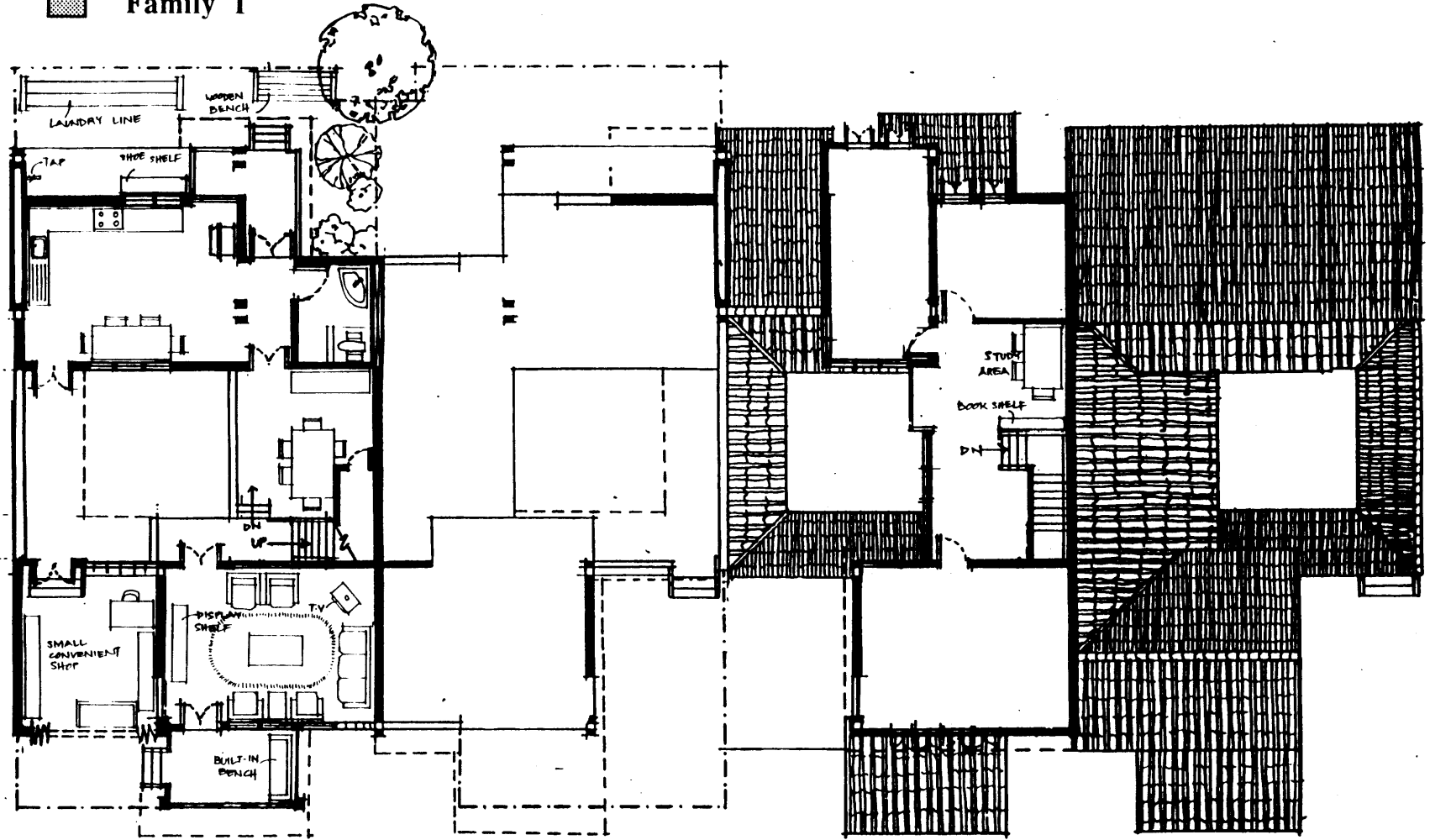
# SECTION IV



## **PROJECTIONS**



Family 1

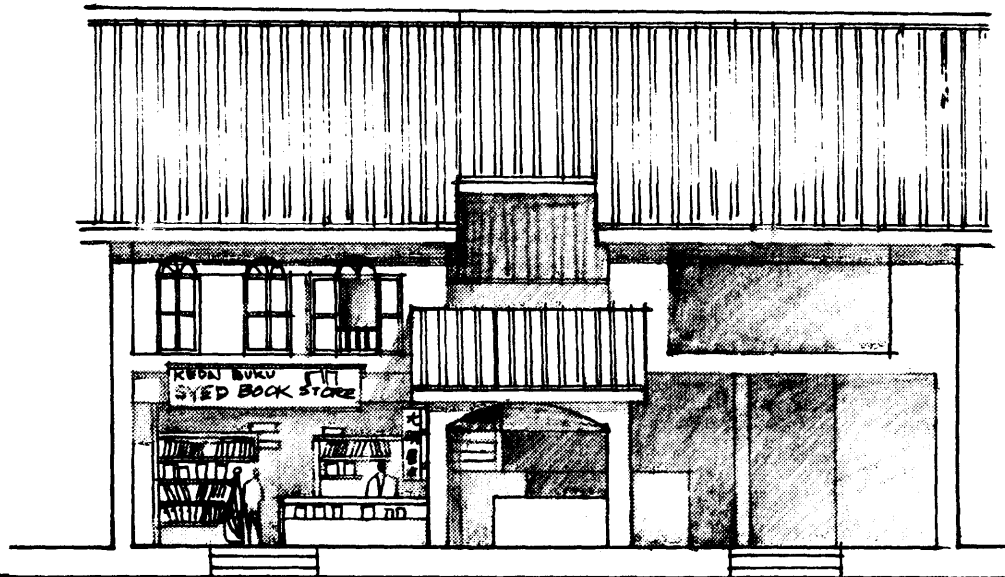






Mr. Muhammad Said and his family reside in House Type B that faces the Tai Chi park because he wanted to open a shop. He converted the zone 1 into a small shop selling basic necessities such as salt, sugar, milk, sweets, cooking oil etc. to serve the immediate neighborhood. The stall is mainly looked after by his children, while he continues to supplement the family's income by selling drinks and fruits on the street. His wife no longer works as a street vendor but instead, stays at home to do house work and help look after the store. The store is accessible directly from the kitchen through the courtyard, so that his wife and daughters can do the cookings and attend the shop at the same time.



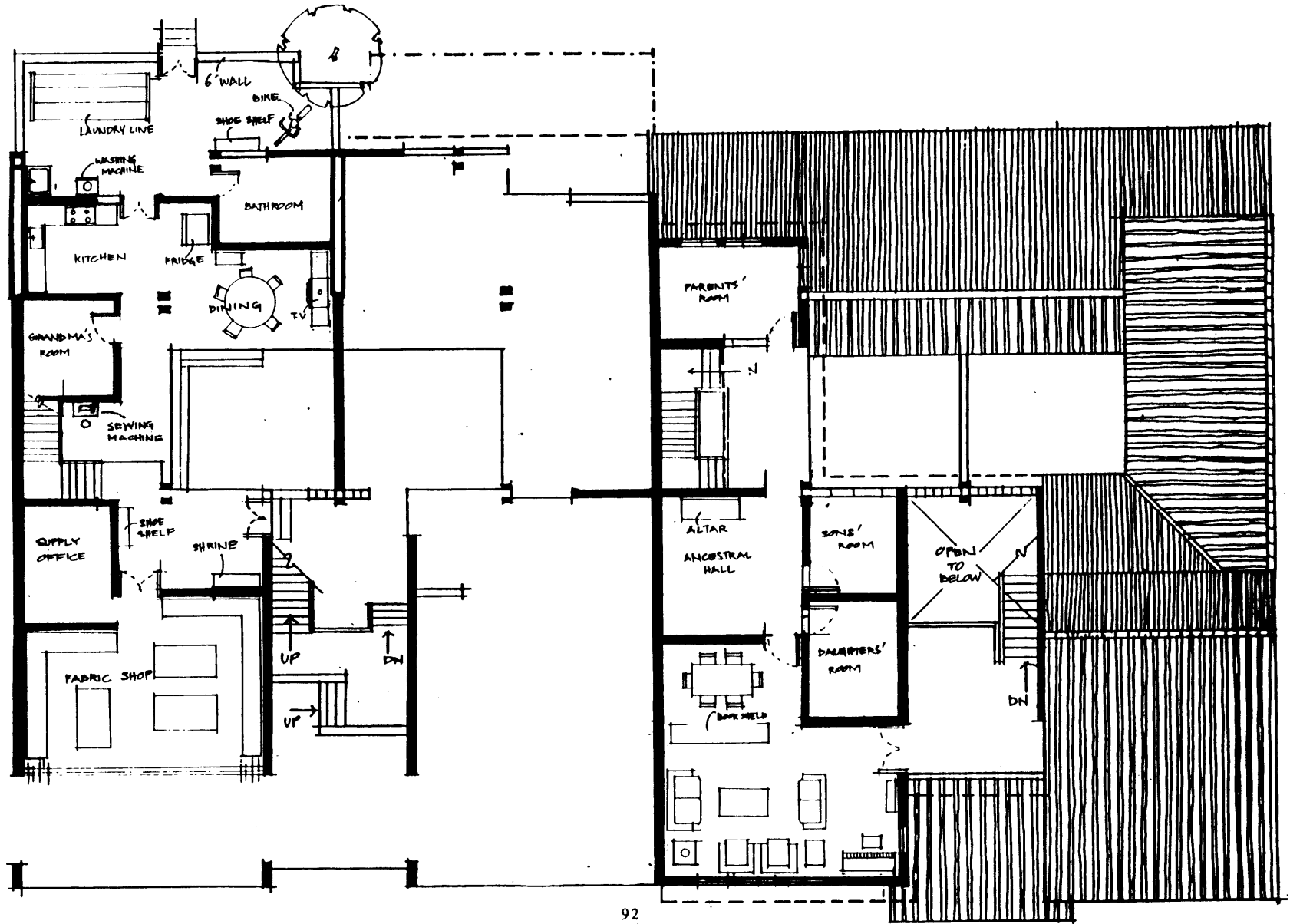


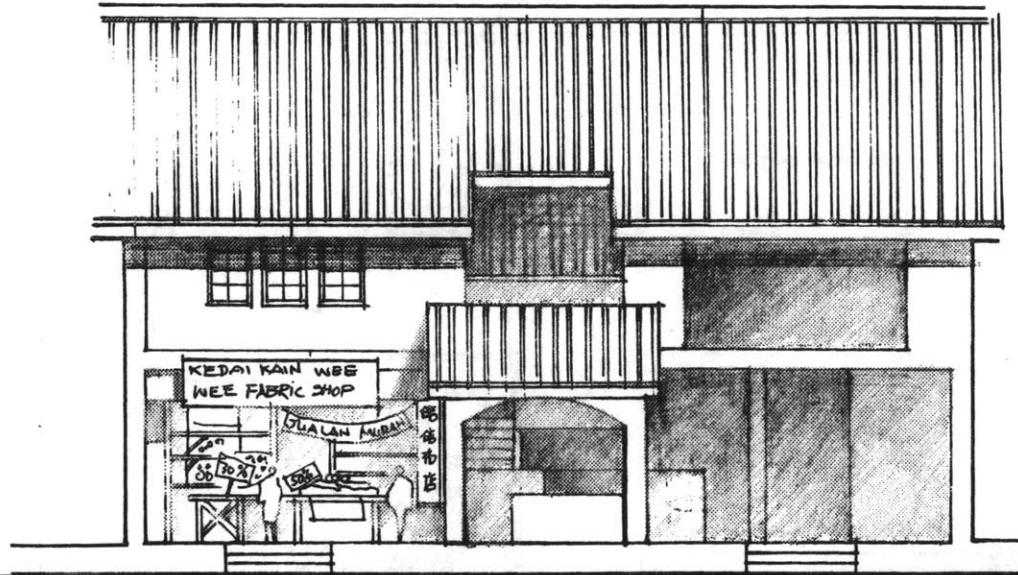
Mr. Syed Alwi and his family live in House Type C which is a shophouse. He and his sons open a book store like they have always wanted to do.

He still teaches Quran at his house at night to the children in the neighborhood. The classes take place in the dining area on the ground floor. He still has his friends from the UMNO club coming over to the house every weekend night, even though the meetings are now held in the public hall nearby. He entertains his friends in the living room downstairs, so that the rest of the family can have their privacy upstairs.



# Family 3



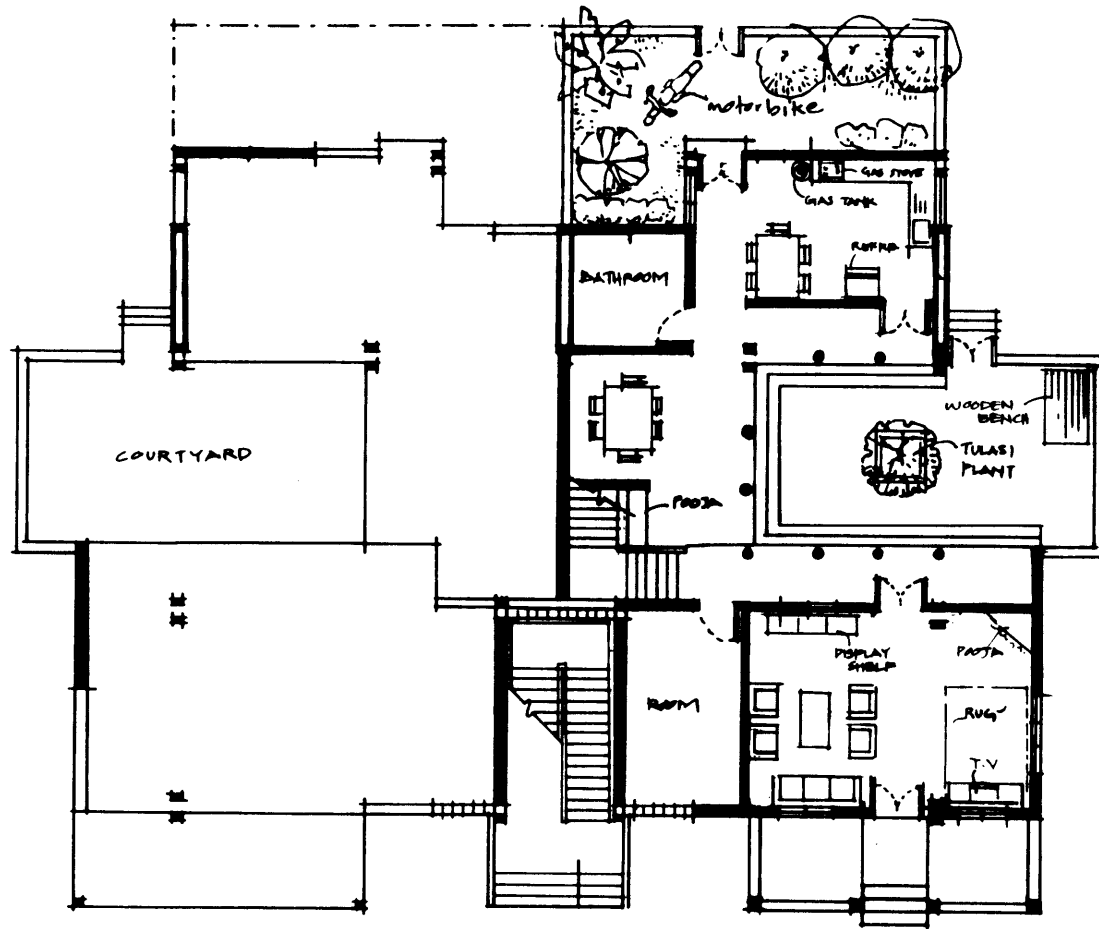


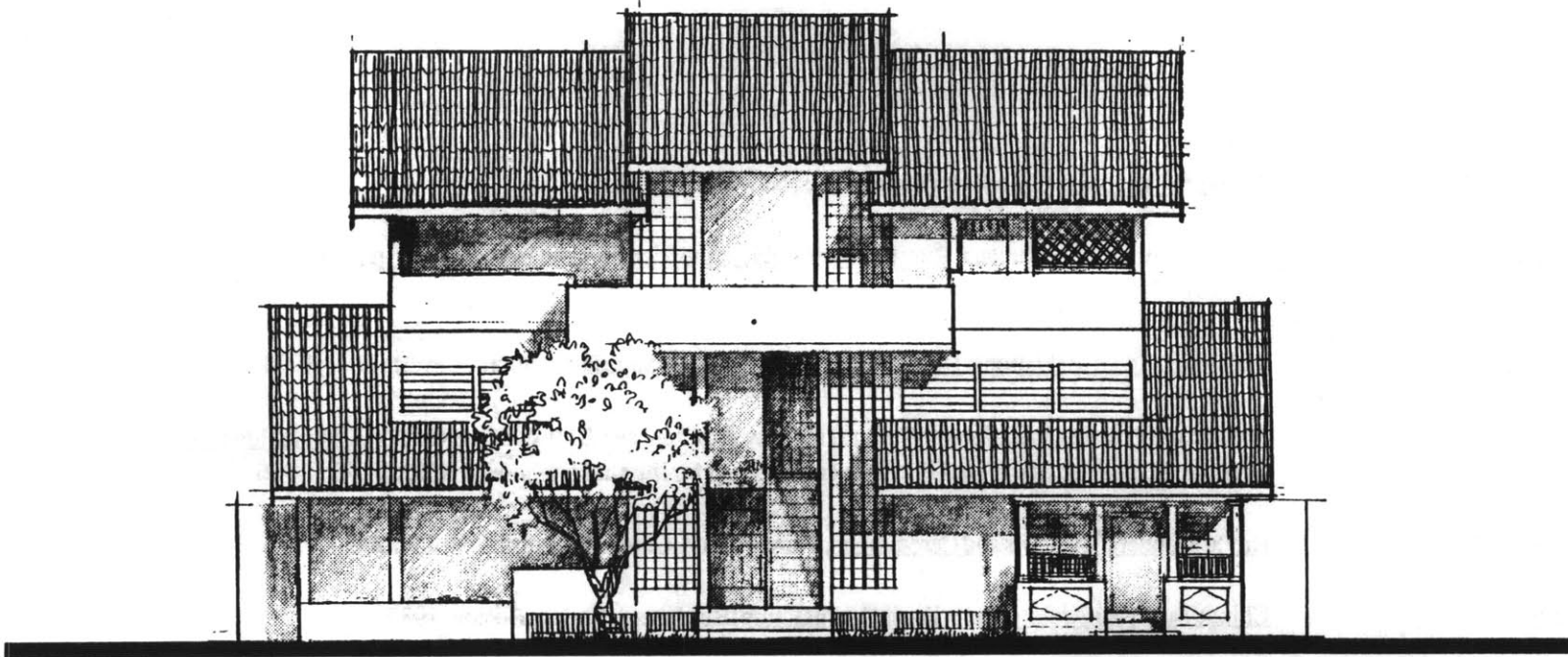
Mr. Wee and his family choose to live in a shophouse unit (House Type C), and open a fabric shop that he and his wife have been planning to do. Mrs. Wee does part-time tailoring job at home. She closed down her stall in Petaling Jaya Old Town to help her husband manage the fabric shop. Now she can also help out in the kitchen, although most of the cooking is done by her mother. Wendy, the eldest daughter also helps her parents in the shop after school.

At night, the family usually gathers in the dining room to watch television, while enjoying dinner. Everyone else except the grandmother sleeps upstairs. She sleeps downstairs for easy access to the bathroom and the kitchen.



Family 4





Mr. Muthu and his family live in House Type A. His family size has grown even bigger now that his parents from Kelang moved to live with him and his family. Since he is away most of the time, his parents are helping his wife cope with the house work.

The parents are very religious, and so, the house is fully decorated with religious items. In the courtyard, a sacred "Tulasi" plant is planted on a raised platform to be worship every morning. The courtyard area is also where the family gathers in the afternoon, around the wooden bench to listen to the grandmother's stories.

The eldest son spends most of his time at home mending his motorbike in the front yard, while his grand father watches over from the porch.

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