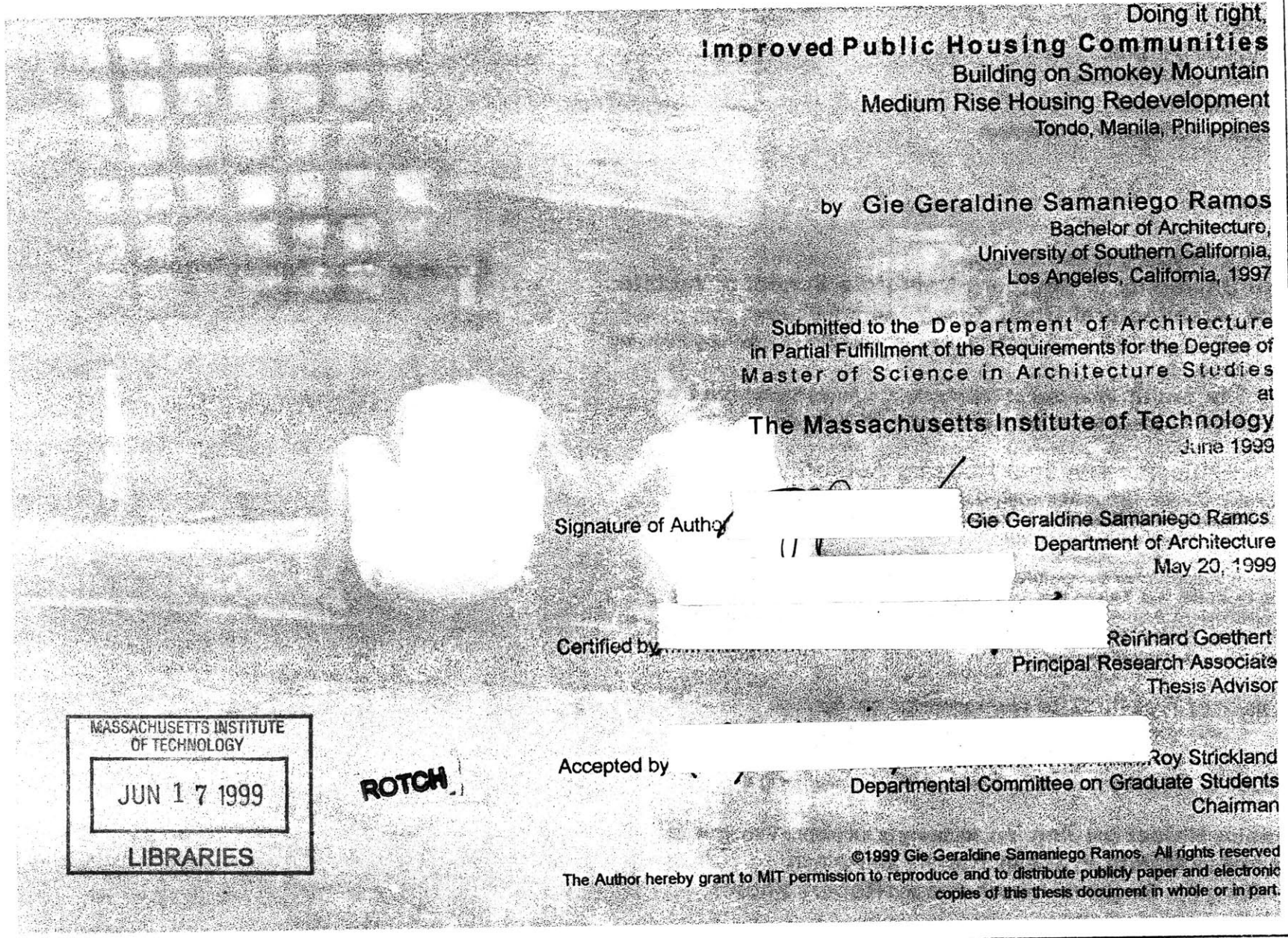

Doing it right,
Improved Public Housing Communities
Building on Smokey Mountain
Medium Rise Housing Redevelopment
Tondo, Manila, Philippines

by Gie Geraldine Samaniego Ramos
Bachelor of Architecture,
University of Southern California,
Los Angeles, California, 1997

Submitted to the Department of Architecture
in Partial Fulfillment of the Requirements for the Degree of
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Signature of Author: [redacted]
Gie Geraldine Samaniego Ramos
Department of Architecture
May 20, 1999

Certified by: [redacted]
Reinhard Goethert
Principal Research Associate
Thesis Advisor

Accepted by: [redacted]
Roy Strickland
Departmental Committee on Graduate Students
Chairman

Readers:
Michael Dennis
Professor of Architecture
Roy Strickland
Associate Professor of Architecture

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dedicated to:
"Lolo"
Ernesto Diaz Samaniego Sr.
(1925-1999)

Doing it right,

Improved Public Housing Communities.

Building on Smokey Mountain
Medium Rise Housing Redevelopment
Tondo, Manila, Philippines

by Gie Geraldine Samaniego Ramos

Submitted to the Department of Architecture on 20 May 1999 in partial fulfillment of the requirements for the degree of Master of Science in Architecture Studies

Abstract

Can Manila squatter housing redevelopment be improved programmatically and schematically to provide more than minimal shelter needs while maintaining interests of density, cost, and time of the Philippine government and the Philippine National Housing Authority?

This thesis explores three existing public medium rise housing projects, Vitas Medium Rise Housing Project (1990 Tondo, Manila), Smokey Mountain Medium Rise Housing Project (1995 Tondo, Manila), and Maharlika Village Medium Rise Muslim Housing Project (1999 Taguig, Metro Manila) as case studies for precedence investigation to develop design guidelines to be applied to future public housing projects. The application of these guidelines will be demonstrated as Phase II on reserve land at the Smokey Mountain site.

Thesis Advisor: Reinhard Goethert
Title: Principal Research Associate

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- Shanties along the R-10, Tondo, Manila-Philippines.

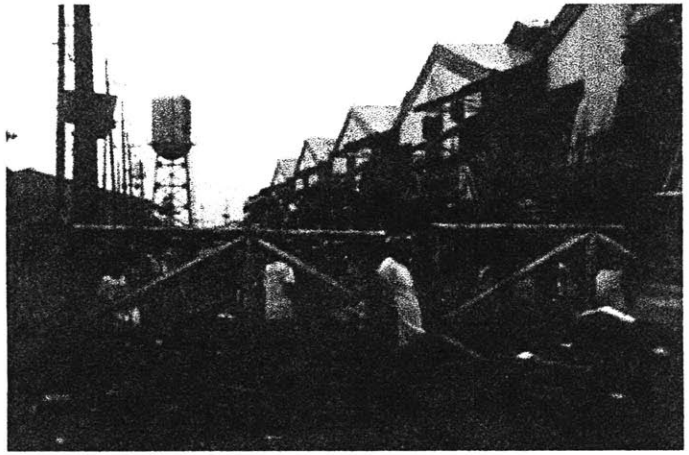
Introduction
The Problem

This research examines how Manila-Philippines squatter housing redevelopment can be improved programmatically and schematically to provide more than minimal shelter needs, while maintaining the interests of density, cost and time of the Philippine National Housing Authority (NHA).

In case studies of three existing public housing projects, problems in the following areas were found.

- ***Overcrowding***

Density figures at the existing projects are higher than seem reasonable. Although they are different for the three sites, they have however decreased since the first case project was erected in 1990. With the residents and site managers of the individual housing projects have expressed their disappointment in what has become of the housing projects because to date, they are actually housing more people than they were anticipating for. The people complain of their being too many people at the site all together, but in general, there is not enough space in the individual households for the families at hand,



- Vitas Reclamation site, Tondo, Manila-Philippines.

- ***Poor land use***

The existing site planning demonstrates a great amount of wasted space, inefficient circulation and street patterns, and dead spaces. These wasted and dead spaces are the spaces that have been left of cookie cutter building*. Space around, in between and before the buildings do not have any specific attributes or contributions to the housing project communities. They have been left as useless spaces. They do not define circulation, they do not define a

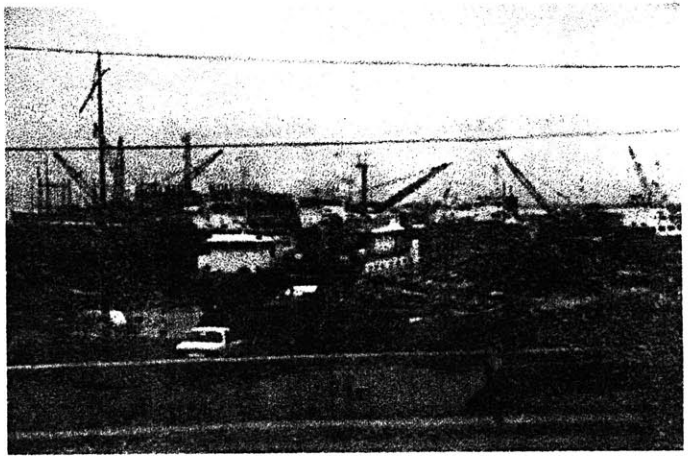
periphery of public open spaces in the sense of play space, gathering space, or anything for that matter. Theses spaces have no definition and have been left as useless space, which draws in so many other problems of illegal squatting and dumping.

- ***Up Keep***

Neither the government nor the residents have taken responsibility for the upkeep of current projects. People were placed in the housing projects and then left to, what seems like, organize themselves. Typical apartment complexes have building managers, but the projects at hand do not seem to demonstrate an effective management program, and it is at a scale farther than that of typical apartment buildings in the sense of the high density involved. I would expect that the number of people alone would promote a system of organization to begin with. On site officials explain that there are set rules that the tenants are suppose to follow in respect to the way they are to treat their units and it's immediate surroundings, but the people do not abide by the rules not do the officials enforce them. The buildings have been left to deteriorate to the natural elements and at the hands of the people.

- ***Social and economical aspects of livelihood***

Jobs, education, church, open spaces, markets or commercial places, an other livelihood amenities are absent in the existing projects. People are distanced from these amenities in their dislocation from the shanties and slums to the projects. These amenities base a self sufficient community which is what the projects should have but do not. The dislocation does not take into consideration that people need a source of income to provide for themselves? Be it a job to go to or their own entrepreneur standing, jobs need to be accessible, and not an additional cost. which commuting tends to become, and a market needs to be established for the entrepreneurship to survive. If the project site is unkept which they have been seen to be, the establishments of commercial business

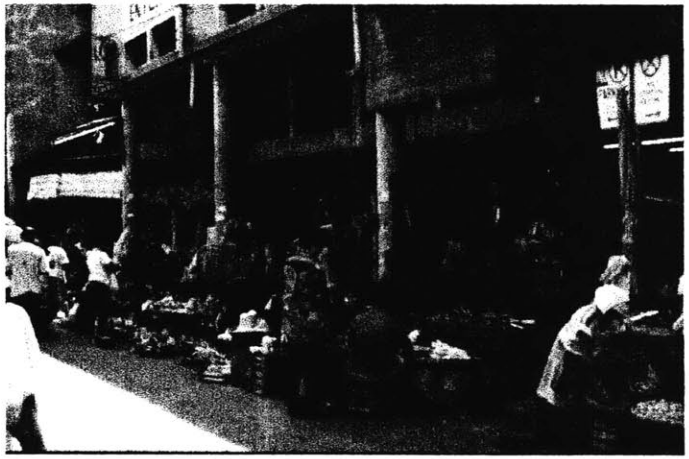


- Tondo Foreshore Port Area, Tondo, Manila-Philippines.

do not appreciate, in the sense that they are uninviting to customers of outside the housing project periphery. Ground floor commercial units are to subsidize much of the costs of the units at on the floors above them in some of the project examples. Without the income from accessible jobs, and no attraction of outside business, the system of developing s self sufficient environment is not attainable. People do not have the money to take advantage of the businesses in the projects, and with the businesses not making money, they deteriorate themselves, not producing business income to rent the commercial unit, which makes it not possible to subsidize the above units. This fails everyone. It is difficult to produce a community in these environments where the people can work, pay rent, and the resources within the community can be recirculated efficiently with added profits due to outside customers. We must look at an approach to develop all aspects of self sufficient environment that is more productive with an appearance of invitation to outside customers.

- ***Back to squatting***

Many of the squatters who have been relocated from the slums to the housing projects have decided to move back to the slums. The situation can be looked at in two ways. One is as interpreted by the NHA, who discredit the squatters by saying that the tenants are receiving their units, in some cases completely subsidized, and then selling them off to go and live in the slums. The other interpretation is that by the people in the housing projects and slums, who explain that the housing project is costing them more than they can handle being distanced from their means of livelihood, so have no choice but to go back to squatting. The NHA define the situation as the squatters taking advantage of the system, while the squatters define the same situation as being failed by the system. In any case, the plan to provide structured housing for slum dwellers has not created resolution in or improvements to many recipient's lives.



- Market place, Cebu-Philippines.

- ***Open spaces are neglected***

The neglect of open spaces can be directed back to poor land use arrangement. Open spaces have been organized at the periphery of the housing projects where they cannot be observed all the time. In the one case, recreational spaces and green space, a church and a school, are located at the periphery of the housing project. Because these places do not have resident activity at all times of the day, slums have risen from it's neglect. But shanties are not the only things taking over these places. The act of dumping and collecting trash for sale has also taken advantage of these were to be community facilities.

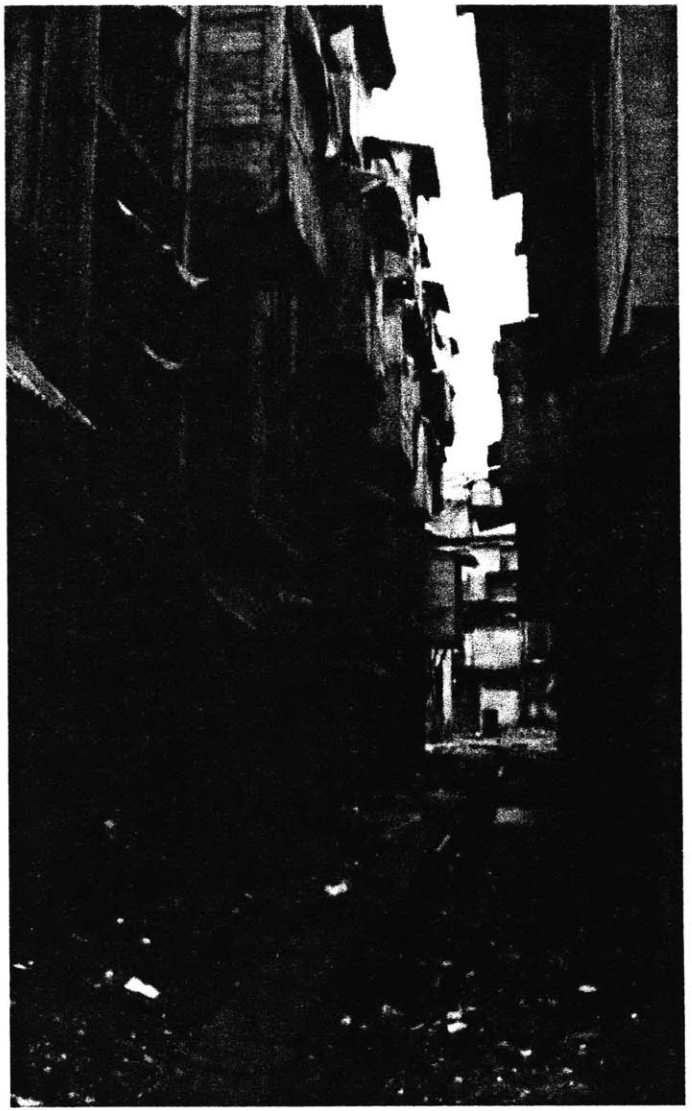
Interstitial spaces between buildings where activity does not happen are being encroached upon by the units they are suppose to supply light and ventilation to.

Open spaces which do not program a place where activities take place, circulation and presence are always evident, which the residents take responsibility for, will not be beneficial as place for the residents. Any open place unattended can sprout these types of illegal practices overnight or even right before your eyes.

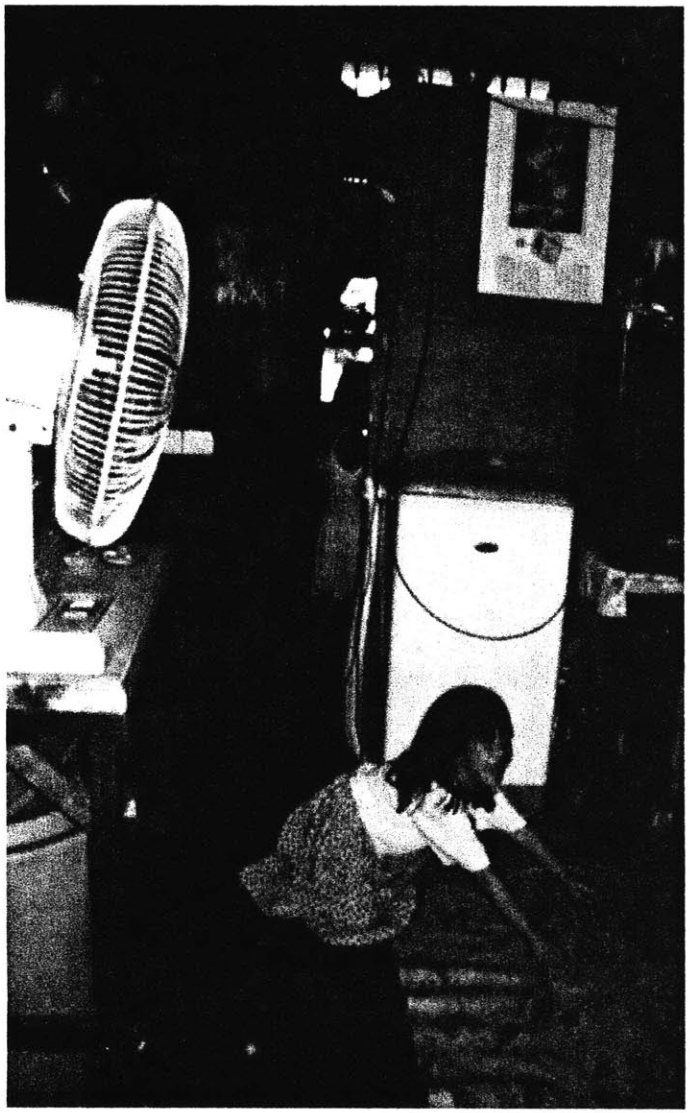
A plan should be devised to organize the open spaces about the housing project where they will promote positive activity, be within the areas where people move about and dwell, in a way that promotes ownership by the community so as not to be taken advantage of by outsider.

- ***The Jail House building.***

The NHA has made weak design attempts to discourage encroachment in the aspect of residents extending their person units into common spaces. In one case, single loaded corridor buildings faced back to back with an interstitial space between them called opportunity to the dwellers to build their units into the interstitial spaces. This hidden space where light and ventilation was to



- Interstitial space at the Vitas Medium Rise Housing Project, Tondo, Manila-Philippines.



- Unit at Vitas Medium Rise Housing Project, Tondo, Manila-Philippines

come from has now been filled in almost completely by both buildings to the point where they are almost touching. These slivers of space now look like a collage of everything that can become building material.

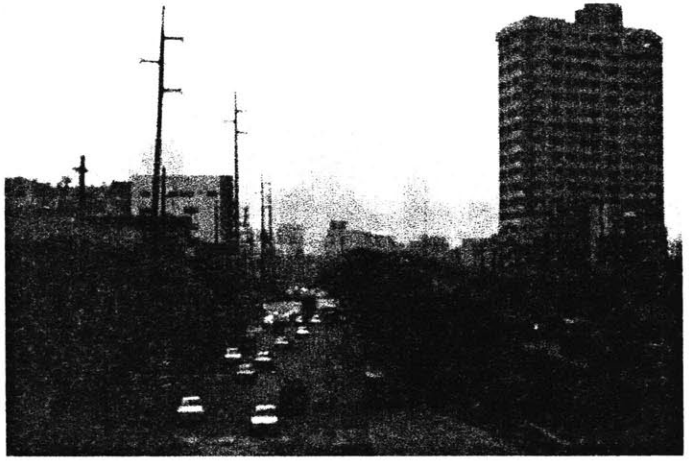
The NHA's approach to this problem was to build double loaded buildings where units faced into a common corridor. Regrettably, this corridor appears closed at both ends to the elements of light and ventilation. Two light shafts carry some light to sixty units in a five story, lofted, building. Windows on the outside of the building are small enough so as not to promote possible extension of the units.

This in turn results in a building which is as attractive and useful as jail housing buildings and holding cells, and on top of that, neglects the ground floor spaces between buildings.

Unit floor areas are too small.

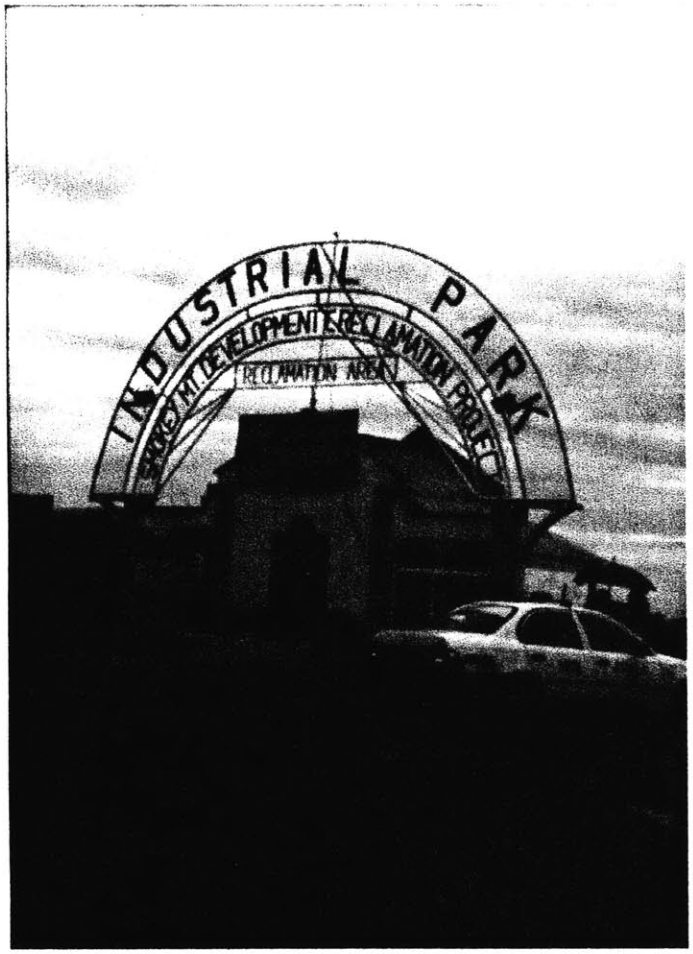
Typical unit floor areas are too small for the number of people the residents house in the individual units. These typically house four to eight people in an eighteen square meter space. The same space is to accommodate the units kitchen, toilet and shower, living space and sleeping space. It is very cramped and does not really allow for definition between living spaces.

In total, the immediate examples are failing the people they were meant to save.



- Manila-Philippines.

- Stilt Houses, Manila-Philippines.



- Tondo Industrial Park, Smokey Mountain Development Reclamation Project area.
  Tondo, Manila-Philippines.

Where Do Manila's Urban Poor Dwell
A Historic Background of Manila's Squatter Population

Manila, Philippines, has had an ever growing problem with its poverty population. And for years, this problem has only escalated to unmanageable heights. The city and it's citizens have been taken over by the slums. Why are the people of poverty where they are today in Manila Philippines?

The urban poor of Manila have been a problem for decades. accounting for one fifth of the Metro Manila population of ten million people, of the seventy million national population. The problem became most intensely evident after World War Two when eighty percent of Manila was Destroyed. The Foreshore area was already a cleared ground along the bay. It attracted not only people of the city but of the surrounding provinces who came to the foreshore for shelter. This is where most of the people settled but there was also settlement among the rubble of abandoned and destroyed buildings. People came to the city for more opportunity because everyone was suffering as a result of the war.

It is said that the problems of slums in Manila was far from the metropolis, but as my July 1998 visit to the Philippines showed, the problem is everywhere and even the government is having a difficult time trying to figure out how to control it. Efforts to relocate people have only caused more problems both in part to the regular community and those relocated. It seems as though it is always a case of trying to push away the problem rather than solving it at the cause. And now, there is no where left to push the problem because you can find traces of it everywhere in the Metropolitan Manila area.

People congregated around the main city dump site, Smokey Mountain, which is located in the Tondo area. People made a living off of selling trash collected from the site. It was a job to pick though the rubble for plastics and metals, to find materials to build their homes, to find articles to sell for their livelihood. With the increasing amount of people migrating to the dump site for this reason, hostility grew amongst the people as territorialism heightened. It was all that people had and warfare amongst the locals escalated like gangs fighting over streets today, the people were fighting over trash heaps. At first, people found that they could make a reasonable amount of money selling there collected articles to particular plants, but as the popularity grew, what would be considered the Philippine Mafia also took their share of that little prosperity. Officials made it so that the squatters were only allowed to sell there trash to particular collection agencies who would pay the people at a considerably lower rate than what was originally received for the trash. It would then be sold by the said officials who were profiting off of the entire situation.

Scavengers can earn between P50 and P100 a day collecting waste products like paper, plastics, and bottles for recycling. Many scavengers live in makeshift huts right on dumpsites. They are often rural migrants who have no education or other skills (Dixon, 186).

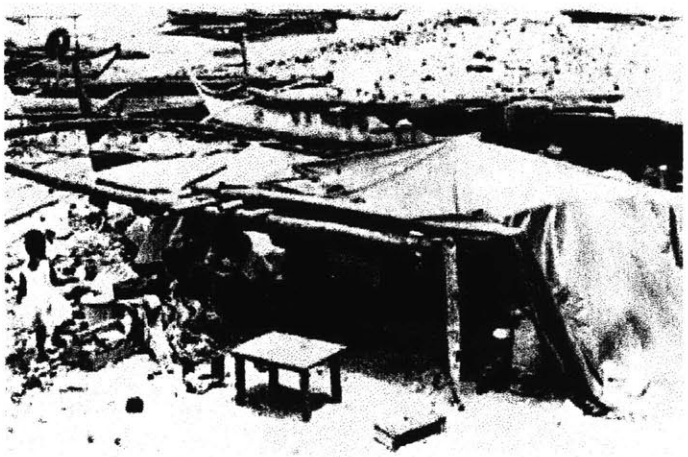
In 1975, then first lady Imelda Marcos claimed that change would be made in the Tondo Foreshore area to increase the cities port area. She claimed that it would be a prototype for housing squatters throughout the world. This was to follow the example of other South-east Asian governments. A World Bank analysis immediately followed and a series of investments into urban developments were instigated (Drakakis-Smith, 47). First, an International Convention Center was built and then fourteen new hotels to accommodate the delegates of the conference. The poor in the vicinity did not receive direct benefit to these so called investments. All of the squatter settlements in the vicinity of the center,

- Vitas Basketball Courts converted into recycling grounds. Tondo, Manila-Philippines.

hotels, or the road from the airport were demolished in the well publicized 'beautification' program. An estimated sixty thousand squatters lost their homes in this process and an additional one-hundred thousand in preparation to the Miss World pageant the following year (Drakakis-Smith, 47). Far less attention was paid to the needs of the squatters for shelter, none the less their interests in jobs, land rights, education, and health care which the squatters themselves paid a higher priority to. The Philippine Housing Agency concentrated its main efforts on higher cost housing (Abrams, 68).

> A pitiful example of the wrong was of resettling squatters was in the Philippines, where a group of squatters had responded eagerly to a rural resettlement proposal. The land allotted to them was far from civilization, malaria infested, and inaccessible even by road. When a representative of the welfare administration visited them, many were ill and unattended but tenaciously hung on to their plots against the most dismal odds. Resettlement of this kind is hardly a model to follow (Abrams, 234).

Philippine Housing Authority members have expresses grief in the results of slum relocation projects which have been put into place, which have not developed among relocation residents as the Housing Authority had expected. All around this site and along the highway and rivers that lead to it are squatter establishments as far as the eye can see. Efforts by the government to house these squatters have been unsuccessful.

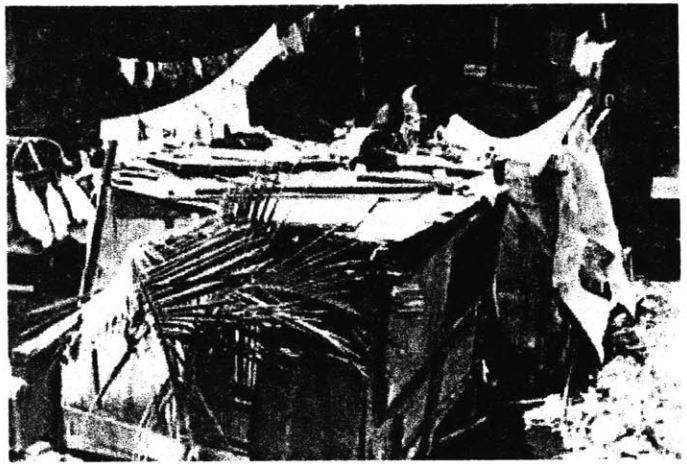


- Manila Bay area squatters, *People's Tonight*

When the government began the project, they started off by clearing the area for temporary housing structures. The squatters in cases like this are resistant to the clearance. After all, the government wants to tear down all that they have. The homes they've made on their own of collected materials is going to be destroyed and the system takes time to build a place for them to move to. The people are left with nothing in the mean time. This is with the hope that all the people who are cleared are included in the system already with plans to be relocated, otherwise, they just watch their settlements become destroyed.

Housing officials have been left at their wits ends wondering how they could have or can change the existing circumstances. It is as though the Smoky Mountain dump site has moved into the relocation project rather than making an impact towards positive change for the poor.

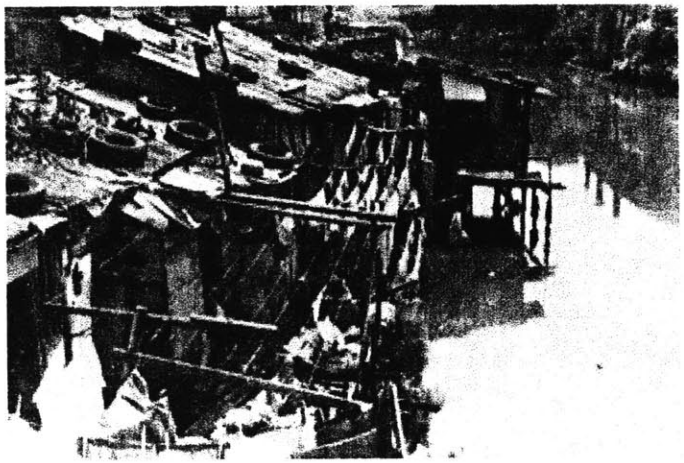
Officials are sometimes wondering if the people of the resettlement projects even care to better there situations. A Philippine Housing Authority member, Architect Daniel P. Cocjin, explained to me, " These people do not cooperate with our rules. We clearly tell them that there are specific things they must maintain within their residences in order to stay in the resettlement system. But we cannot get people to stop raising pigs on the fourth floor of one of the buildings. We don't know what to do." Another staff member, Meng M. Rabelas explained, Some of the people receiving these subsidized housing have sold their assignments to others and moved back to the slums. How are we to make this project work?"



- Open space taken over by squatters in Manila-Philippines, *People's Tonight.*

Encroachment is also a problem in the housing project. Balconies at every unit have become extensions of the homes and further spaces have been built out past that. The building facades have became a collage of found materials to add floor area to the units. The clean facades of the young buildings have not maintained the beautification part of beautification p0roject in this housing site. Rusty corrugated metal, tarps old tire, and bamboo hide the building facades.

The intent is usually to move the poor in order to prevent hazards or to move them from hazardous environments in order to build a more stable surrounding. But in most of the cases, resettlement projects have been less than successful. The popular response to the sheltering needs of the poor face squatter housing and slum formation. Squatter housing is where structures of illegal nature are erected without attention to building codes and/or without permission of the land owners. Slums are existing permanent buildings which have become substan-



- Squatters along a creek, Tondo, Manila-Philippines. *People's Tonight.*

dard due to age, neglect and subdivisions (Drakakis-Smith, 87).

The poor have only been able to afford the least desirable places, in terms of site characteristics, in terms of the built environment (because it is crowded, dilapidated or unserviced) in terms of pollution of the natural environment, or in terms of location in relation to jobs and services (Oberland, 47).
The poor are continuously pressured into moving into the periphery of the core location because of the intensification of core activities. As the central location grows with jobs of service, administration and finance, the center then becomes a desirable location for the well to do, the area becomes overcrowded and then unaffordable for the poor, hence a move to the periphery.

Usually, removal of individual settlements have been as a result of upgrading where the community is involved. But in most cases, the individual actually being removed are given inadequate notification or no time to respond or act on the decisions before the removal occurs. It is believed that minimal community disruption is humane (Oberland, 49). In this case, community doesn't seem to include the urban poor.

> Basically there are three sources of supply for low-cost housing in Third World cities. These may be labeled the public, private and popular sectors. Of these the public and private sources fall loosely into what we have previously described as the formal sector, housing which is built according to local building standards by legitimate firms though established land, finance, material and labor markets. In contrast, 'popular' housing is that which is constructed by the poor themselves usually in contravention of some legislation, outside established building conventions and below 'acceptable' standards or norms (Drakakis-Smith, 85-86).

Housing projects which were built as temporary slum clearance housing have become nothing more than vertical extensions of the slums. The government has set projects to try to make homes for these thousands of people but the

- Squatters build their houses in the idle land at Dagat-Dagatan in Tondo, Manila-Philippines, *People's Tonight*.

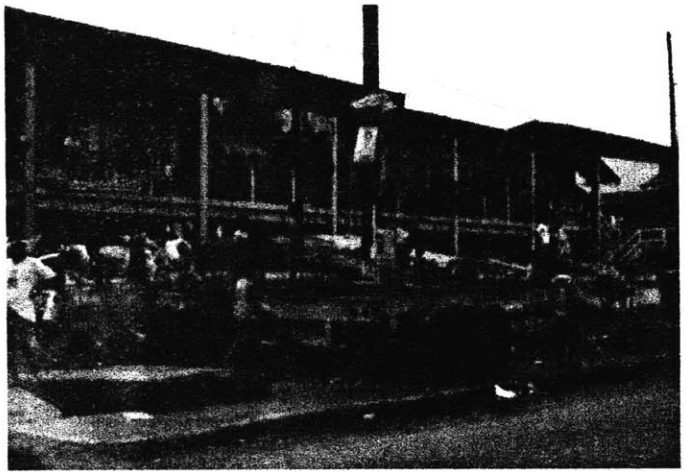
problem only seems to get bigger.

Examining the situation first hand, I saw that the environment directly at the foot of the housing project is no different than the trash dumps. Abandoned vehicle parts, metal debris, and garbage are everywhere. This is the play space of the children living in the projects. Children practicing dangerous feats of balance, walking across the edge of an overturned flatbed. If it was not for the heights of the housing projects, I would have not been able to distinguish the difference between this government housing project and the rest of the Tondo squatter settlements spreading for miles around it and along the main road. The slum clearance project does not seem evident.

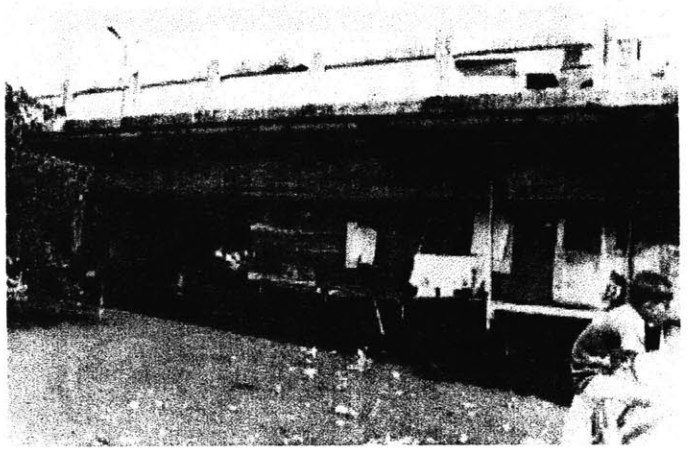
The problem of squatters was everywhere that I went. Under bridges, along rivers, in construction sites, in abandoned buildings and lots, along highways, along all train tracks into the city, along edges of buildings, on the sidewalks, the marketplace, on the hillsides, and even in the isles of the postal boxes for rent in the main lobby of the main post office in downtown Metro Manila. It is a problem that is everywhere, and in a way, brings me to the understanding of the culture because it is such a dominating factor.

Housing needs represented in official data are far below the actual needs because they ignore the large numbers housed in the dilapidated, overcrowded but permanent housing in older parts of the city (Drakakis-Smith, 87). Slums are as important as squatter settlements in meeting the needs of the urban poor.

SQUATTER TENURES. The growth of squatting has produced many new and unorthodox forms of tenure. They include squatting in which the government or the private owner tolerates possession by the squatters. A type of squatting-at-will may arise when the squatter agrees to pay periodic stipends to the owner for the right to remain. When such land is needed for other purposes, the squatter may be speedily evicted. He may resist eviction by



- Dumping along the R-10 at the Vitas Reclaimation site, Tondo, Manila-Philippines.



- Squatters under a bridge along Quirino Ave. Manila-Philippines. They have been exposed to polluted water of the estero for over two years. *People's Tonight.*

threats or bring pressure on the government for protection against ouster (Abrams,35).

Clearance becomes difficult for the squatters whose tenure has been accepted through regularization and earlier squatter upgrading programs. Tenure is usually granted as individual ownership or transferable leases (Oberland, 47). But clearance goes on leaving way for new development which tends to have higher rent and so the poor are forced out once again. Rents are raised, lots are sold, and uses change.

How can a people make change when they are still so distant from the urban texture? Accessibility as well as traffic keep these people of the settlements so far from the urban texture, jobs, education, and commerce. The existing project makes no effort to instill some of these issues into the planned projects. A school program, a work environment, garden space to grow food, medical facilities, spiritual structures, or commerce and business have been overlooked, resulting in nothing more than a clearance and a vertical dimension to housing which makes room for more squatter migration and dumping.

- Squatters taking over a bus stop in Manila-Philppines. *People's Tonight.*

The poor are displaced from favorable locations. The poor are able to stake out locations by invading and squatting on sited which were less favorable to the middle class. These sites may be of risky investments, multi-layered titles, and informal transfers.

> With urban growth, all sites tend to become more central, as locations once near the periphery are engulfed by further development. Moreover, with increasing urban size, the entire land value gradient tends to move upward, elevating the prices of more central locations. Therefore when the "protection" of lack of legality is removed by registration, capital values may increase dramatically. This has the effect of awarding large capital gains to those fortunate enough to be nominees in the registration process.(Oberland, 8).

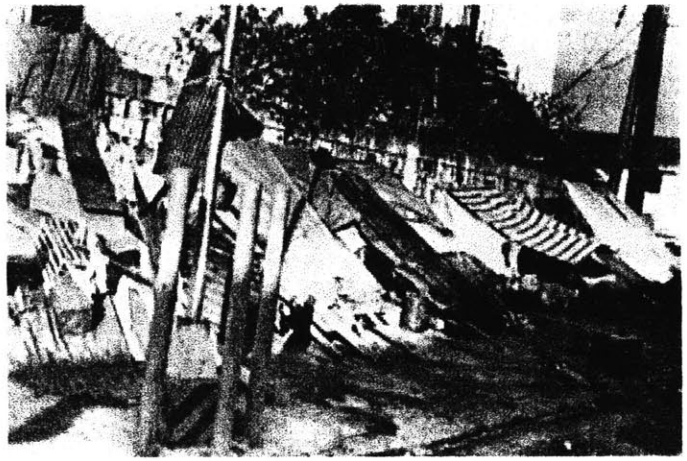
Speculation Pushes the lower income groups towards the peripheral areas,

> stimulating segregation, by imposing high land prices in the closer potential development areas. These high land prices play a discriminating role that generates a dual phenomenon of social and ecological margination (Oberland, 8).

How can a people make change when they are still so distant from the urban texture. Accessibility as well as traffic keep these people of the settlements so far from the urban texture, jobs, education, and commerce. The existing projects makes no effort to instill some of these issues into the planned projects. A school program, a work environment, garden space to grow food, medical facilities, spiritual structures, or commerce and business have been overlooked, resulting in nothing more than a clearance and a vertical dimension to housing which makes room for more squatter migration and dumping.

> Indeed it is often claimed that it is in the centrally located slums that migrants first settle in order to be near sources of employment. Later, when other family members appear, there is an incentive to move to the spacious areas of peripheral squatter settlements (Drakakis-Smith, 88)

The poor usually make a living on the informal commercial sector as hawkers, repairmen, manufacturers, builders, etc.... This makes locations of the homes near these informal commercial sectors. In this case, there is a mix of land use which is not desirable in the sense that the nation usually segregates such activities of commercial and residence. And on top of that, orderly development is considered to not include sidewalk vendors. But the informal sector is growing with the city as migration occurs as a result of clearances elsewhere and people's basic idea that moving to the city from the provinces will open up more opportunities for better living, a movement from rural agriculture to industrial development (Oberland, 55). In the case of Manila, the industrial market has failed to grow as fast as the city, making it difficult to sufficiently support such a large population by providing places to work, live and grow.



- Squatters along Mabini St. Manila-Philippines. *People's Tonight.*

Pressures of the unemployed have helped make public and civil services a receptacle for the jobless. In 1958, forty-four percent of the government were uncertified political appointees (Abrams, 82).

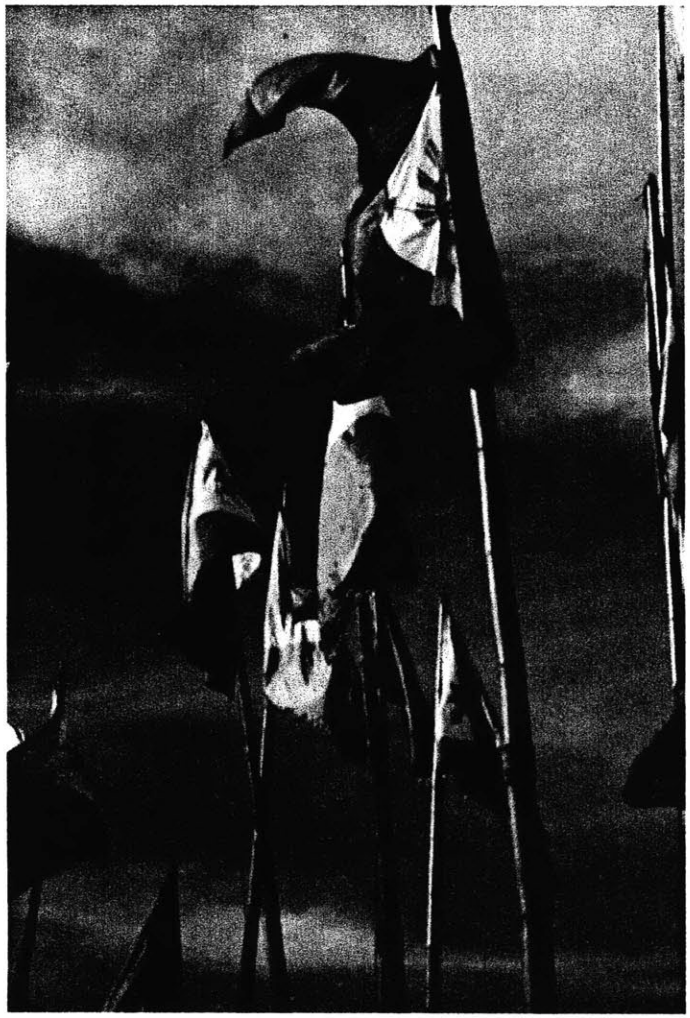
Despite all of these problems, the informal sectors do solve the immediate needs of the poor. Squatting will give households land to occupy while the government is pressured to make more land available. Urban planning in this case is structured to meet the goals of modernization. In the Philippines, the area surrounding Manila suffer from over concentration of land ownership and excessive speculation in land (Abrams,30).

> Other causes of the abnormal situation include: a generally low level of taxing and inefficient system of assessment, anticipation of wind-fall profits though public works developments, the failure of the government to develop, until recently, a land-use plan or to use expropriation power to wrest adequate resources away for low income residential needs, the profitability of the system itself where the artificial scarcity generates higher prices and stronger pressure to withhold sale (Sarin, 53).

Prevention of squatting becomes more important than dealing with the problem after the fact. The human need for living space must be identified. The anticipation of population movements and planning are key factors in the battle to develop more structured communities.

- A family waiting for the heavy rain to pass at St Paul in Quezon City-Philippines. *People's Tonight.*

- Shanties along the R-10, Tondo, Manila-Philippines.

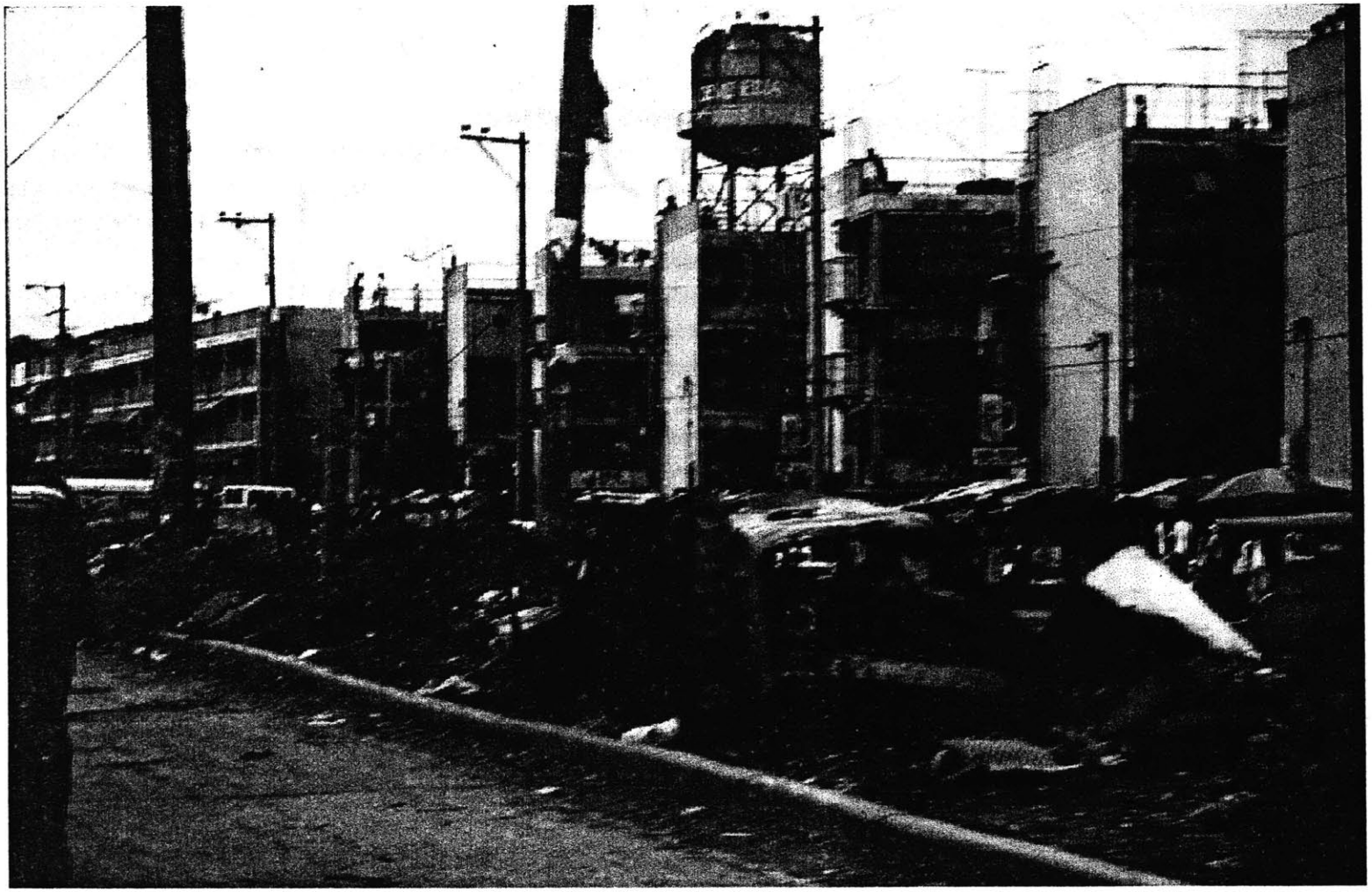


The Hypothesis

In the process of devising a plan to provide more than minimal shelter needs for people, data was gathered by means of interviews with NHA officials and affiliates, site managers and current residents of the housing projects. Site studies were gathered by means of site observation of the current projects as well as a collection of existing data on the projects and the areas around them. From this collection of information, needed, and or poor, community and residential amenities were identified, and a new set of criteria, which were extrapolated from studies of the sites, the buildings and the unit success. The objectives then become a design basis for future communities.

The objectives and current data helped guide the design of a flexible building type and community program, so as not to be site specific, building on existing housing project issues.

The site chosen to demonstrate this type on is a 6.04hectare, government reserved land, site, adjacent to the port and the existing housing project of Smokey Mountain, Tondo, Manila-Philippines.



- Vitas Medium Rise Housing Project along the R-10. Tondo, Manila-Philippines.

VITAS
MEDIUM RISE HOUSING PROJECT
TONDO, MANILA
1990

The Vitas Medium rise housing project in Tondo, Metro Manila was ready for occupation in 1990 to house one thousand six hundred seventy four (1,674) families of which most were to be displaced squatters from the surrounding area of the Manila International Container Terminal Project. The new port project is a relief effort to decongest the existing and deteriorating port facilities. Development in this area is vital to the countries economy since the countries international and domestic trade is centered here.

- Vitas Housing Project along the Estero de Vitas, Tondo, Manila-Philippines.

The completion of the project was hampered by the occupation of squatting families. The Philippine Port Authority (PPA) coordinated with relevant agencies such as the National Housing Authority (NHA), the Presidential Commission of Urban Poor (PCUP), the Department of Social Welfare (DSW), and the City of Manila to form an agency which would remove and relocate the squatters. They undertook a squatter resettlement program and established linkage between government organizations and private entities who were sought out to facilitate implementation of the project.

A census was conducted and found that there were five thousand, five hundred forty six (5,546) squatter families at hand. The priority of this census was that of Slip 17 which was the home of seven hundred thirty five families (735).

The families demanded not to be relocated to distant resettlement sites for

tremendous impacts on their livelihoods, which would include additional expense on their part with the absence of livelihood opportunities, insufficient public utilities such as water and power, and the insufficient space for schools at the site. Most of the families depend on port oriented jobs,

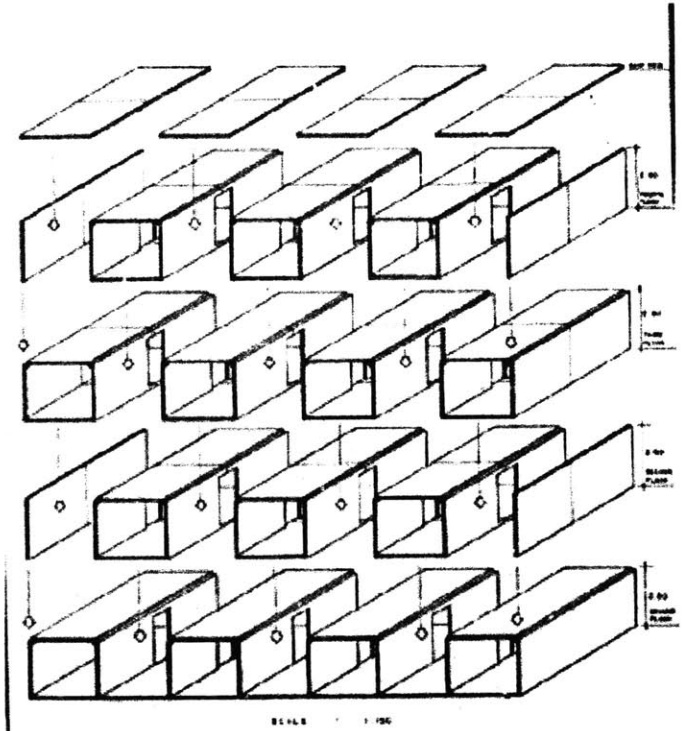
With these problems in mind, the Committee turned it's efforts to an inter city resettlement projects. The 2.16 Hectare vacant area adjacent to the Manila Slaughterhouse was covered by the NHA title. This site was selected based on the little space available in the city and that there would not be a dislocation problem for the families at hand. The site fronts the R-10 highway and is 1.3 kilometers away from Slip 17 where the beneficiaries had been located.

The government subsidized part of the construction costs so that the monthly amortization would be held by the families. This project did not house a squatting problem but fired economic development in the construction industry.

The project utilized an innovative construction method which used the Canchela Shelter Components and Stacking Process (CSCSP). Basically, this is a unitary pre-cast reinforced concrete rectangular shell, a stackable box system, with welded steel plate connections to other monolithic boxes.

The four story medium rise scheme was designed by Architect Cesar V. Canchela and Associates, using the CSCSP to build 27 buildings on the site. This planned scheme provided 1,674, 18 sq.m. units.

The Project idea was positive in the schematic aspects. It used ground and second floor pricing to subsidize third and forth floors, which became affordable to the main beneficiaries. There was no dislocation from employment, provided opportunity though ground floor commercial zoning, maximum utilization of the site, improved an environment which was being encroached by the slaughter



CANCHELA SHELTER COMPONENTS AND STACKING PROCESS
PHILIPPINE PATENT NO. 24938, COPYRIGHT REG. NOS. R-4322-A, 1988, 6947, 1985, BR5076, 1990
AS USED FOR THE CONSTRUCTION OF A FOUR - STOREY APARTMENT BUILDING

- Canchela shelter component.

- The Jeepney, open air taxi.

- Port frontage to the Vitas Housing Project, Tondo, Manila-Philippines.

house.

The 1674 units were allocated a raffle process where fifteen (15) of the twenty seven (27) buildings were allocated for Slip 17 beneficiaries and the other twelve (12) buildings were for the open market of people who fit all qualifications of the Committee Census. Of these, social housing units were also allocated to pre qualified applicants who are private and government employees of which most are teachers and police officers.

To date, the following information is based on my personal observations of the site, interviews with project residents, both post squatting and applied residents, as well as interviews with members of the National Housing Authority both at head quarters and those who's office is based on site. March 2, 1999.

- **BACKGROUNDS**

The people of the Vitas Medium Rise Housing Project are of a diverse Filipino community, who range in households with up to three generations, couples just beginning, port employed workers, government officials, police officers and educators. The people of the project find various means of livelihood, most common is work in the port area immediately adjacent to the project, then, vendors and laborers within the port area. Others work in Metro Manila and find their commute to be anywhere from two to three hours on an incredibly unorganized means of public transportation which include private buses and the common jeepney, the open air taxi. Many people still sell trash they have collected and the project's allocated recreational space is now used as storage for these collected materials which range from plastics to cardboard. There are many *SARI SARI* stores on the premises, in general, variety stores, which people have typically built into their unit windows. In one case, officials directed me to one double bay unit at the end of a corridor which housed at least twelve sewing machines and run by one tenant who employed residents of the housing

project. They were assembling shirts for export to Canada. In any case, the ground floor has been allocated as a commercial zone, but some of them were so poorly supplied I would never have thought they were in business.

The people of the housing project are a combination of squatters from Slip 17 (1.3 kilometers away), squatters of Smokey Mountain, squatters of Delpan, selected low income applicants, local police and families, local educators and families, as well as National Housing Authority Employees.

The most common unit size was one bay with an area of three meters by seven and a half meters which includes the public circulation corridor. There are a few units which are made of two bay schemes.

People found it to be a ridiculous question when asked how many people they believed lived in the housing project. The only thing they could say for sure was that there are too many people for such a small site and that there is not enough space for all the people living in the housing project.

Rent depends on building and floor arrangement. The prime consideration is affordability of target beneficiaries: The monthly affordability of squatter families is two hundred thirty eight pesos a month. Proposed pricing with monthly amortization of three hundred fifty pesos and two hundred fifty pesos for third and fourth floors are viewed as being well within affordability. These figures were pulled from a project outline of 1989, which I will assume has changed significantly since then, when 20 pesos equaled one US$. Social housing exists in buildings eight though eighteen. Open market housing exists in buildings nineteen through twenty seven. Economic residential units exist in buildings five and seven.

Commercial units on the ground floors of all buildings are rented at two thou-

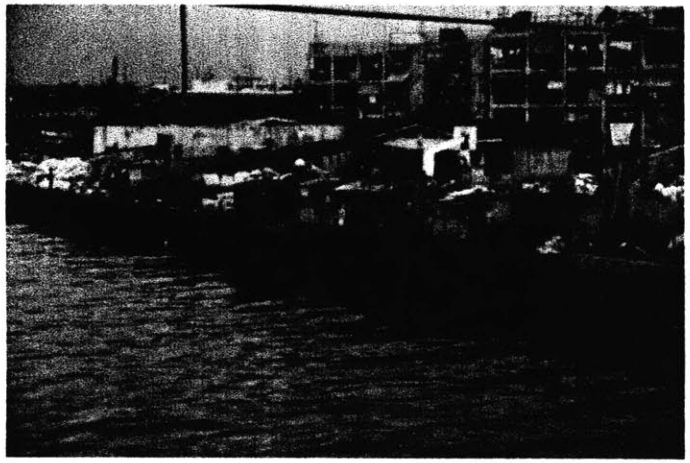
- Ground floor commercial unit at the Vitas Project, Tondo, Manila-Philippines.

sand one hundred thirty pesos per month for units in buildings one through seven and nineteen through twenty seven, and two thousand fifty pesos in buildings eight though eighteen.

Officials did tell me that there are a lot of units which were completely subsidized based on some type of application, yet they were still problemed by residents who refuse to pay for their electricity and water which is the only thing that they are responsible for.

- **GETTING TO VITAS**

People of the housing project come from Slip 17, Smokey Mountain, Delpan, Parola/Slip 0, Isla Piting Bato, Sitio Aroma, Isla Santo Nino, Happy Land, as well as all parts of Manila in the case of applicants of low income households. People were tracked and processed by means of work location, immediate relocation due to clearance, and time in temporary housing projects awaiting permanent housing. Low income households applied under the basis that they did not own any other dwelling. Squatter families have expressed that they have enjoyed there time in the project but still complain of having to pay for water and electricity. They would like these amenities to be part of the rental package.



- Vitas Housing Project along Estero de Vitas, Tondo, Manila-Philippines.

Others who did not come to the project as squatters complain that although squatters have been relocated to the housing project, you cannot take the squatting out of them as almost all units have encroached on the interstitial space that exists between buildings as well as in the public circulation corridors. From unit windows, the views of the interstitial spaces look like gray slices of collage rubbish.

Some people have used the Vitas Project as temporary housing and are awaiting relocation to other Manila sites including the new Smokey Mountain development. Most rent but there are a few, both residential and commercial unit,

residents who have bought out their units.

- **FUTURE PLANS**

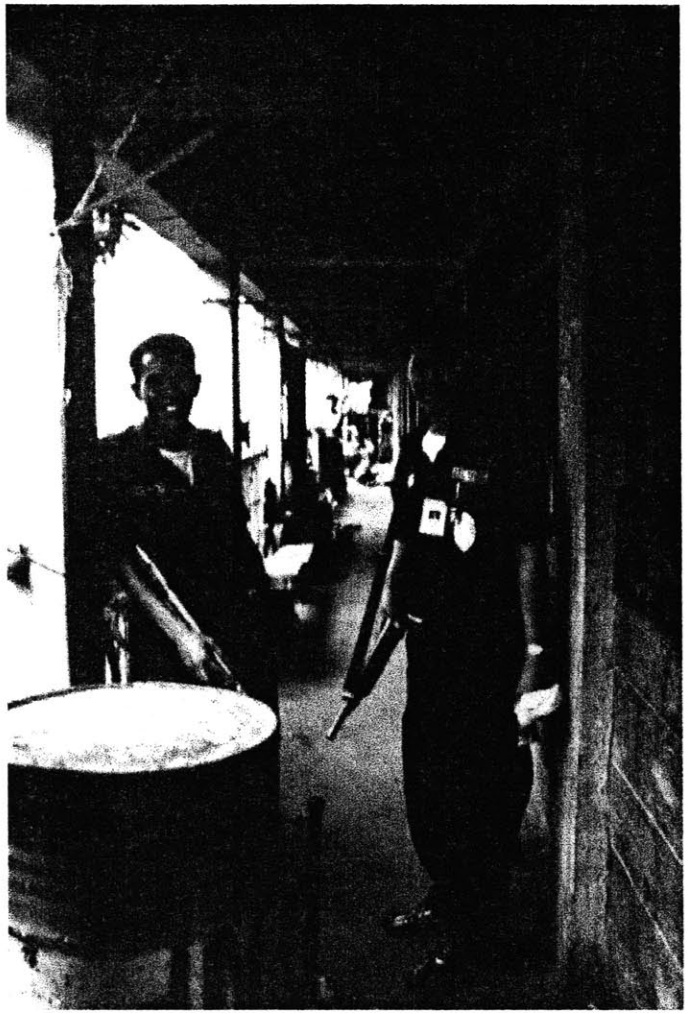
Most people have been living at the projects since it was erected in the early nineties. But there is a constant turn around of about fifteen to twenty percent of the total units.

- **AREA AND SURROUNDINGS**

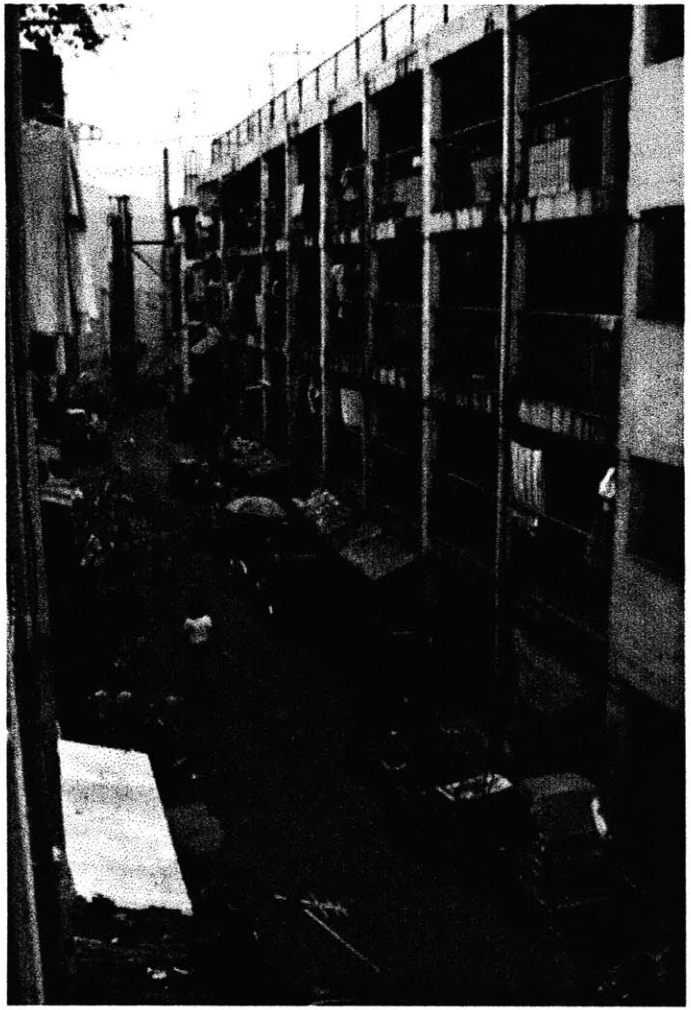
People have mixed feelings about living in the immediate community. Guards who accompanied me through the project held large fire arms with both hands the whole time. People say that crime exists and many disturbances but still live with it. People don't like how dirty their community is, how people do not keep up the community and have taken advantage of what has been given to them. Recreational facilities have been taken over by recycling collection and squatters, the school is of poor condition and underutilized, and the church has been taken over by squatters. The area is near the R-10 to get around and close to the Port area for port oriented jobs but other than that there is not much else.

Public transportation exists on the R-10 but it still takes 2-3 hours to get to work and the rest of the city. Schools are about 2-3 km away. Some of children are sent to those private schools, a handful attend the school on the project, but the majority don't go to school at all. So many children scatter the streets playing when they could be in school. I caught their attention with my camera as they were all very eager to pose. Yet timid when I spoke to them.

There is no formal marketplace in the project. There are variety stores, shops and make shift offices and businesses of all types on the ground floor of all buildings. The church on the project is not something available all the time, the main hall is kept under lock and key as all the sides of this little church have been taken over by Smokey Mountain squatters. Work is again at a distance if one does not work within the port area.



- National Housing Authority guards accompanying the author at the Vitas Housing Project, Tondo, Manila-Philippines.



- Vitas Housing Project, Tondo, Manila-Philippines.

- **LIFE AND ACTIVITIES IN THE PROJECT**

Besides the houses, few shops, the recycling collection, a school and a church occupy the site. The road structure that zig zags through the entire site to all twenty seven buildings makes for the sliver of light that reaches the ground floor. Perhaps in any case, this unfortunate visual environment is made up in a cooler temperature at the ground floor because of the building encroachment shading in such a hot climate.

More designated and protected fields and play space would be much appreciated by the children. The children typically play on the community roads, between buildings, in the stair wells and in the circulation corridors. They seemed to be enjoying their play during my observations, but parents would like a better environment since the children play all over the site. A designated area for recycling would make this possible. What was allocated as two full court basketball courts has been taken over by the garbage sale collection and public parking. Reemphasizing existing programs would bring some type of order as long as community rules were made and reinforced.

The variety stores on the ground floor do not offer enough things. The idea of a structured market place excited many people. More vegetables and meats, and all sorts of house ware and garments sold on the site would be helpful. This idea, if as successful as in other city market places, would attract people from all over the area and pose potential for economic structure in the project.

The people do not exactly find it a safe place, there are struggles between sub communities, and typical problems of crime within a community with needs and wants broader than the realities of their environment. Theft and fights occur. There are a couple of guards on site but only at NHA office doors. Other projects like Maharlika, have guards at their site but only while the units are completely vacant. When people are finally placed, the guards will disappear

too.

- **DESIGN FACTORS**

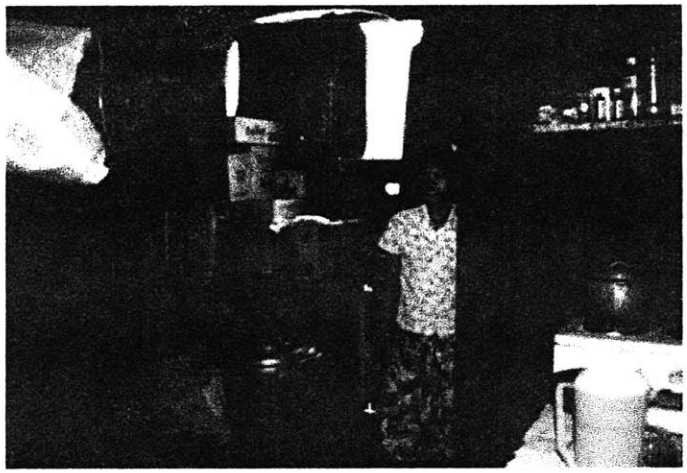
In general, people liked the building structure better than their previous squatting situation, but there are still draw backs which exceed ideas of just re-sizing and spreading out the units. The structure fails to the weather, the structural shell leaks. Finished units would be appreciated even if the rent went up a few pesos a month. At least it would look better upon moving in. I observed many units which still expose the original face of the concrete housing shell unit. The idea of a place that looks pleasant can be pleasant, is an idea I would like to take into mind.

I'm wondering what would make it possible to have more open space for other community amenities on the site. The possibility of using the same structural unit but at levels of five and six stories, to maintain the gross density, would open up more space for things like school, a market place, an organized place of worship, and play and recreational space for all ages. "We wouldn't mind higher floors with the idea that rent would be less on upper floors." is what a resident recommended. There is not enough open public space where people and children can gather. The allocated green area past the basketball courts are squatting plots. Just beyond the recycling bags at the basketball courts, is the area where I found trash to be dumped. Agriculture plots sound like an interesting lively-hood plan by residents. But above all, more personal open space is the most desired amenity.

The units are way too small. 6m by 3m. is not enough. The people want to push out for more. There are so many people for such little space. With balconies at the back sides of each building which face another back side of a building, the four meter interstitial space is claimed by he who builds out the fastest. It makes for very unpleasant environments slapped together by a multitude of materials at very hazardous looking structure extension.

- Unattended child behind the Vitas School, Tondo, Manila-Philippines.

- Children gathered in Vitas stairwell.



- Vitas Resident.

Parking is a luxury enjoyed by few, there is no west parking as planned for so people just park on the basketball courts. The west side of the site was to be open space, but with the developments in and around Smokey Mountain, this allocated open space has been taken over by the city as road expansion of the existing R-10 as well as a fly over to Smokey Mountain. This limits access to the site cutting off the interior streets from the R-10.

The units need more structure rather than just being one big open space. There is no differentiation between living spaces, but then again it is not like there is space for such a luxury as private rooms. And with both ends of the unit open to entrance and balcony, there is no ventilation or natural light exposure to the center of the unit. There is not much ventilation coming in from the kitchens and balcony either where the building extensions take place.

The buildings are in very poor condition. Rusty stairs are a hazard for children who push their feet though the rusty spots. Beautification may change the attitudes of the residents as the buildings are in dyer need of paint and cleaning.

- Vitas basketball court converted into recycling grounds.

VITAS
MEDIUM RISE HOUSING PROJECT
TONDO, METRO MANILA

EXISTING 4 STORIES

LAND USE

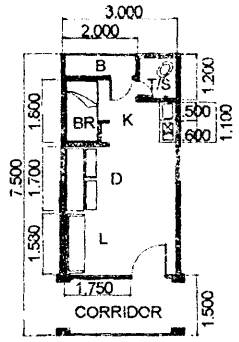
Income producing real-estate		
housing/ commercial	1.01	46%
commercial area	0.00	0%
informal market	0.00	0%
school	0.02	1%
community facilities	0.00	0%
Non-Income producing real-estate		
interstitial space	0.27	13%
Parks/ Open Space	0.45	21%
Roads/ parking	0.41	19%
TOTAL AREA (Ha)	**2.16**	**100%**

units	1676
unit area. w/ loft	18-36 sq. m.
land sharing/ unit	gross- 14.5 sq. m. net- 7.6 sq. m.

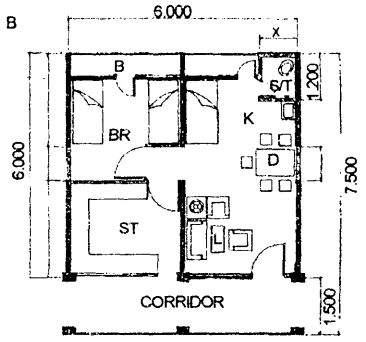
DENSITIES	@1676 (units/Ha)	x4 (pop/Ha)	x5.5	x6	x7
Gross 2.16 Ha	**776**	3104	4268	4656	5432
Net 1.28 Ha	**1309**	4300	5912	6450	7525

INFRASTRUCTURE/ AREA LENGTH

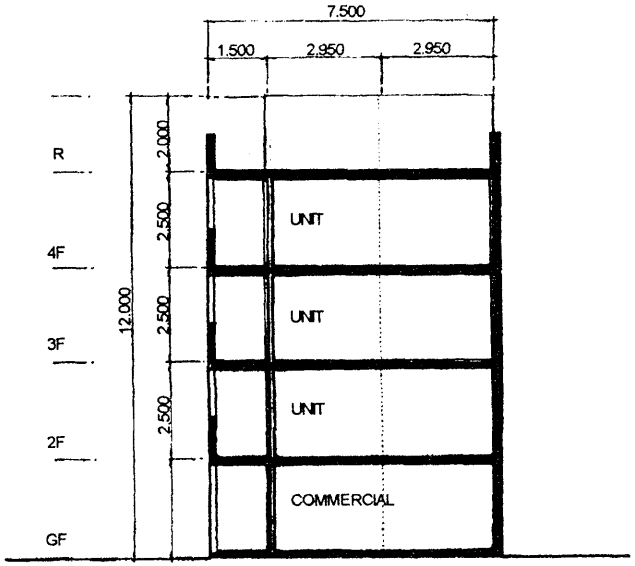
interior street length	1030
½ perimeter length	
320/2	160
total length	1190
length/area	**550m/ Ha**
1190/2.16	



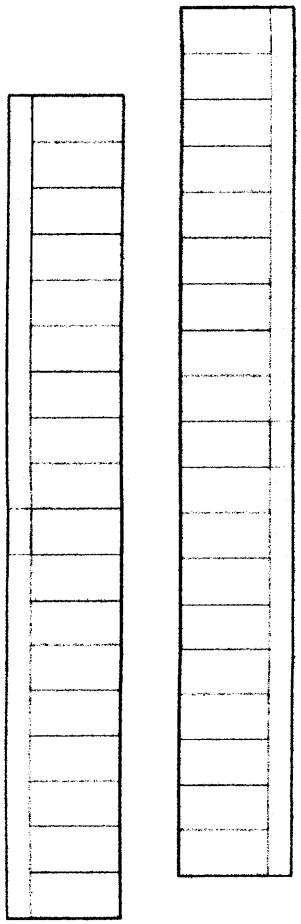
1 bay unit 1m: 200m

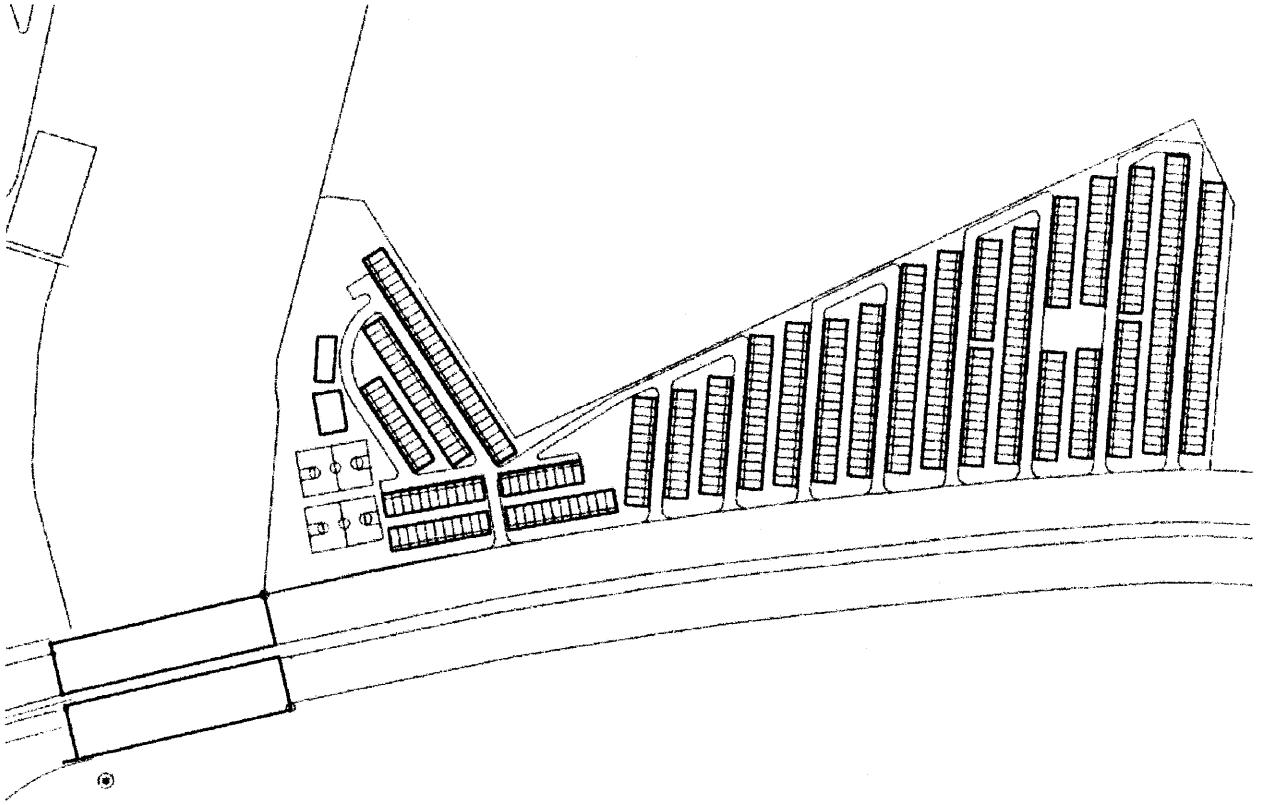


2 bay unit 1m: 200m



section 1m:200m





- Vitas building plan, 1:500

- Vitas site, 1:2500

VITAS
MEDIUM RISE HOUSING PROJECT
TONDO, METRO MANILA

PROPOSED 5 STORIES

LAND USE

Income producing real-estate			
housing/ commercial	0.83	38%	-8%
commercial area	0.00	0%	
informal market	0.00	0%	
school	0.02	1%	
community facilities	0.00	0%	
Non-Income producing real-estate			
interstitial space	0.21	10%	-3%
Parks/ Open Space	0.69	32%	+11%
Roads/ parking	0.41	19%	
TOTAL AREA (Ha)	**2.16**	**100%**	

units	1675	-1	
unit area. w/ loft	18-36 sq. m.		
land sharing/ unit	gross- 14.5 sq. m. net- 6.2 sq. m.		-1.4

DENSITIES	@1675 (units/Ha)	x4 (pop/Ha)	x5.5	x6	x7
Gross 2.16 Ha	**776**	3104	4268	4656	5432
Net 1.04 Ha	**1611**	6446	8863	9669	11280

INFRASTRUCTURE/ AREA LENGTH

interior street length	1030
½ perimeter length	
320/2	160
total length	1190
length/area	**550m/ Ha**
1190/2.16	

- A land use study of the Vitas Housing Project using five story structure to open up space for other public amenities.

VITAS
MEDIUM RISE HOUSING PROJECT
TONDO, METRO MANILA

PROPOSED 6 STORIES

LAND USE

Income producing real-estate			
housing/ commercial	0.69	32%	-14%
commercial area	0.00	0%	
informal market	0.00	0%	
school	0.02	1%	
community facilities	0.00	0%	
Non-Income producing real-estate			
interstitial space	0.16	7%	-6%
Parks/ Open Space	0.88	41%	+20%
Roads/ parking	0.41	19%	
TOTAL AREA (Ha)	**2.16**	**100%**	

units	1674	-2
unit area. w/ loft	18-36 sq. m.	
land sharing/ unit	gross- 14.5 sq. m. net- 5 sq. m.	-2.6

DENSITIES	@1674 (units/Ha)	x4 (pop/Ha)	x5.5	x6	x7
Gross 2.16 Ha	**776**	3104	4268	4656	5432
Net 0.85 Ha	**1969**	7877	10831	11816	13785

INFRASTRUCTURE/ AREA LENGTH

interior street length	1030
½ perimeter length	
320/2	160
total length	1190
length/area	**550m/ Ha**
1190/2.16	

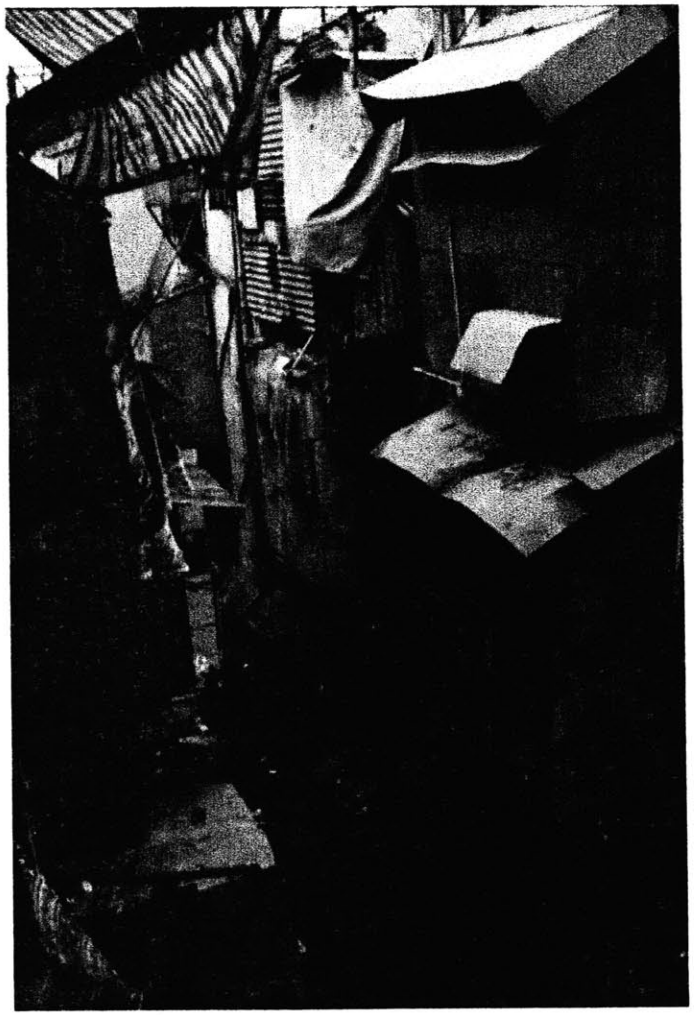
- A land use study of the Vitas Housing Project using six story structure to open up space for public amenities.

Summary:

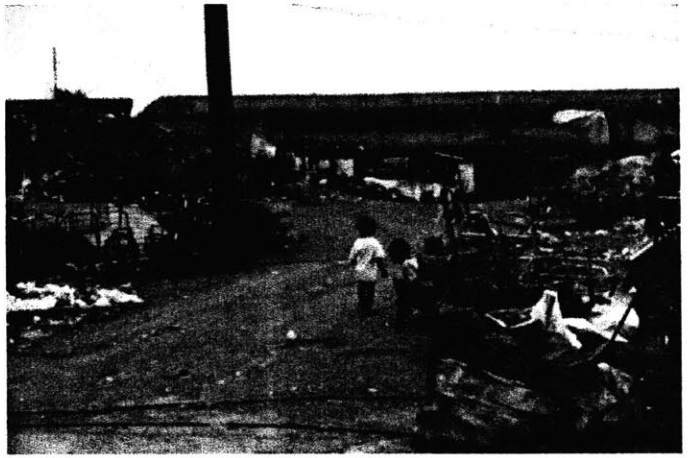
Vitas,
Medium Rise Housing Project, 1990
Tondo, Manila-Philippines

47% income producing
53% non income producing
four story
2.16 hectares
1676 units
Gross density of 776 units per hectare

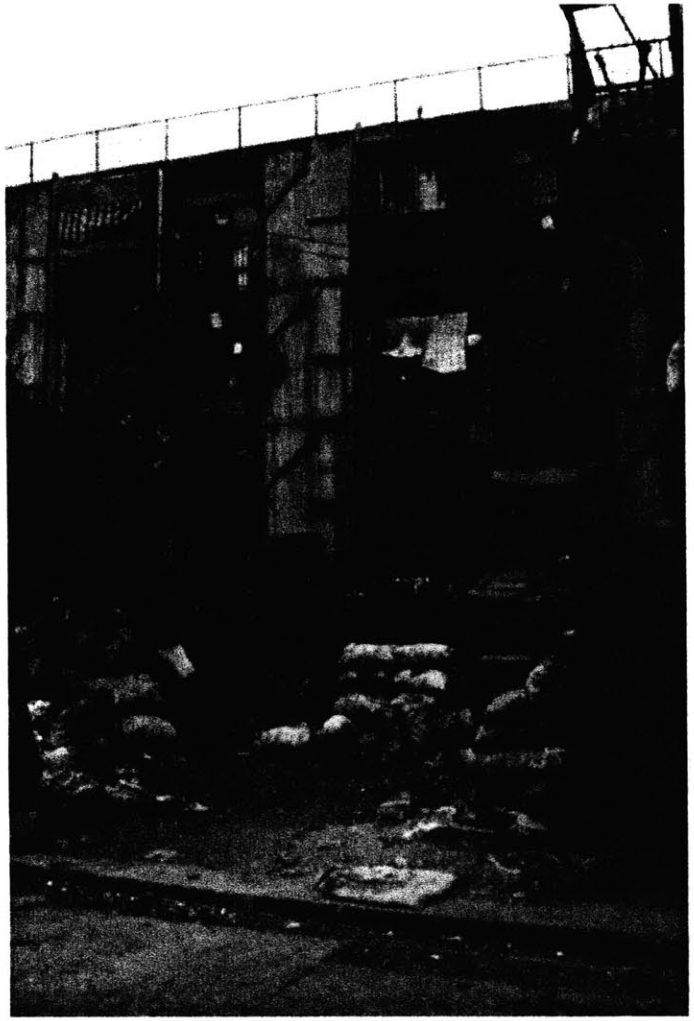
- The most common reason that people are here is because of port area jobs
- Little relocation displacement
- All others commute two to three hours
- People are complaining that there are too many people
- Without directive, areas have been neglected.
- No formal markets
- Although commercial areas are on the ground floor of each unit it doesn't invite outside business and income.
- Project is not sustaining the subsidies from commercial units for the upper floor units.
- Road structure fronts every unit,
- Wasting open spaces between the building type, creates useless space that the units are encroaching upon.
- Open spaces are on periphery not controlled but neglected for example the school, the church, basketball courts and other allocated green spaces.



- Vitas interstitial encroachment, Tondo, Manila-Philippines.



- Peripheral squatting at Vitas, Tondo, Manila-Philippines.

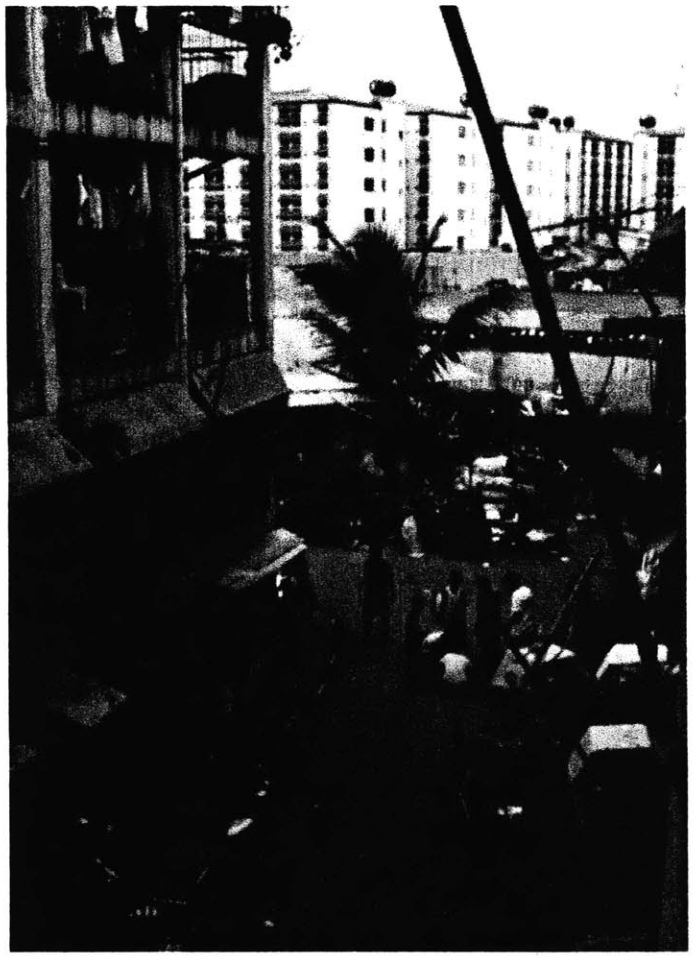


- Vitas neglected space, Tondo, Manila-Philippines.

- The people are asking for more open space as they gather in corridors, stairwells and the streets.
- NHA complain about people raising pigs on the fourth floor of the building.
- There is no influence of resident rules so the buildings are deteriorating.
- As said by officials, you can take the squatters from the shanties but you cannot take the squatting attitude out of them, so the buildings are like vertical extensions of the port slums. Collage by found materials to expand on the spaces given to them.

- Smokey Mountain Phase I Medium Rise Housing Project, Tondo, Manila-Philippines.

SMOKEY MOUNTAIN PHASE I
MEDIUM RISE HOUSING PROJECT
TONDO, MANILA
1995



- Smokey Mountain Phase I view from Vitas, Tondo, Manila-Philippines.

The Smokey Mountain Medium Rise Housing Project in Tondo, Manila was designed to house thirty six hundred families (3600) families relocated from the immediate port area shanties as well as public applicants which fit National Housing Authority requirements for government, partially subsidized, housing.

The main priority of the project is to house displaced port area and Smokey Mountain squatters who have been accommodated in Smokey Mountain temporary housing site also on the R-10 which Smokey Mountain and Vitas also sit along. The clearance and rehabilitation of Smokey Mountain and the Port area was due in part to a project to expand the port area which is an important livelihood means and economic sustenance for the capital of the country.

In 1954, the city government decided to begin dumping garbage into Baryo Magaragat along the shore line, later to be known as Smokey Mountain. The amount of trash being dumped then was small and local residents did not mind, as the volume of trash was of no threat to the local villagers. Then, residents discovered that there was money to be made in collecting plastics and other recyclable items found in the dump site. The number of migrants to the area increased dramatically as people were looking at this scavenging to be an alternative means of livelihood. But with the increase in local population due to the economic interest, a strain was put on the amount of trash people were able to recover. People of the Visayas flocked in, and local Tagalog found them-

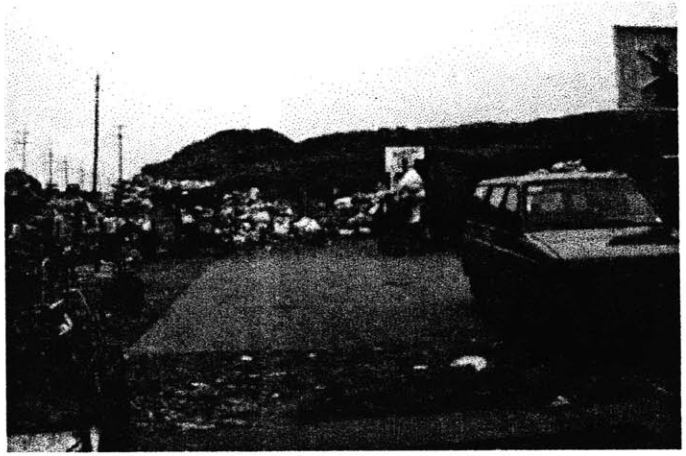
selves outnumbered and territorial scavenging broke out with deadly consequences. Then, a brother of a ranking military official monopolized the buying of garbage and forced the people to sell their collection at a much lower rate. Those who ran off with garbage or cheated the system were punished by the monopolizer. It was a foreign journalist who named the site Smokey Mountain, due to the mountain of garbage that was settling at the site, and much of it ablaze. Since the ejection of the Marcos reign, Smokey Mountain has become an interest to journalists who compare the plight of the scavengers in comparison to the three thousand (3,000) and some pairs of shoes found in Malacanang Palace.

In 1982, the scavenger communities were ordered to be relocated to Bulihan, Cavite, about forty (40) kilometers outside of Manila. The dump site was to be turned into an exclusive golf course and an orchidarium. This proposal was made by highly paid foreign consultants. The attitude towards the people was pretty much as that towards city pests, such as rats and epidemics. These scavengers were sought as a threat to the well being of the city as well as an awful impression to tourists.

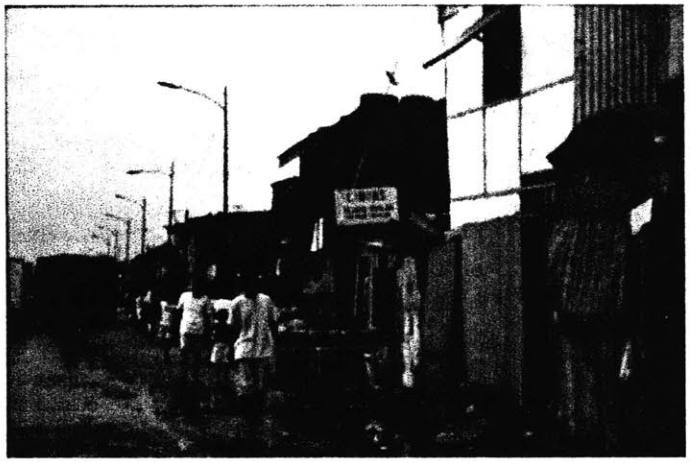
"Squatters were a contradiction- they were backward rural elements in he midst of modernizing, industrial sector. To solve the housing problem, they had to be relocated far from the city or forcibly returned to rural areas." (Hernandez,140)

People were forced from their shanty communities to be located in far off areas. Some demolished by force, others, with the cooperation of the inhabitants to try to salvage some of their housing materials for where they were to be relocated. Unfortunately, the places these squatters had been relocated to were of the poorest of quality to find a livelihood. The government painted a picture of a great resettlement location, but only mislead the residents. The people were assured that good jobs, facilities, and opportunities were readily available for them in the new location. Which made the move somewhat something to look

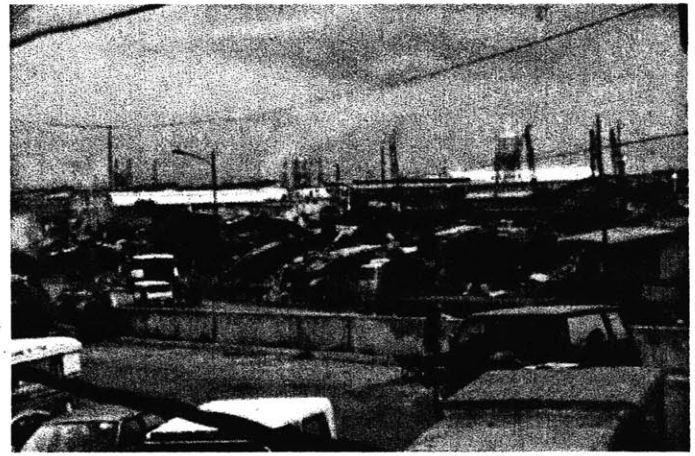
- Shanties along the R-10, Tondo, Manila-Philippines.



- Smokey Mountain landfill from Vitas basketball courts, Tondo, Manila-Philippines.



- Shanties along the R-10, Tondo, Manila-Philippines.



- Port area, Tondo, Manila-Philippines.

forward to. But when the people arrived at the site, the government had done nothing more than to install toilets in the lots. There were no general utilities such as water or electricity, and just the ground to rebuild their uprooted homes on. It was green and the air clean, but there was nothing to eat. A people were "aliens in their own country". (Hernandez,150)

The scavengers returned to the port area of Smokey Mountain and refused to be relocated again.

In 1993, President Fidel V. Ramos ordered the closure of Smokey Mountain and the development of a reclamation project which envisioned the rehabilitation of the dump and concentrating on three factors, the social, economic, and environmental issues of the city, the area, and it's people. The social aspect of the plan was to find ways to house and employ all of the squatters. The economic aspects included the insertion of a commercial- industrial zone to generate revenue to for the housing, and the environmental aspects were to transform Smokey Mountain into a model ecological village using environmentally friendly methods of energy production and waste management. (Hernandez, 169) The reclaimed area adjacent to Smokey Mountain is to house modern port facilities for passengers and cargo, stimulating a commercial zone with shopping centers and offices complimented by high density housing. I see their projection to be a little Manhattan model if it can be pulled off.

Plans to develop dwelling units on the dump site was criticized by environmentalist who said that the dump had no load bearing capacity and may leak out toxic gases afterwards. They found that the easiest and most inexpensive way to deal with the problem was to move the garbage out of the site, treat the soil and develop.

The first housing community has already been built into the site, occupied, and almost fully completed. The mountain of garbage, at some points reaching forty five (45) meters in height was sliced back at the edge of the housing zone and the rest is still awaiting further development which is to include, an industrial area at the heart of site, surrounded by commercial and institutional zones. A reserved land area has been allocated which I will propose multi-use housing development with the idea in mind that the population of Metro Manila will only increase especially with the social and economic opportunities which are said to be available.

- **AREA AND SURROUNDINGS**

The livelihood of the people to be housed at Smokey Mountain depends on the immediate environment. Facilities, schools, religious magnets, jobs, markets, and down right opportunities which are being planned in the area will be the basis for the success of the housing project. Manila locals told me that today, the area is successfully better than it was some ten years ago. They said that there was a time when people couldn't even drive near the area because the odor emitted by the dump site was so intense that it would seep into their vehicles even when all windows were closed. People found it incredibly sickening and the population in the area was one of massive numbers and poor circumstances which availed people to believe that this was not a safe area especially with all of the territorial scavenger gangs at hand back then.

- **LIFE AND ACTIVITIES IN THE PROJECT**

Today, the Smokey Mountain Housing Project is just that, a housing project. Other amenities are yet to be completed but the surroundings are a potential of activity. The site is incredibly dense, and I will assume that as in the Vitas project, although, their are commercial and educational facilities in the local areas, it is of a different aspect when these conveniences are of a more community orientation, which would then provide more opportunities, especially to the

- Smokey Mountain landfill from above the Vitas Church, Tondo, Manila-Philippines.

resident entrepreneur.

There is not much interstitial space surrounding the project buildings as they developers seem to have only considered trying to pack so many people on a limited amount of land. This does not permit play space or any other open space other than parking stalls. But hopefully this will be made up for by the proposed park area in the Smokey Mountain Master plan, which is allocated adjacent to the original Smokey Mountain Housing Project.

- **DESIGN FACTORS**

Physically, the site is of a tight nature, buildings are face to face butt almost end to end, planned with very little space in between and with views directly to other units. The little space around the building is allocate to parking.
Perhaps this is an economic aspect to quickly raise a community, design a building and multiply it as many times as it can fit into the site but it has no regards for human space.
It has however learned from the vitas site and faced the units in towards a double loaded corridor, and not included balcony space to promote encroachment growth. Encroachment couldn't be possible without the balcony area to build off of and besides, the window seem so small that it's not something large enough to pass though anyhow. The double loaded corridor is efficient yet limits the amount of light able to reach the interior windows of the units. Frankly, this small windowed, enclosed compound with little inter-corridor lighting is of comparison to many detaining facilities I have seen in the United States!

Units do have more space in comparison to other housing projects, fifty percent more in some cases. This is due in part with the loft space that was designed into the units. Unfortunately, this raises the five story building to levels of ten stories which is not exactly great considering it is all walk up circulation so if I were living on the fifth floor I would probably schedule my day around doing as

much as I needed outside the home in one trip as to avoid the climb and the decent.

Units in the corners of the building however are subject to the structural frame-work of the building which impedes on the area square meters of the units. However, with only a pair of light shafts in the center of the corridor through all levels, there is more common space per unit immediately outside of the shafts. Natural lighting on the inside of the corridor is distressingly not available, even with two light shafts running through the building but perhaps this situation is working as a shading devise which actually keeps the interior of the building cooler than the natural element.

Commonly, these buildings are all made of reinforced concrete beam structure, economical and can be premolded,
Overall, the Smokey Mountain project has succeeded in housing the masses but I am concerned with the pro and con aspects of the immediate amenities and building design, it does not evaluate livelihood beyond shelter.

- Smokey Mountain Phase I building type, Tondo, Manila-Philippines.
  Philippine National Housing Authority.

SMOKEY MOUNTAIN, MEDIUM RISE HOUSING PROJECT TONDO, METRO MANILA

EXISTING 5 STORIES, WITH LOFT

LAND USE

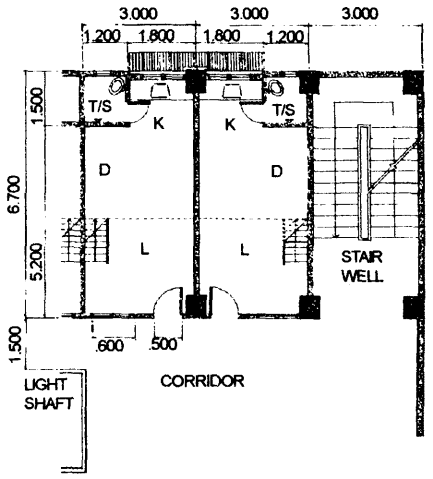
Income producing real-estate		
housing	2.22	39%
commercial area	0.00	0%
informal market	0.00	0%
school	0.00	0%
community facilities	0.00	0%
Non-Income producing real-estate		
interstitial space	0.47	8%
Parks/ Open Space	1.52	26%
Roads/ parking	1.53	27%
TOTAL AREA (Ha)	**5.74**	**100%**

units	3600
unit area. w/ loft	32 sq. m.
land sharing/ unit	gross- 16 sq. m. net- 7.5 sq. m.

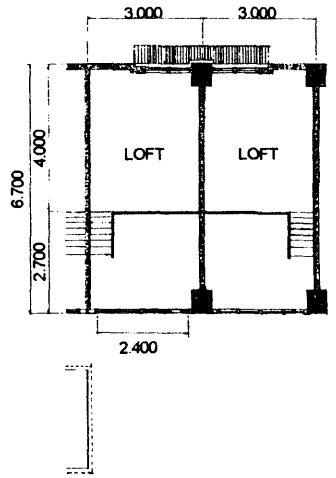
DENSITIES	@3600 (units/Ha)	x4 (pop/Ha)	x5.5	x6	x7
Gross 5.74 Ha	**626**	2504	3444	3757	4383
Net 2.69 Ha	**1137**	5348	7353	8022	9359

INFRASTRUCTURE/ AREA LENGTH

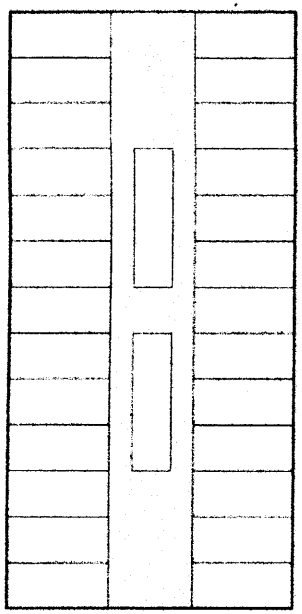
interior street length	408
½ perimeter length	
1429/2	714
total length	1122
length/area	**195m/ Ha**
1122/5.74	



unit plans 1m: 200m

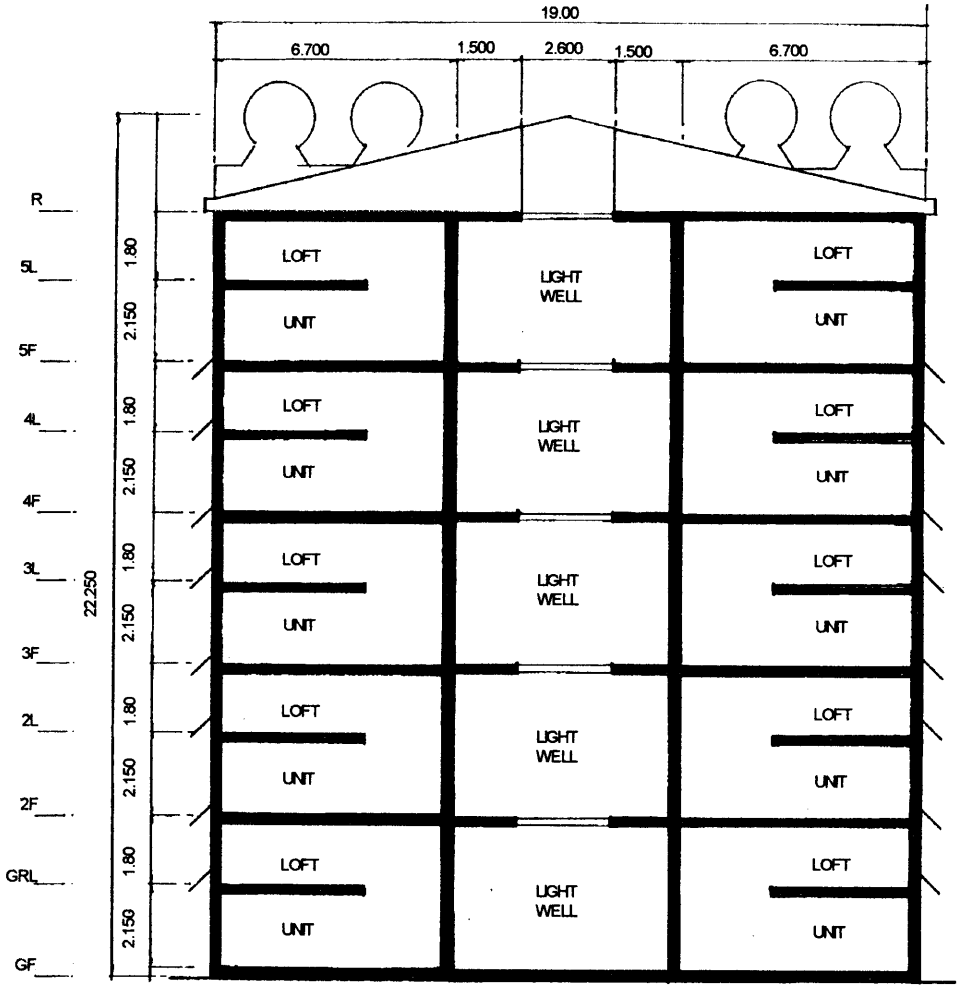


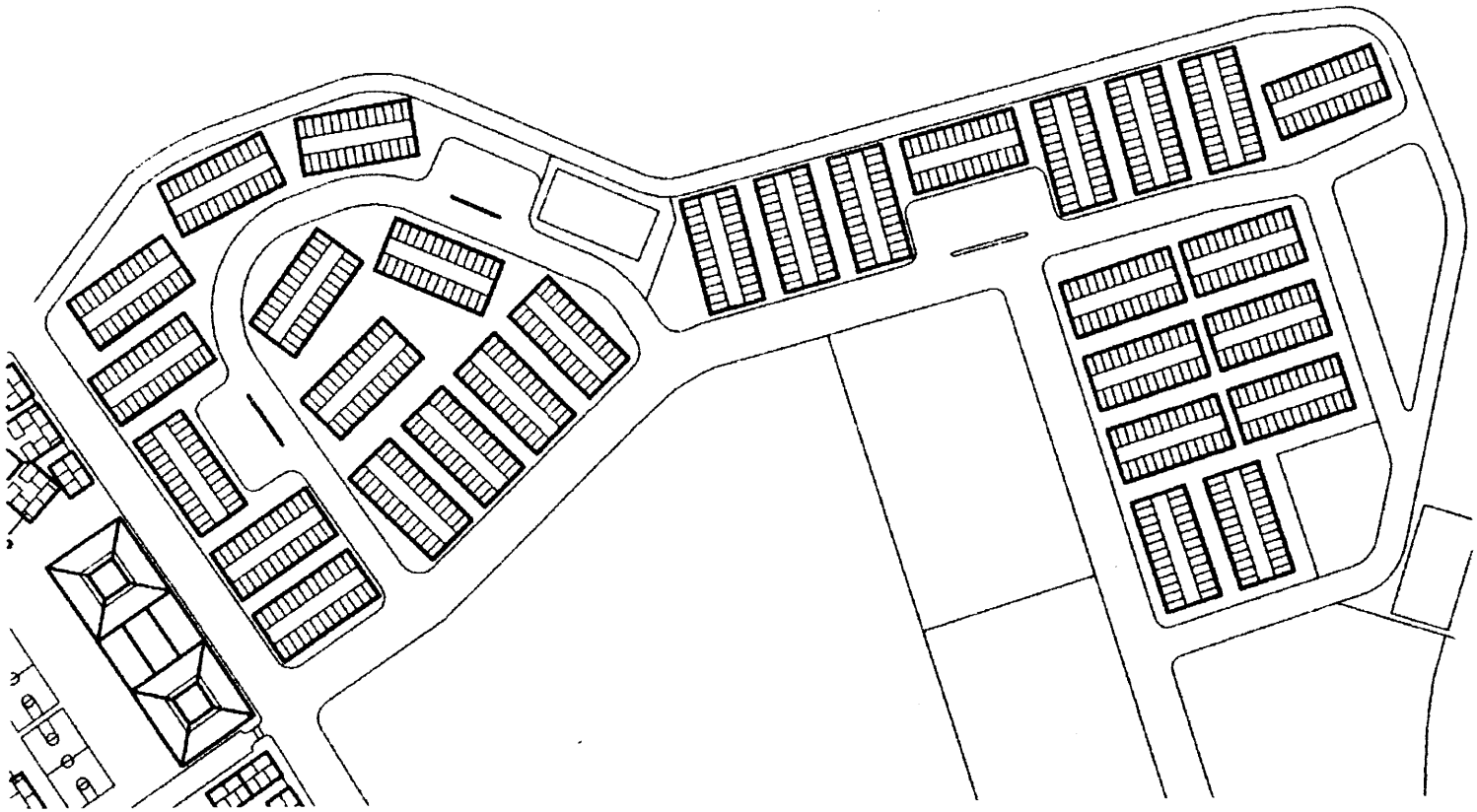
loft plans 1m: 200m



- Smokey Mountain Phase I building plan, 1:500

- Smokey Mountain Phase I section/ elevation. 1:200





- Smokey Mountain Phase I site, 1:2500

Summary:

Smokey Mountain,
Medium Rise Housing Project, 1995
Tondo, Manila-Philippines

39% income producing
61% non income producing
five story- loft
5.74 hectares
3600 Units
626 units per hectare

- Smokey Mountain Phase I along Estero de Vitas, Tondo, Manila-Philippines.

- The people on this site are originally from Smokey Mountain which is a land fill, attracting migrants who would make their livelihoods selling their collected plastics, metals, etc. which they found at the fill. But now that the landfill is not active, people here work in the ports or commute elsewhere.
- This site is strictly housing.
- It does not permit much activity of distinguishing open public space other than parking and roads. With buildings at a height of 23 meters, 5 story lofted, the buildings dominate the pedestrian scale.
- The stamping out of buildings does not address the site. Space left out by the cookie cutter is dead space.
- Balcony space on the Vitas interiors promoted encroachment so balconies were not designed in this model. Single loaded corridor
- two light shafts but there is little light and ventilation to the interior facing living spaces.
- lofting units increased the average unit space by 50%

- Maharlika Village Muslim Medium Rise Housing Project, Taguig, Metro Manila-Philippines.

MAHARLIKA VILLAGE
MEDIUM RISE HOUSING PROJECT
TAGUIG, MANILA
1999

The Maharlika Medium Rise Housing Project in Taguig, Metro Manila was developed to house the shelter needs of three hundred fifty (350) Muslim squatter families displaced by the demolition of a shanty site in the Quiapo District of Manila. The new project now has a capacity of four hundred twenty (420) units.

The main priority of this project is to house displaced Quiapo Muslim squatters who have been accommodated in temporary bunk houses where occupancy checks where conducted since 1997. These applicants will be allocated units on floors three though five of the project.

Secondary priority has been allocated to Muslim families who have been residing in Metro Manila for at least one year and filed their applications as of 1997. These applicants will be allocated units on the first and second floors of the project. These applicants are allowed to own two adjoining units depending on their capacity to pay.

The application requirement include but are not limited to being a Muslim Filipino, of legal age and head of a household, must not own any property in the Metro Manila area, and have not availed from any government assistance. Disqualification of the applicants include but are not limited to being an absen-

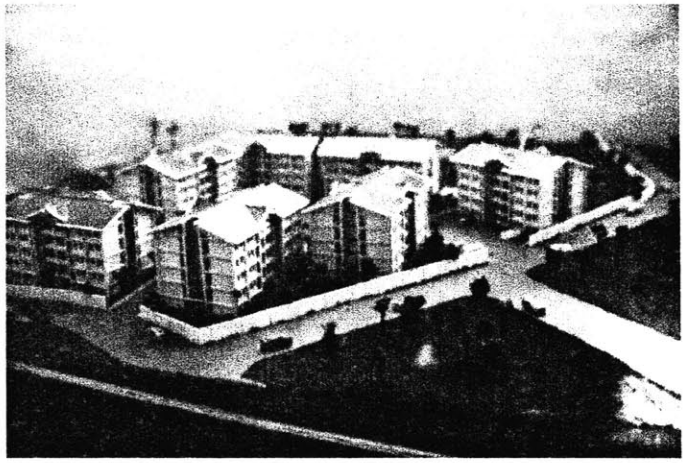
tee relocatee, lease, sale or encumbrance of housing units prior to confirmation and formal reward, non-occupancy of housing units within six (6) months from the date of allocation, misrepresentation of facts or persons, non-submission of documentary requirements for unit allocation or award, unauthorized use of assigned housing units other than for residential purposes, violation of the prescribed project rules and regulations. Those not following any of these requirements are to be evicted.

Only pre-qualified applicants are eligible for housing awards. The units were allocated by means of raffle and direct awards. Allocation of housing awards by tribe included Tao-sugs, Maranaw, Maguindanao, and smaller tribes such as Samal and Muslim converts. Paternal allocation has prevailed for family applicants. Procedures for awards were made in accordance to National Housing Authority guidelines and policies.

The units are disposed though lease or sale depending on the affordability of the proposed beneficiary. Each unit is leases under terms of a one year contract and will be extended unless terminated. Applicants have the option of purchasing units.

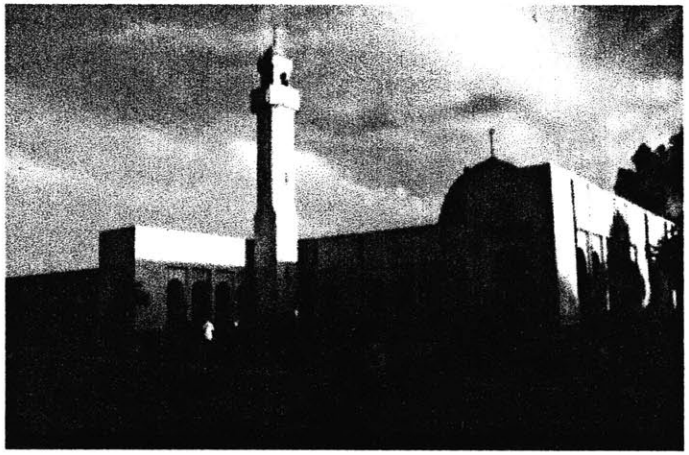
- **GETTING TO MAHARLIKA VILLAGE**

The people of the Maharlika Village Medium Rise Housing project are to be relocated from the shanties of Quiapo within the heart of Manila to the outskirts of Taguig, still in the Metro Manila region yet still displaced approximately fifteen (15) kilometers from their original location. The advantage of the project site in comparison to other distant relocation plans is that this Muslim community in Taguig is already well developed. The existing community infrastructure is already complete with residential communities, local commercial zones, local market places, local mosques, schools, parks, gardens, and recreation areas. The problem with other distant relocation projects is that there were no means



- Maharlika Village Housing Model.

- Taguig, Metro Manila-Philippines.



- Muslim Mosque, Taguig, Metro Manila-Philippines.

of economic stability. That is there were no settlements already existing which would be able to employ the mass amount of people who were to be located in the area. Some areas were so desolate that there were not proper means of accessing the sites, basic utilities such as water and power did not exist, and displaced people from all of their jobs within the city. So in the case of Taguig, the economic environment is one that is capable of stabilizing people's income with pretty secure jobs, and so enabling the people to afford the units they were awarded.

- **FUTURE PLANS**

Maharlika is a brand new village and so it is only looking at the future progress of the people. It will be available for people to move in spring 1999. While I was visiting the National Housing Authority Office on the premises, people who were included in the housing lottery came to see if their names were posted on the brown paper across the wall next to the entrance. I saw people who had so much joy in their faces when they saw their names. Two women, I assume friends or relatives, screamed and hugged with excitement because they were not only selected but assigned as neighbors. When I experienced their joy through their faces, I am only glad I did not encounter anyone who did not get on the list.

- **AREA AND SURROUNDINGS**

The housing project was not yet inhabited when I visited it on March 1, 1999, so I could not really speak with people who have experienced living there. I did however speak to locals who were friendlier and more considerate when I was asking for directions, as well as Engineer Rommel Trinidad and Architect Ed Garcia, who showed me around the project and discussed the immediate surroundings with me.

4.13 Future Plans
4.14 Area and Surroundings

Immediately within the surroundings of the housing project exists a library, a school, the NHA project office, a mosque, a dormitory, a recreational sports ground, and residential blocks. Proposed within this same area are to be a police station, a fire station, another school building, another commercial strip, and more housing development of the same building type adjacent the existing recreational sports grounds. In extent to the site less than one kilometer away exist formal and informal commercial areas and market places, more private and public resident blocks, and further out of that, is an industrial area which then leads to a main highway. The surroundings are mainly private single family homes, the introduction of these mass housing projects is an urbanization step that most areas are encountering with the amount of people migrating into the capital in search of livelihood. The existence of all of these facilities and services makes it very comfortable to relocate in this area.

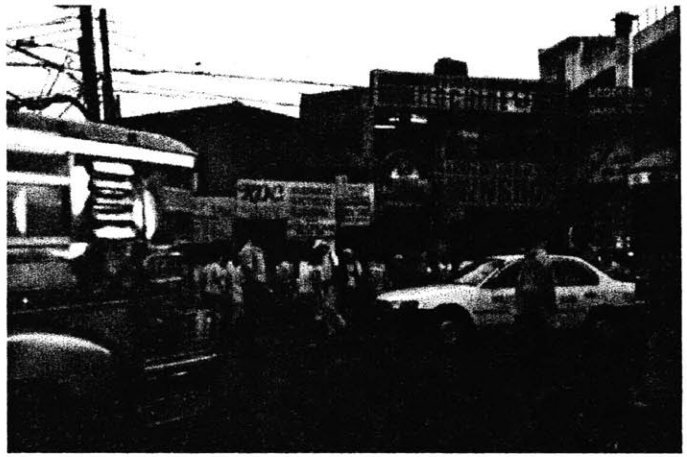
- **LIFE AND ACTIVITIES WITHIN THE PROJECT**

Other than housing, an aspect which has been included in the village plan is a common space centralized in the village which during events has been transformed into a stage area. Community organization seems to be a very important element in the immediate community and I assume that the village will also acquire this type of characteristic, one being the religious bond that the residents are to share.

The site includes all of the basic necessities of livelihood that I did not find evident in the other housing sites I've looked at with the National Housing Authority, which will make it an economically self sufficient community. The locality of basic needs and wants is important along with the feeling of safety which made me comfortable within the area more so than other places.

- **DESIGN FACTORS**

The housing project had many positive characteristics which make me more posed to believe that it will be more successful than other NHA projects. The



- Commercial Sector, Taguig, Metro Manila-Philippines.

very organization of the buildings to form a cloister of common space protects the space from outside encroachment or should I say squatting. The physical depression at one side of the village distinguishes the area without having to build a wall around it. As it stands, the empty area immediately around it's boundaries may be subject to scavengers, but the proposed police and fire stations, the new schools and commercial area, to be built shortly, in the area will alleviate such a problem.

The buildings have a characteristic that I find more meaningful than in other housing projects. The placement of units around a stair well rather than along a single or double loaded corridor to the stairwell uses less space while still providing an intimate common space for the residents at that landing. The positioning of the units as they are around the stair well provides more building facade exposure to each unit which comes down to more area for ventilation and natural light in almost all cases, but each situation varies with each of the three unit types. The unit organization also provides some privacy to the unit balconies. Although I do not like the idea that half of the unit's windows are facing a common space and diminishing privacy to those exposed rooms. But I suppose that that is not something that can be helped. Almost all of the units in general are facing open spaces, which is a step above immediately looking into another unit which is the case in the Vitas project of Tondo and in some buildings in the Smokey Mountain Project also in Tondo. The five story walk up seems to be a comfortable height to deal with. But the project does stick out above all of the rest of the local context, including the mosque. Sample units used for open house were very dressed up and nicely finished and furnished for perspective residents and government officials to see, but when taken to the regular units, I was very disappointed to find that they were not finished. The feeling given by a white painted space of comfortable luminous reflection is quite different than the spaces which felt very dark even with much natural light in the midst of concrete gray walls. This is the same in Vitas Project, and I feel

- Taguig, Metro Manila-Philippines.

that such simple things may make the attitudes people hold towards their home more positive when they look more positive to begin with.

Parking is available on the site but very limited in comparison to the number of units actually housed in the village. It was explained to me that it was not very likely that these people will own many vehicles anyhow. I understood. The site is fully equipped with many utility houses. On site include, a cistern and cistern pump house, deep wells and deep well pump houses, and septic tanks. I feel that open space and public space is substantial in the immediate area of schools, play spaces and gardens. There is however space or should I say interstitial space among the buildings which is capable of housing areas of play and agriculture.

For now, the Maharlika buildings are in excellent shape, but they are also guarded at the main entrance, but things on the site may change once people move in and the guards disappear. This will then be the time when the village will be enveloped by the character of the community that resides in it.
When asked to see particular housing projects to do case studies of them, the Maharlika site was pointed out personally by NHA headquarters for positive potential. They seem to be very proud of this project, and with the existence of an NHA branch on the premises and the planning of similar building types within the immediate area, the NHA project foresees much positive consequences in this move.

- Maharlika Village, Taguig, Metro Manila-Philippines.

- Central Space at Maharlika Village, Taguig, Metro Manila-Philippines.

- Maharlika Village Building Type, Taguig, Metro Manila-Philippines.

MAHARLIKA VILLAGE
MEDIUM RISE HOUSING PROJECT
TAGIG, METRO MANILA

EXISTING 5 STORIES

LAND USE

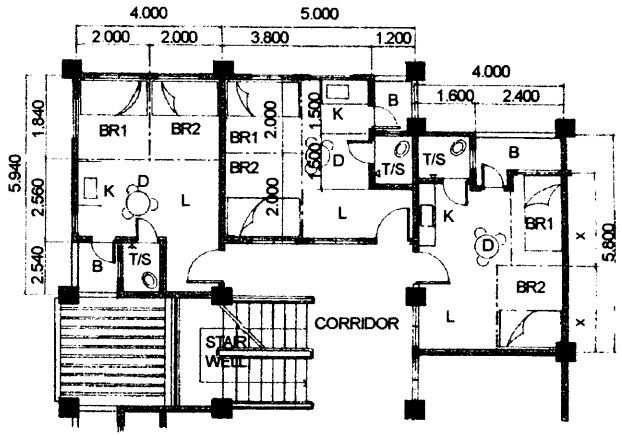
Income producing real-estate		
housing	0.25	22%
commercial area	0.00	0%
informal market	0.00	0%
school	0.00	0%
community facilities	0.00	0%
Non-Income producing real-estate		
interstitial space	0.13	12%
Parks/ Open Space	0.26	23%
Roads/ parking	0.49	43%
TOTAL AREA (Ha)	**1.14**	**100%**

units	420
unit area. w/ loft	20-24 sq. m.
land sharing/ unit	gross- 27 sq. m. net- 2.1 sq. m.

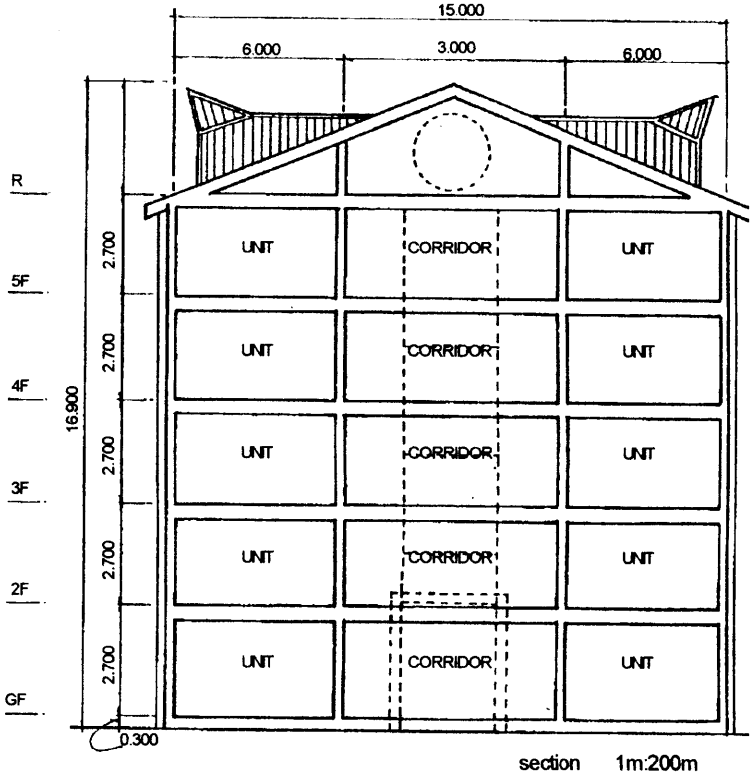
DENSITIES	@420 (units/Ha)	x4 (pop/Ha)	x5.5	x6	x7
Gross 1.14 Ha	**368**	1472	2024	2208	2576
Net 0.39 Ha	**1075**	4300	5912	6450	7525

INFRASTRUCTURE/ AREA LENGTH

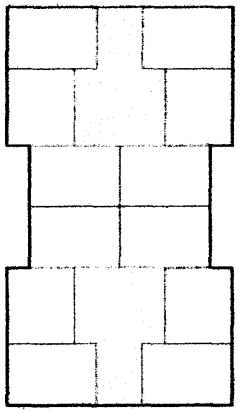
interior street length	227
½ perimeter length	
163/2	81
total length	308
length/area	**270m/ Ha**
308/1.14	



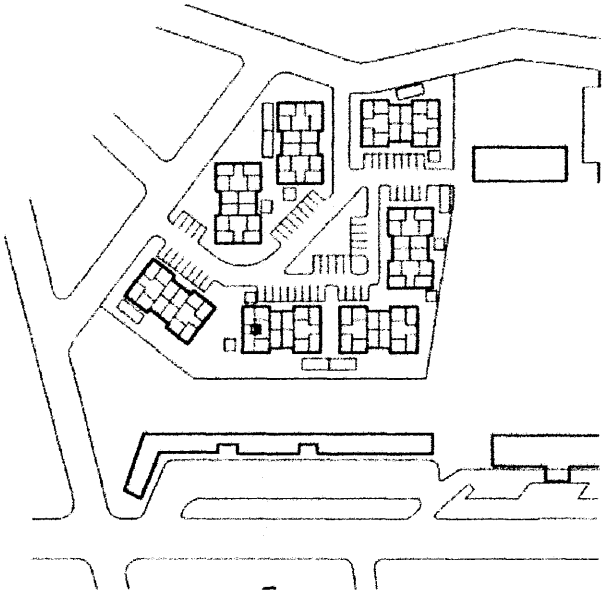
3 unit type plans 1m: 200m



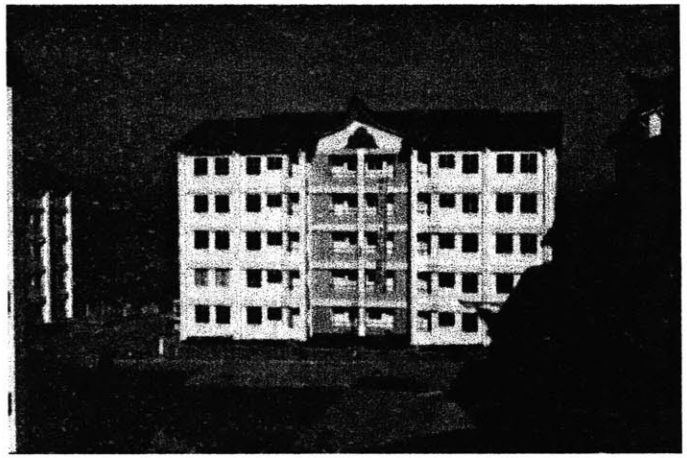
section 1m:200m



- Maharlika Village building plan. 1:500



- Maharlika Village site, 1:2500



- Maharlika Village, Taguig, Metro Manila-Philippines.

- Maharlika Village, Taguig, Metro Manila-Philippines.

Summary:

Maharlika Muslim Village, Medium Rise Housing Project 1999 Taguig, Metro Manila-Philippines

22% income producing
78% non income producing
five story
1.14 hectares
420 units
368 units per hectare

- Maharlika Village, Taguig, Metro Manila-Philippines.

- The existence of basic amenities with in the area make it a comfortable place for relocation.
- An immediate industrial area, schools, a mosque, open spaces, recreational facilities, a market, etc. , are all within the local periphery.
- Community is well organized and anxious to welcome more residents.
- There is some cloistering and site conditions that protect the open spaces
- The stairwells use less space while providing a common space on all landings.
- But the building design does limit some of the units to elements of exposure to natural light and ventilation in this arrangement.
- The buildings stick out above the context of the community surroundings, the pedestrian scale and even the mosque.
- This example looks like a more positive beginning but residents will not inhabit them until the spring of 1999.
- The village is enveloped by the character of the community and it is one that the NHA is very proud of.

Land Use Assessment

Land use was allocated under the following objectives;

- Maintain the level of density that is acceptable by the Philippine National Housing Authority. Designing for the average units per hectare.
- Reducing the infrastructure area to decrease site costs.
- Increase unit areas above the average area.
- Building to a maximum of five stories.
- Building to the average income producing percentage.
- Building to the average non income producing percentage.
- Designing primarily for squatter relocation and secondarily for public housing.

LAND USE ASSESSMENT STUDY

ASSESSMENT	GOVERNMENT	VITAS	VITAS@5	VITAS@6
UNITS	-	1674	1675	1674
GROSS AREA	-	2.16 Ha.	2.16 Ha.	2.16 Ha.
NET AREA	-	1.28 Ha.	1.04 Ha.	0.85 Ha.
GROSS DENSITIES	-	680 Units/ Ha.	680 Units/ Ha.	680 Units/ Ha.
NET DENSITIES	-	1902 Units/ Ha.	1902 Units/ Ha.	1902 Units/ Ha.
INFRASTRUCTURE/ AREA	-	483 m/ Ha.	483 m/ Ha.	483 m/ Ha.
UNIT AREA	-	18-24 sq. m.	18-24 sq. m.	18 sq. m.
GROSS LAND SHARING	-	14.5 sq.m.	14.5 sq.m.	14.5 sq.m.
NET LAND SHARING	-	7.6 sq.m.	6.2 sq. m.	5 sq.m.
STORIES	-	4	5	6
HOUSING	-	46%	38%	32%
INTERSTITIAL SPACE	-	13%	10%	7%
COMMERCIAL AREA	-	(ground floor housing)	(ground floor housing)	(ground floor housing)
INFORMAL MARKET	-	0%	0%	0%
SCHOOL/ CHURCH	-	1%	1%	1%
COMMUNITY FACILITIES	-	0%	0%	0%
PARKS/ OPEN SPACE	-	21%	32%	41%
ROADS/ PARKING	-	19%	19%	19%
SQUATTERS	SQUATTERS	SQUATTERS	SQUATTERS	SQUATTERS
PUBLIC	PUBLIC	PUBLIC	PUBLIC	PUBLIC
NHA EMPLOYEES	NHA EMPLOYEES	NHA EMPLOYEES	NHA EMPLOYEES	NHA EMPLOYEES
POLICE	POLICE	POLICE	POLICE	POLICE
TEACHERS	TEACHERS	TEACHERS	TEACHERS	TEACHERS
MUSLIMS	-	-	-	-

SMOKEY MOUNTAIN	MAHARLIKA-A	MAHARLIKA-B	MAHARLIKA-C	SMOKEY II
3600	420	420	420	2604
5.74 Ha.	1.14 Ha.	1.14 Ha.	1.14 Ha.	6.04 Ha.
2.69 Ha.	0.39 Ha.	0.39 Ha.	0.39 Ha.	2.41 Ha.
368 Units/ Ha.	368 Units/ Ha.	368 Units/ Ha.	368 Units/ Ha.	431 Units/Ha.
1075 Units/ Ha	1075 Units/ Ha.	1075 Units/ Ha.	1075 Units/ Ha.	1080 Units/ Ha.
270 m/ Ha.	270 m/Ha	270 m/Ha	270 m/Ha	215 m/Ha
32 sq. m. w/ loft	20-24 sq. m.	20-24 sq. m.	20-24 sq. m.	20-40 sq.m.
16 sq.m.	27 sq.m.	27 sq.m.	27 sq.m.	23 sq.m.
7.5 sq.m.	2.1 sq.m.	2.1 sq.m.	2.1 sq.m.	11.5 sq.m.
5	5	5	5	5
39%	22%	22%	22%	19%
8%	12%	12%	12%	9.2%
0%	0%	0%	0%	10%
0%	0%	0%	0%	5.7%
0%	0%	0%	0%	5.1%
0%	0%	0%	0%	5.8%
26%	23%	23%	23%	8%
27%	43%	43%	43%	15%
SQUATTERS	SQUATTERS	SQUATTERS	SQUATTERS	SQUATTERS
PUBLIC	PUBLIC	PUBLIC	PUBLIC	PUBLIC
NHA EMPLOYEES	NHA EMPLOYEES	NHA EMPLOYEES	NHA EMPLOYEES	
POLICE	-	-	-	
TEACHERS	-	-	-	
-	MUSLIMS	MUSLIMS	MUSLIMS	


Estero Marala
Agricultural Sector
Community Grounds
School
Church
Informal Market Plaza
Commercial Sector
Smokey Mountain Phase I
Commercial
Industrial

The Program

Smokey Mountain Medium Rise Housing Project, Phase II
Tondo, Manila-Philippines.

39% income producing
61% non income producing
five story with infil structure
6.4 hectares
Housing for 2604 families
431 units per hectare

Commercial Sector
Multi use Housing
Informal Market Plaza
Church
Private School
Recreational Facility
Agricultural Sector
Public open spaces

With all aspects in mind, new standards have been set up to build on, guideline which follows 39% income producing, 61% non income producing. It sets up a place for economic stability. The guidelines were extrapolated from the three case studies and looked at aspects of the site, building and units.

The Commercial Sector

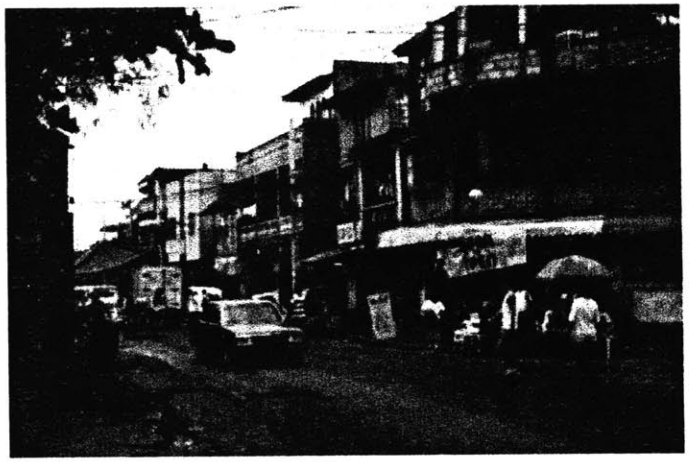
The commercial sector is a relief to the future establishment of commercial facilities on the edge of the R-10 and in the reclaimed port area. This commercial edge will assist in the attraction of business outside of the community while providing jobs and income for those within the community. A large part of the problem of drawing in outside business into other projects is that they do not have an edge for productive entrances, other sites have only managed to attract illegal squatters. The commercial edge acts as a gateway into the community which shall be infiltrated with other commercial establishments in the actual housing community.

"Thus initiative to reduce poverty should focus not on doles or donations, but on enabling poverty-stricken groups and communities to attain self reliance," (Soriano, 23.)

- Market place in Cebu-Philippines.

Multi-Use Housing

Multi use housing may assist the community by having commercial units on the ground floors of commercial sector buildings. These commercial units will assist in the subsidizing of other unit costs. This has been a proposal to other projects such as Vitas, but in this case, the multi use structures are lead by the commercial sector, edge and gateway. Multi use programming within the community allows for a safer haven for the commercial establishments during off hours because they are in immediate contact with program which is in constant activity, housing. This multi use building sector will wrap itself around what will be the Informal Market Plaza.



- Tondo Multi use Intersection, Tondo, Manila-Philippines

Informal Market Plaza

This is a big generator of people. Informal markets draw in all crowds with their variety and character. This plaza has been located in the center of the commercial, multi use, sector. Hopefully, the placement of this large open space within other activities will protect and cloister it from possible illegal squatting as most

- Market at Baclaran Church, Manila-Philippines.

- Vitas Housing Project school children, Tondo, Manila-Philippines

any open space is susceptible to the crime. This informal market fronts what will be the community church. The establishments of markets before churches is very common in Manila. One example of this is the Baclaran Church also in Manila. It's market attracts much business on the days of the week that hold significant mass.

Church

A church in the immediate community adds faith and connection to the people of the housing project. Perhaps the existence of an authoritative or respectable figure at the center of the community may draw more awareness, and organization in the community to better their situations. This centralized church will be protected since it is cloistered around daily activity. It may attract people from outside the community for mass which is only beneficial to the commercial sector opportunity, not to mention locality to the people which is also very important.

Private School

It seems as a typical frame of mind for Filipino parents to want to send their children to private schools. Although in some programs, public schools are available, parents do not send their children to the schools. The school on the Vitas site is an example. Out of the more than sixteen hundred families, only thirty children were in the school during a visit. The streets in the project, on the other hand, were full of children playing. NHA officials said that parents don't put much belief in the public school system so would rather not send their children to school if they cannot afford private school. Those however who can afford a school send their children off at least three kilometers away.

The idea of a private school being subsidized, as public schools are, may be an idea to help develop interest in education amongst the families at hand. This thought may increase the student population and in the long run better the children's futures.

The school in this project is located in a fashion that centralizes it between both Smokey Mountain Communities to benefit both communities. Also, the school is used to edge one side of the central open space which will be used both by the school and the community. Having this area used by the school may increase the interest to preserve the open grounds and prevent illegal squatting.

Recreational Facilities

Having this area used by the school may increase the interest to preserve the open grounds and prevent illegal squatting. The central recreational grounds is on axis to the church and market plaza. This presents a continuous span of communal space, cloistered within an environment to prevent encroachment.

Agricultural Sector

As does a community have interests in a commercial sector to establish self sufficiency, an agricultural base would provide the same sustenance at both personal and trade levels. This sector has been set back from the commercial sector within the interstitial spaces between the primary building types at the East end of the housing project. Housing in this area will be allocated to people with agricultural interests.

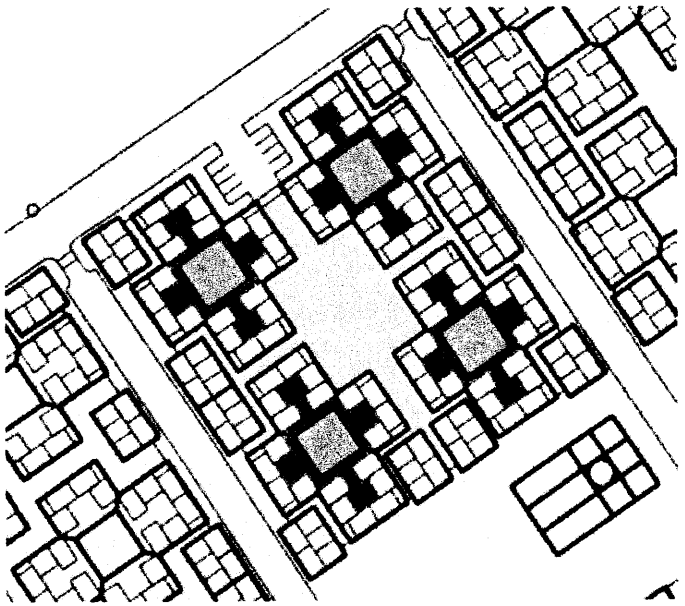
"Any undertaking to alleviate poverty should be necessarily take into consideration the need for education, without which there can be no prosperity or environmental protection, at least in the long term," (Soriano, 23.)

Public Open Space

Public open space should become a responsibility of the community but it seems that the only way to accomplish this is if the people feel as if this public space really belongs to them and to demonstrate that it is of use to them. The Smokey Mountain Phase II project looks at public open space in a hierarchical manner. This can be compared to a common grouping of family linkages. First of all, one has their immediate family which includes parents and siblings. This

- Market place at Baclaran Church, Manila-Philippines.

is known as *Mag-Anak*, the primary social unit. Secondly is the family of immediate cousins, aunts and uncles. This is known as *Kamag-anak*. one's secondary lineage of family. Thirdly are distant cousins and relatives but still under the same ancestral lineage. This is known as *Angkan*. This is the vertical grouping of families along the same line. The linkage between open spaces in Phase II can be related in this fashion of primary common space amongst the individual units to one wing as *Mag-Anak*. The shared courtyard of the primary building type is a common space of *Kamag-Anak*. And the common space shared by the relation of more than three buildings can be considered as *Angkan*. The three lineage's have a connection of social community which extends to all levels of social interaction, public-public and private-public community spaces.

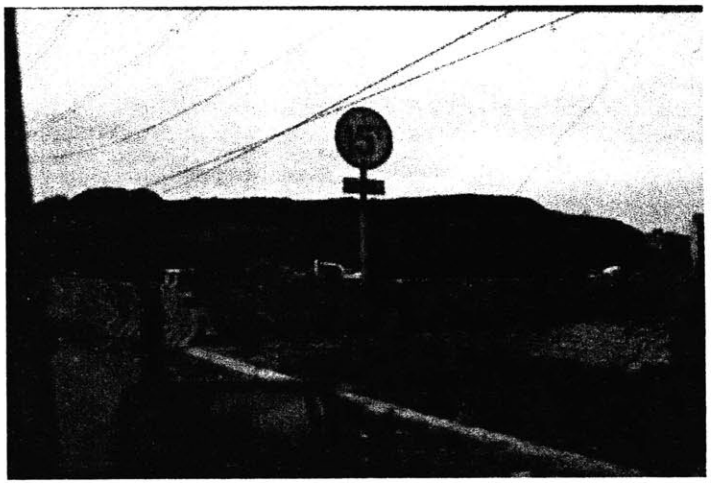


- Smokey Mountain Phase II Public space hierarchy diagram.

Site Assessment

Site Design was based on the following objectives

- add public amenities
- preserve open spaces, cloistering them rather than leaving them out or neglected
- developing a hierarchy of open spaces between the community, buildings and the individual units.
- same density levels, or close enough to allow for other amenities, it is a fair sacrifice
- adjacent infrastructure reaching each building cluster just enough to promote a pedestrian community, limiting vehicular traffic, because these residents really do not the means to own or the need for cars.
- A multi use program develops edges and ground floor activities, allocating zones of commercial, agricultural, communal, and cloistered spaces.
- Incorporates commercial gateways and edges to reflect other plans into the context.
- Works with Smokey Mountain Phase I to share the amenities
- Recognizes different land use values of most activity edges.



- Smokey Mountain II landfill, Tondo, Manila-Philippines

- Primary Assessment Study

SMOKEY MOUNTAIN II, MEDIUM RISE HOUSING PROJECT TONDO, METRO MANILA

PROJECTION FOR PROPOSED 5 STORIES

LAND USE

Income producing real-estate		
housing	1.18	30%
commercial area	0.60	10%
informal market	0.18	3%
school	0.48	8%
community facilities	0.12	2%
Non-Income producing real-estate		
interstitial space	0.60	10%
Parks/ Open Space	0.42	7%
Roads/ parking	1.18	30%
TOTAL AREA (Ha)	**6.04**	**100%**

units	2750
unit area.	30-45
land sharing/ unit	gross- 22 net- 9

DENSITIES	@2750 (units/Ha)	x4 (pop/Ha)	x5.5	x6	x7
Gross 6.04 Ha	**455**	1820	2502	2730	3185
Net 2.41 Ha	**1138**	4552	6259	6828	7966

INFRASTRUCTURE/ AREA LENGTH

interior street length	990
½ perimeter length 1276/2	638
total length	1630
length/area 1630/6.04	**270m/ Ha**

SITE ASSESSMENT STUDY

ASSESSMENT	GOVERNMENT	VITAS	VITAS@5	VITAS@6
COMMERCIAL AREA	COMMERCIAL AREA	COMMERCIAL AREA	COMMERCIAL AREA	COMMERCIAL AREA
COMMERCIAL LOCAL	-	-	-	-
INFORMAL MARKET	-	INFORMAL MARKET	INFORMAL MARKET	INFORMAL MARKET
INFORMAL LOCAL	-	-	-	-
SCHOOL	-	SCHOOL	SCHOOL	SCHOOL
SCHOOL LOCAL	-	-	-	-
SPIRITUAL	-	SPIRITUAL	SPIRITUAL	SPIRITUAL
SPIRITUAL LOCAL	-	-	-	-
MEDICAL	-	MEDICAL	MEDICAL	MEDICAL
MEDICAL LOCAL	-	-	-	-
RECREATION	-	RECREATION	RECREATION	RECREATION
COMMUNITY FACILITIES	-	COMMUNITY FACILITIES	COMMUNITY FACILITIES	COMMUNITY FACILITIES
RECREATION LOCAL	-	-	-	-
PLAY SPACE	-	PLAY SPACE	PLAY SPACE	PLAY SPACE
PLAY SPACE LOCAL	-	-	-	-
VEHICULAR ACCESS	VEHICULAR ACCESS	VEHICULAR ACCESS	VEHICULAR ACCESS	VEHICULAR ACCESS
LIMITED VEHICULAR ACCESS	-	LIMITED VEHICULAR ACCESS	LIMITED VEHICULAR ACCESS	LIMITED VEHICULAR ACCESS
ON SITE PUB. TRANSPORT	-	ON SITE PUB. TRANSPORT	ON SITE PUB. TRANSPORT	ON SITE PUB. TRANSPORT
PUBLIC TRANSPORTATION	-	PUBLIC TRANSPORTATION	PUBLIC TRANSPORTATION	PUBLIC TRANSPORTATION
INTERIOR ROADS	INTERIOR ROADS	INTERIOR ROADS	INTERIOR ROADS	INTERIOR ROADS
PARKING	-	PARKING	PARKING	PARKING
NHA OFFICE	NHA OFFICE	NHA OFFICE	NHA OFFICE	NHA OFFICE

NEEDED AMENITIES

POOR AMENITIES

SMOKEY MOUNTAIN
COMMERCIAL AREA
-
INFORMAL MARKET
-
-
SCHOOL LOCAL
-
SPIRITUAL LOCAL
-
-
-
-
RECREATION LOCAL
-
-
VEHICULAR ACCESS
-
-
-
INTERIOR ROADS
PARKING
NHA OFFICE

MAHARLIKA-A
-
COMMERCIAL LOCAL
-
INFORMAL LOCAL
-
SCHOOL LOCAL
-
SPIRITUAL LOCAL
-
MEDICAL LOCAL
-
COMMUNITY FACILITIES
RECREATION LOCAL
-
PLAY SPACE LOCAL
VEHICULAR ACCESS
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INTERIOR ROADS
PARKING
NHA OFFICE

MAHARLIKA-B
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COMMERCIAL LOCAL
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INFORMAL LOCAL
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SCHOOL LOCAL
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SPIRITUAL LOCAL
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MEDICAL LOCAL
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COMMUNITY FACILITIES
RECREATION LOCAL
-
PLAY SPACE LOCAL
VEHICULAR ACCESS
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INTERIOR ROADS
PARKING
NHA OFFICE

MAHARLIKA-C
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COMMERCIAL LOCAL
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INFORMAL LOCAL
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SCHOOL LOCAL
-
SPIRITUAL LOCAL
-
MEDICAL LOCAL
-
COMMUNITY FACILITIES
RECREATION LOCAL
-
PLAY SPACE LOCAL
VEHICULAR ACCESS
-
-
-
INTERIOR ROADS
PARKING
NHA OFFICE

SMOKEY II
COMMERCIAL AREA
-
INFORMAL MARKET
-
SCHOOL
-
SPIRITUAL
-
MEDICAL
-
RECREATION
COMMUNITY FACILITIES
-
PLAY SPACE
-
VEHICULAR ACCESS
-
ON SITE PUB. TRANSPORT
PUBLIC TRANSPORTATION
INTERIOR ROADS
PARKING
NHA OFFICE

SMOKEY MOUNTAIN II, MEDIUM RISE HOUSING PROJECT TONDO, METRO MANILA

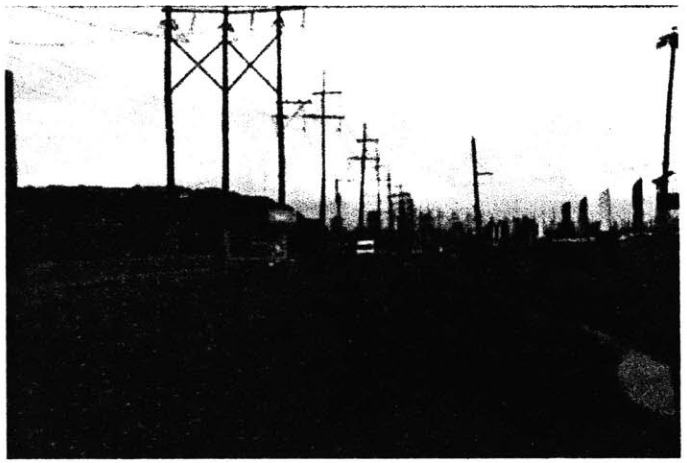
CONCLUSIVE 5 STORIES PROPOSAL

LAND USE

Income producing real-estate			
housing	1.15	19%	-11%
mixed use	.60	10%	-
school	.25	4.1%	-3.9%
church	.05	1%	-1%
informal market	.35	5.7%	+2.7%
Non-Income producing real-estate			
roads/ parking	1.4	23%	-7%
open space/ parks	.90	15%	+9.6%
gardens	.10	1.6%	
interstitial space	.55	9.2%	+10.6%
public court yards	.35	5.8%	
private court yards	.34	5.6%	
TOTAL AREA (Ha)	**6.04**	**100%**	

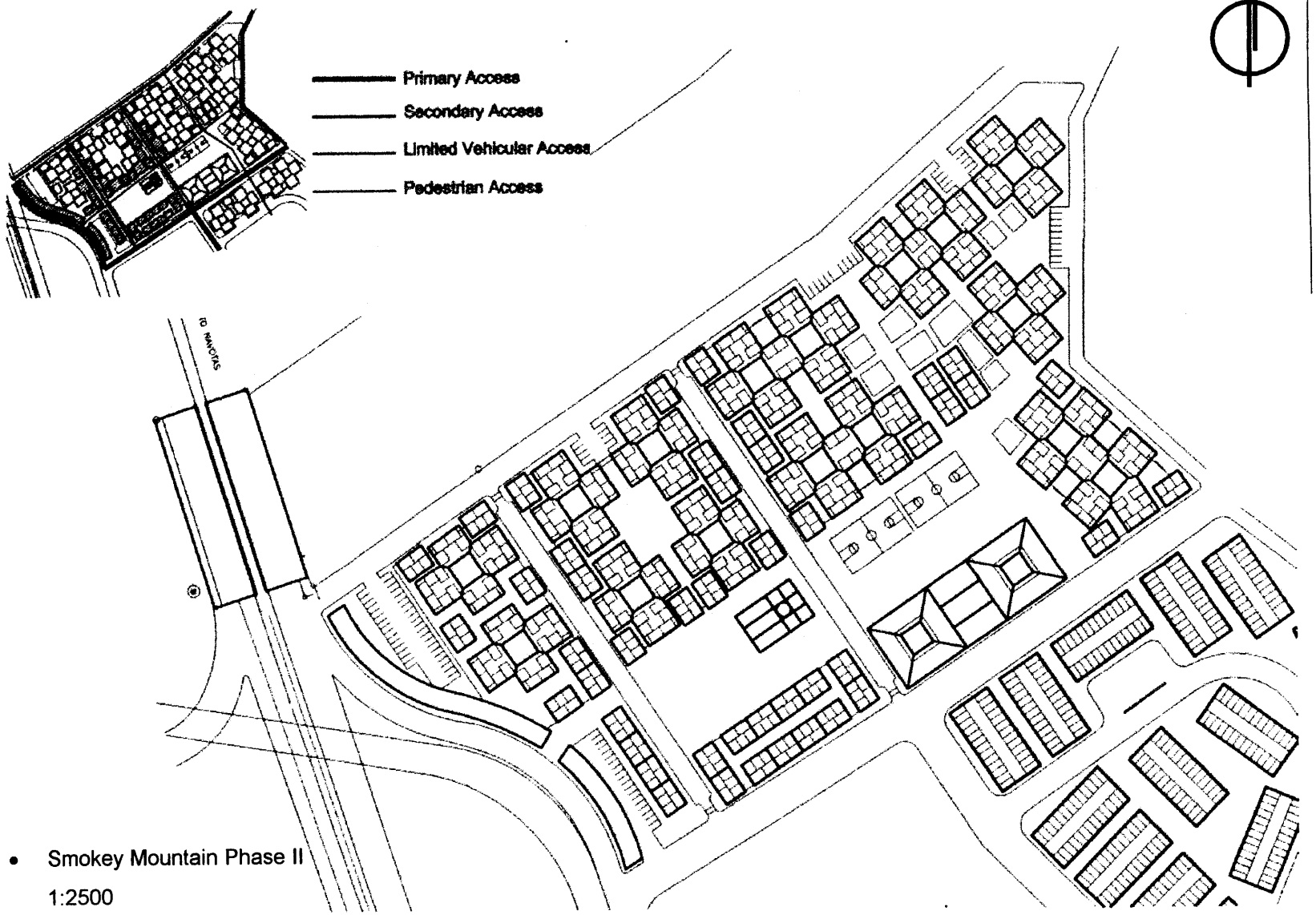
units	2604	-5.3%
unit area.	20-40 sq m	
land sharing/ unit	gross- 23 sq m	+4%
	net- 11.5 sq m	+27%

DENSITIES	@2604 (units/Ha)	x4 (pop/Ha)	x5.5	x6	x7
Gross 6.04 Ha	**431**	2155	2370	2586	3017
	-5.2%				
Net 2.41 Ha	**1080**	4321	5942	6482	7563
+24%	+23%				



- Smokey Mountain along the R-10, Tondo, Manila-Philippines

INFRASTRUCTURE/ AREA LENGTH		
interior street length	664m	-33%
½ perimeter length 1276/2	638	-
total length	1302	-20%
length/area 1302/6.04	**215m/ Ha**	-20%



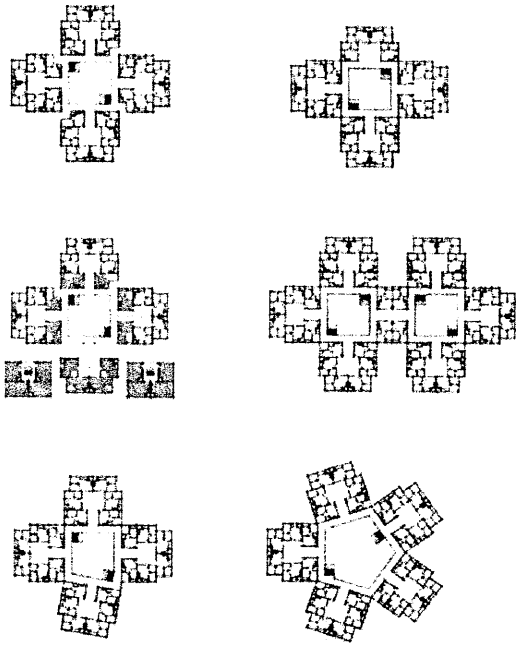
- Smokey Mountain Phase II
  1:2500

Building Assessment

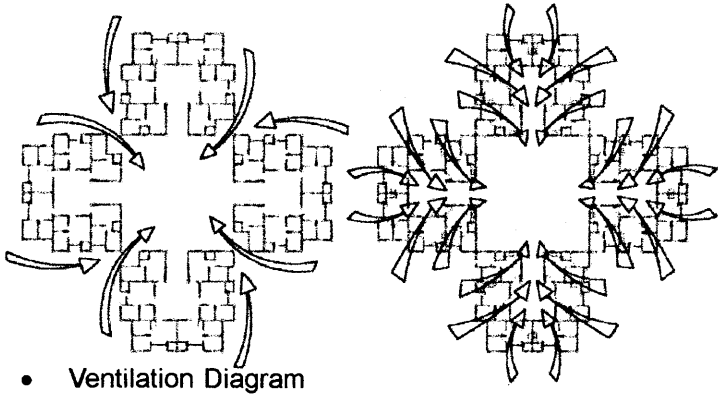
Building Design concentrated on the following objectives

Primary Building Type

- a flexible building type to fit any spaces. The building type is demonstrated in five variations.
    - the shortened leg
    - the courtyard extension, turns the interior courtyard into a public space which relates to the substructure commercial edge.
    - the conjoined building, attaches a minimum of two buildings together creating a corridor space which links the two.
    - the pivoted type allows for addressing the edges of varying types, enveloping the space that would have been wasted outside the building into the interior courtyard.
    - the multiple leg plan demonstrates the multiple versatility of the building type adding legs to the system while increasing the interior courtyard ratio at a degree using less space than adding more individual buildings, saving the interior space for the residents.
- cloistering of open spaces, to involve them in constant communal activity, as observed spaces even as entrances and circulatory spaces.
- Natural light and ventilation exposure using the chimney effect of a courtyard building.
    - this plan attempts to expose the building to natural light on all surfaces by, pulling in and out, the surface wall of the building.
    - Ventilation is developed by incorporating the courtyard space in a chimney effect drawing air from the ground floor of the building to pull air out the top of the chimney.



- Building Flexibility



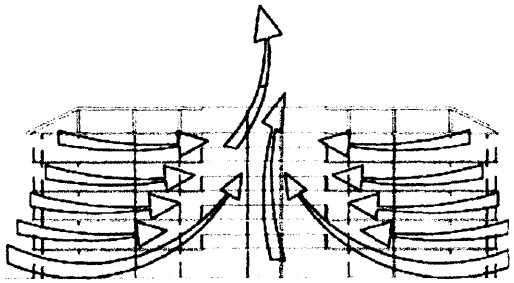
- Ventilation Diagram

- This vacuum method pulls air though the different levels of the building though the individual units and pulls it out the top out the top of the chimney.

- Circulation efficiency, taking good points of Maharlika , allowing more exposure to open spaces and reducing the number of stairs by using a mezzanine plan to get to shared vertical circulation.
- multi use ground floor commercial.
- Infil with a sub building type which will be at a maximum of three stories at interstitial spaces amongst the primary building type. This brings the buildings down to more of a pedestrian scale edge. These sub structures will house commercial units at the ground floor level to activate the community edge.

Secondary Building Type

- Uses commercial units at the ground floor to establish edges to the community
- Stackable building type using arrangements of commercial, studio or loft apartment unit types.
- Maximum three story
- Limits each level to four units.
- To be used as infil structure to the primary building type to bring the building scales down to a pedestrian level.
- Provides a common space at stair landings at each level as an extension of the units' living space.



- Ventilation Diagram

BUILDING ASSESSMENT STUDY

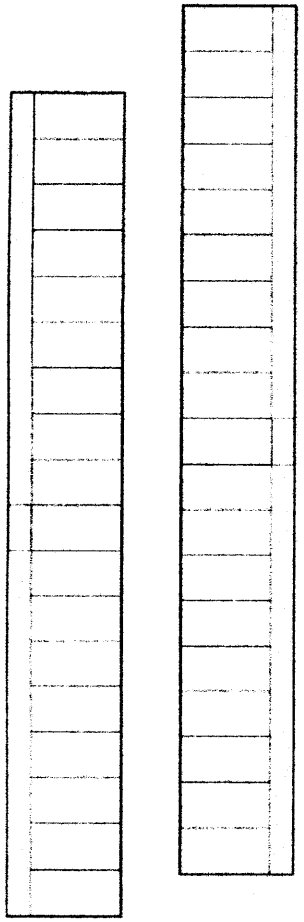
ASSESSMENT	GOVERNMENT	VITAS	VITAS@5	VITAS@6
SINGLE LOAD CORRIDOR	SINGLE LOAD CORRIDOR	SINGLE LOAD CORRIDOR	SINGLE LOAD CORRIDOR	SINGLE LOAD CORRIDOR
DOUBLE LOAD CORRIDOR	DOUBLE LOAD CORRIDOR	-	-	-
UNITS/ STAIR WELL	UNITS/ STAIR WELL	12 - 14	12 - 14	12 - 14
CORRIDOR ENCROACHMENT	-	CORRIDOR ENCROACHMENT	CORRIDOR ENCROACHMENT	CORRIDOR ENCROACHMENT
INTERSTITIAL SPACE	INTERSTITIAL SPACE	INTERSTITIAL SPACE	INTERSTITIAL SPACE	INTERSTITIAL SPACE
INT. SP ENCROACHMENT	-	INT. SP ENCROACHMENT	INT. SP ENCROACHMENT	INT. SP ENCROACHMENT
4 STORY WALK UP	4 STORY WALK UP	4 STORY WALK UP	-	-
5 STORY WALK UP	5 STORY WALK UP	-	5 STORY WALK UP	-
5 STORY WALK UP/ LOFT	5 STORY WALK UP/ LOFT	-	-	-
6 STORY WALK UP	-	-	-	6 STORY WALK UP
STREET FRONTAGE/ ENTRY	STREET FRONTAGE/ ENTRY	STREET FRONTAGE/ ENTRY	STREET FRONTAGE/ ENTRY	STREET FRONTAGE/ ENTRY
BUILDING FRONTAGE/ ENTRY	BUILDING FRONTAGE/ ENTRY	-	-	-
PARKING FRONTAGE/ENTRY	PARKING FRONTAGE/ENTRY	-	-	-
WATER TANK	WATER TANK	WATER TANK	WATER TANK	WATER TANK
CONCRETE	CONCRETE	CONCRETE	CONCRETE	CONCRETE
STEEL FRAME	STEEL FRAME	-	-	-
COMMERCIAL SPACE	COMMERCIAL SPACE	COMMERCIAL SPACE	COMMERCIAL SPACE	COMMERCIAL SPACE

NEEDED AMENITIES

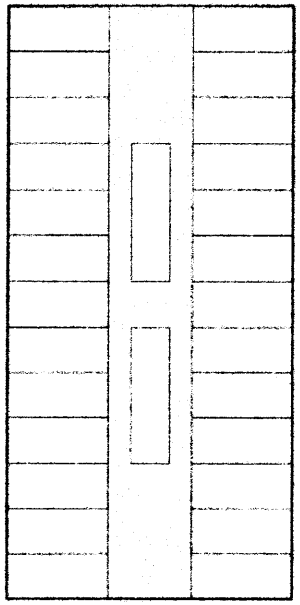
POOR AMENITIES

SMOKEY MOUNTAIN	MAHARLIKA-A	MAHARLIKA-B	MAHARLIKA-C	SMOKEY II
-	-	-	-	SINGLE LOAD CORRIDOR
DOUBLE LOAD CORRIDOR	DOUBLE LOAD CORRIDOR	DOUBLE LOAD CORRIDOR	DOUBLE LOAD CORRIDOR	DOUBLE LOAD CORRIDOR
12	6	6	6	6
-	-	-	-	-
INTERSTITIAL SPACE	INTERSTITIAL SPACE	INTERSTITIAL SPACE	INTERSTITIAL SPACE	INTERSTITIAL SPACE
-	-	-	-	-
-	-	-	-	-
	5 STORY WALK UP	5 STORY WALK UP	5 STORY WALK UP	5 STORY WALK UP
5 STORY WALK UP/ LOFT	-	-	-	5 STORY WALK UP/ LOFT
-	-	-	-	6 STORY WALK UP
STREET FRONTAGE/ ENTRY	-	-	-	STREET FRONTAGE/ ENTRY
BUILDING FRONTAGE/ ENTRY	BUILDING FRONTAGE/ ENTRY	BUILDING FRONTAGE/ ENTRY	BUILDING FRONTAGE/ ENTRY	BUILDING FRONTAGE/ ENTRY
PARKING FRONTAGE/ENTRY	PARKING FRONTAGE/ENTRY	PARKING FRONTAGE/ENTRY	PARKING FRONTAGE/ENTRY	PARKING FRONTAGE/ENTRY
WATER TANK	WATER TANK	WATER TANK	WATER TANK	WATER TANK
CONCRETE	CONCRETE	CONCRETE	CONCRETE	CONCRETE
STEEL FRAME	STEEL FRAME	STEEL FRAME	STEEL FRAME	STEEL FRAME
COMMERCIAL SPACE	COMMERCIAL SPACE	COMMERCIAL SPACE	COMMERCIAL SPACE	COMMERCIAL SPACE

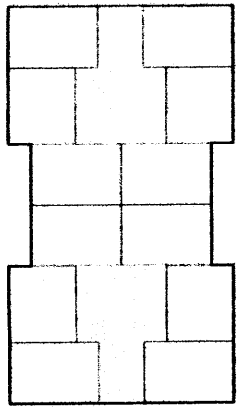
BUILDING ASSESSMENT STUDY



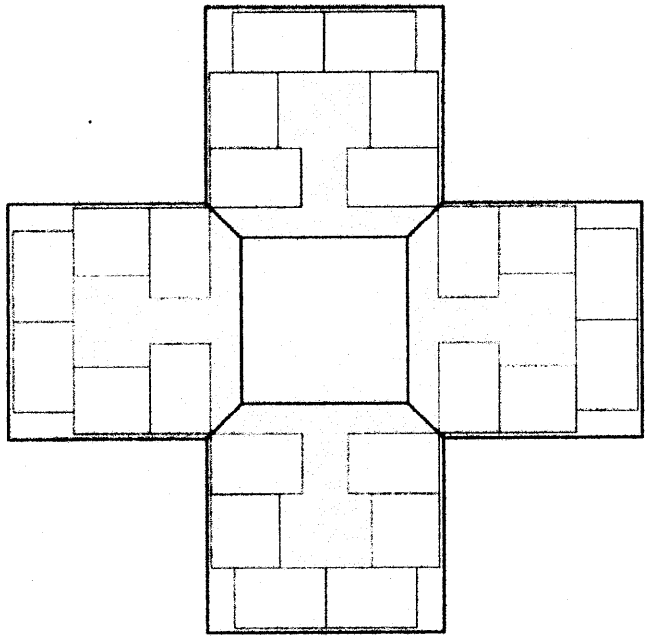
- Vitas building plan. Single loaded corridors, buildings back to back. Neglected interstitial spaces.



- Smokey Mountain Phase I building plan. Double loaded corridor. Closed ends. Two light shafts.



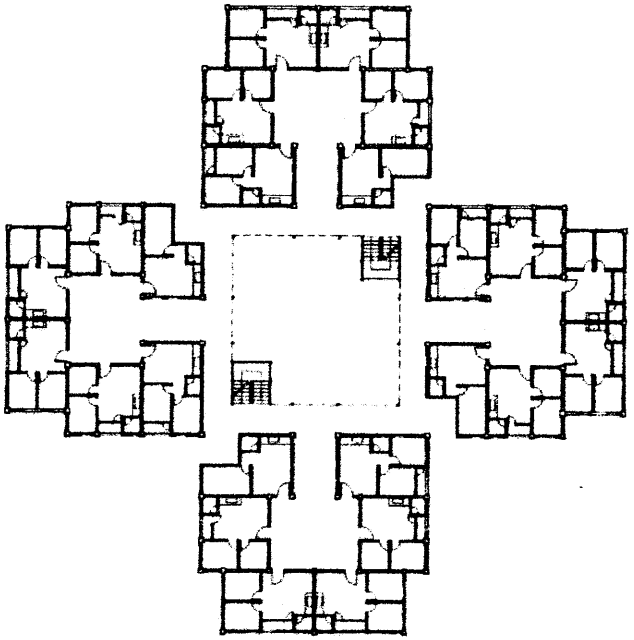
- Maharlika Village building plan. Two stair wells. Common spaces at each landing. Full exposure.



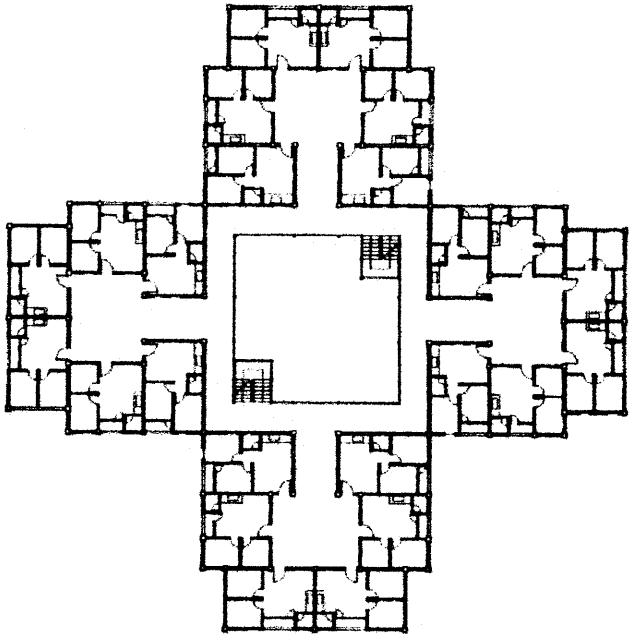
- Smokey Mountain Phase II building plan. Mezzanine, courtyard type. Common spaces. Full exposure.

1:500

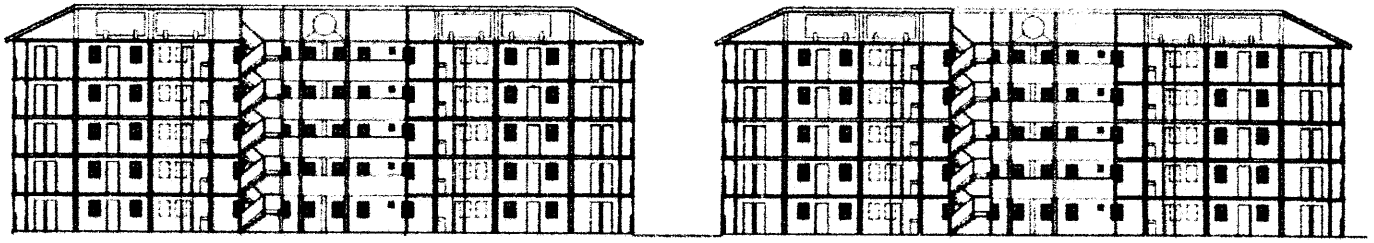
SMOKEY MOUNTAIN PHASE II BUILDING TYPES



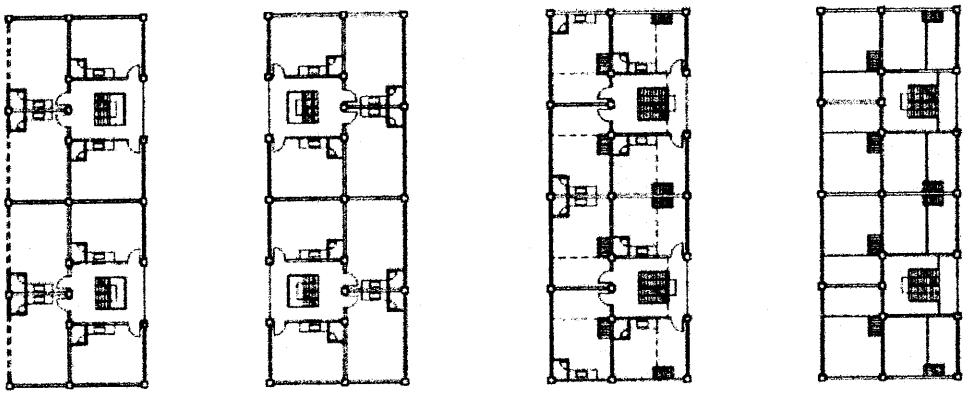
- ground floor primary building type plan. 1:500



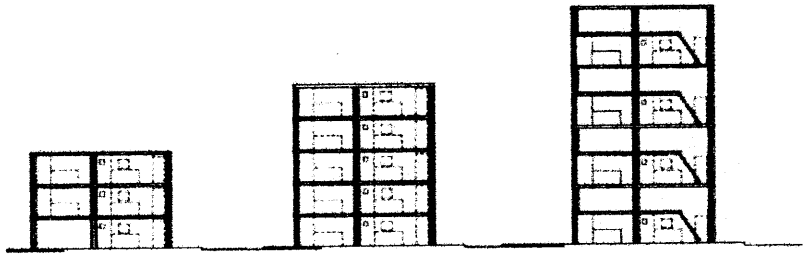
- level 2-5 primary building type plan. 1:500



- primary building type section/elevation. 1:500

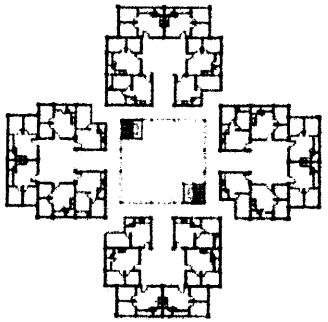


- secondary building type plans. 1:500

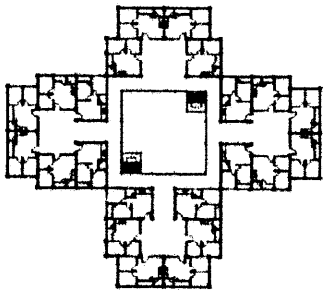


- secondary building type sections. 1:500

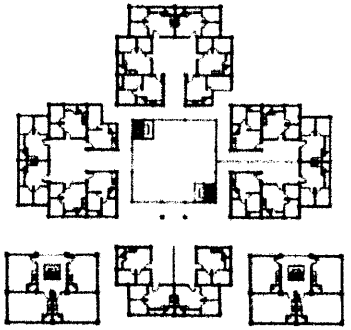
SMOKEY MOUNTAIN PHASE II
PRIMARY STRUCTURE FLEXIBILITY TYPES



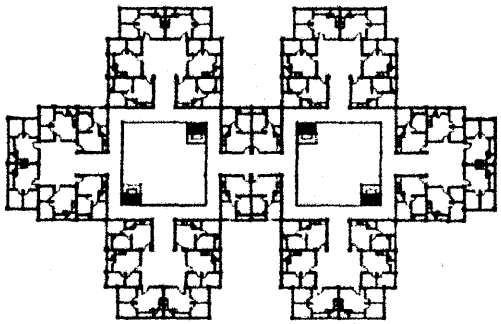
- original, primary building type plan.



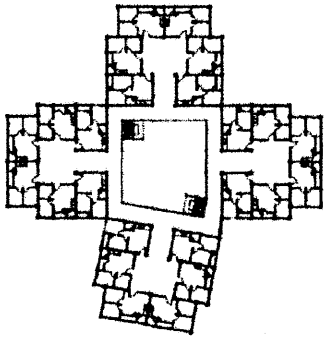
- the shortened leg enables this building type to be placed along any site boundries.



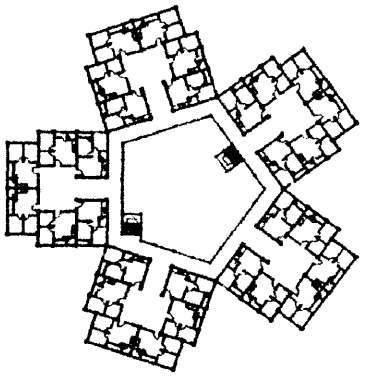
- the courtyard extension, turns the interior courtyard into a public space which relates to the substructure commercial edge.



- the conjoined building, attaches a minimum of two buildings together creating a corridor space which links the two.

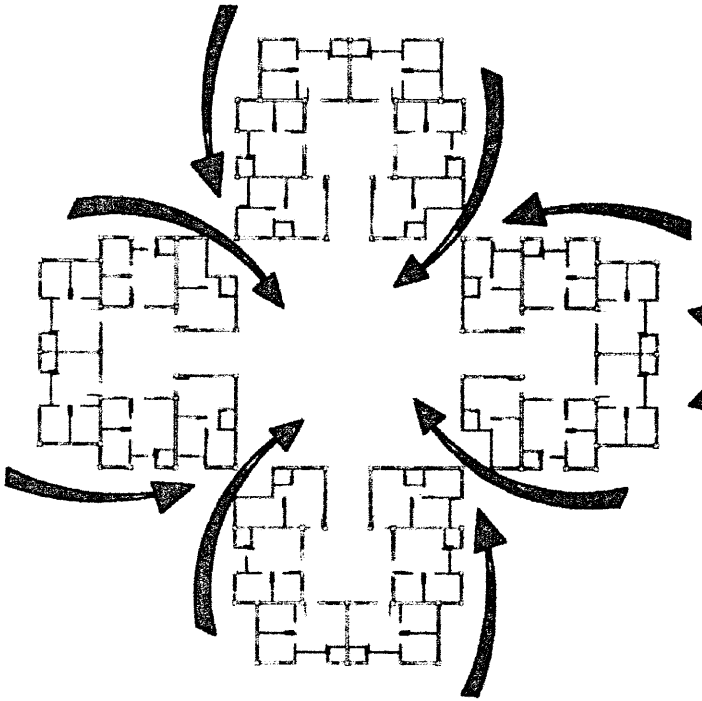


- the pivoted type allows for addressing the edges of varying types, enveloping the space that would have been wasted outside the building into the interior courtyard.

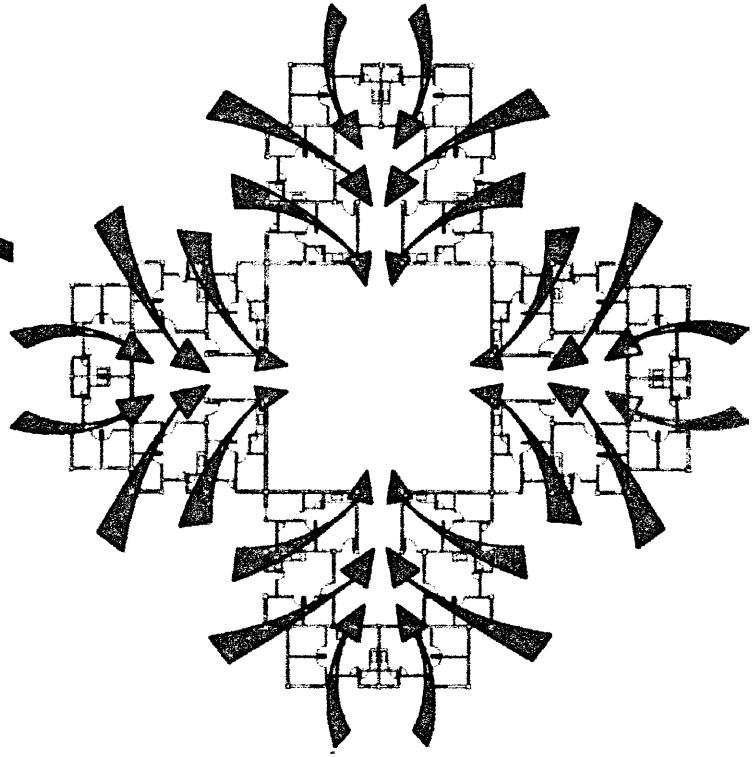


- the multiple leg plan demonstrates the multiple versatility of the building type adding legs to the system while increasing the interior courtyard ratio at a degree using less space than adding more individual buildings, saving the interior space for the residents.

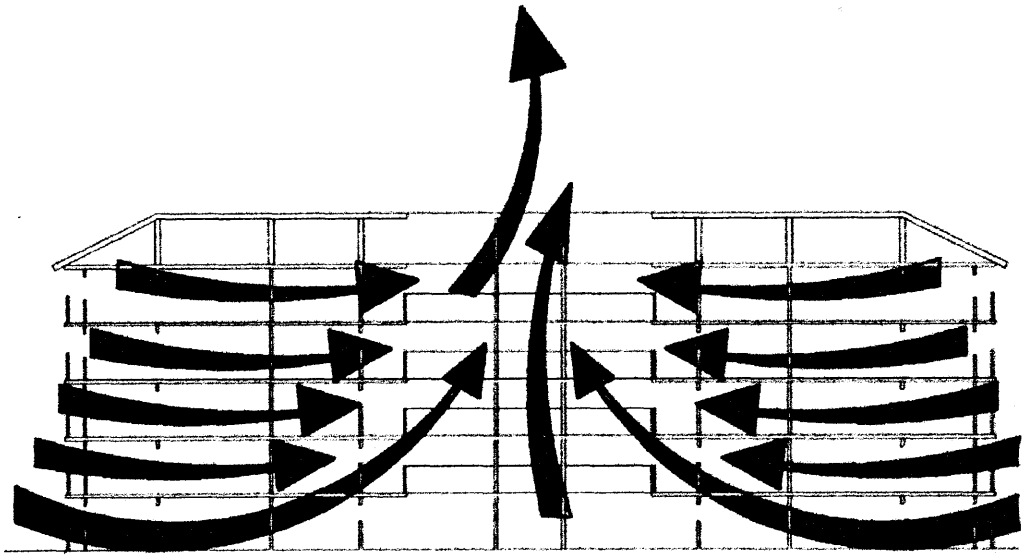
SMOKEY MOUNTAIN PHASE II
VENTILATION STUDIES



- ground floor plan ventilation diagram. pulls air in primarily from the ground floor entrances at each corner of the courtyard.



- level 2 -level 5 ventilation diagram. pulls air in through all units into the courtyard.



- section/ elevation ventilation diagram. air pulled in at ground floor rises pulling in air through all levels releasing it at the top of the court space, the chimney effect.

Unit Assessment

Unit Design Concentrated on the following objectives.

Primary Housing Type

- To cloister a common space for six units to become an extension of their living spaces.
- Increase the unit floor area
- Organize the unit plan to maximize on the living spaces.
- Provide light and ventilation to each unit and each unit space. Allowing for each unit to be exposed to the exterior skin of the building as well as the common space. This arrangement also shares the main courtyard for ventilation, the mezzanine provides opportunity to recognize neighbors at all levels as a community link through the main courtyard.
- Adds private bedrooms to define the living spaces.
- Provides commercial space at particular units.

Secondary Housing Type

- A variation of three unit layouts, commercial, studio and loft apartment.
- Increases unit area by adding loft spaces.
- Exposes each unit, and unit space, to natural light and ventilation.
- Smaller scaled family arrangement.
- Open floor plan.

UNIT ASSESSMENT STUDY

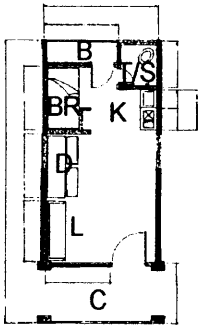
ASSESSMENT	GOVERNMENT	VITAS	VITAS@5	VITAS@6
SLEEPING AREA	SLEEPING AREA	SLEEPING AREA	SLEEPING AREA	SLEEPING AREA
LOFT	-	-	-	-
VENTILATION/ WINDOWS	VENTILATION/ WINDOWS	VENTILATION/ WINDOWS	VENTILATION/ WINDOWS	VENTILATION/ WINDOWS
PRIVATE BEDROOM	-	PRIVATE BEDROOM	PRIVATE BEDROOM	PRIVATE BEDROOM
VENTILATION/ WINDOWS	-	VENTILATION/ WINDOWS	VENTILATION/ WINDOWS	VENTILATION/ WINDOWS
2 PRIVATE BEDROOMS	-	-	-	-
BUNK BED	-	BUNK BED	BUNK BED	BUNK BED
VENT/ WINDOWS RM.1	-	-	-	-
VENT/ WINDOWS RM. 2	-	-	-	-
LIVING SPACE	LIVING SPACE	LIVING SPACE	LIVING SPACE	LIVING SPACE
LIVING SPACE WINDOW	LIVING SPACE WINDOW	LIVING SPACE WINDOW	LIVING SPACE WINDOW	LIVING SPACE WINDOW
DINING AREA	DINING AREA	DINING AREA	DINING AREA	DINING AREA
DINING SPACE	-	-	-	-
DINING AREA/SP WINDOW	-	DINING AREA/SP WINDOW	DINING AREA/SP WINDOW	DINING AREA/SP WINDOW
KITCHEN	KITCHEN	KITCHEN	KITCHEN	KITCHEN
KITCHEN WINDOW	-	KITCHEN WINDOW	KITCHEN WINDOW	KITCHEN WINDOW
COUNTER SINK	COUNTER SINK	COUNTER SINK	COUNTER SINK	COUNTER SINK
COUNTER STOVE AREA	-	COUNTER STOVE AREA	COUNTER STOVE AREA	COUNTER STOVE AREA
CLOSET SPACE	-	CLOSET SPACE	CLOSET SPACE	CLOSET SPACE
STORAGE SPACE	-	STORAGE SPACE	STORAGE SPACE	STORAGE SPACE
BALCONY	-	BALCONY	BALCONY	BALCONY
FINISHED INTERIOR	-	FINISHED INTERIOR	FINISHED INTERIOR	FINISHED INTERIOR
SHOWER/ TOILET	SHOWER/ TOILET	SHOWER/ TOILET	SHOWER/ TOILET	SHOWER/ TOILET
S/ T WINDOW/ VENTILATION	S/ T WINDOW/ VENTILATION	S/ T WINDOW/ VENTILATION	S/ T WINDOW/ VENTILATION	S/ T WINDOW/ VENTILATION
NATURAL LIGHT	-	NATURAL LIGHT	NATURAL LIGHT	NATURAL LIGHT
COMMERCIAL SPACE	COMMERCIAL SPACE	COMMERCIAL SPACE	COMMERCIAL SPACE	COMMERCIAL SPACE

NEEDED AMENITIES

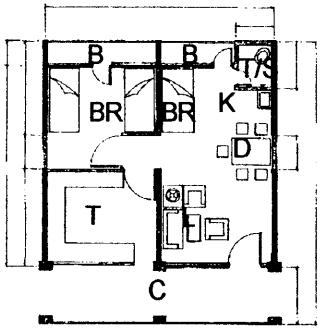
POOR AMENITIES

SMOKEY MOUNTAIN	MAHARLIKA-A	MAHARLIKA-B	MAHARLIKA-C	SMOKEY II
SLEEPING AREA	SLEEPING AREA	SLEEPING AREA	SLEEPING AREA	SLEEPING AREA
LOFT	-	-	-	LOFT
VENTILATION/ WINDOWS	VENTILATION/ WINDOWS	VENTILATION/ WINDOWS	VENTILATION/ WINDOWS	VENTILATION/ WINDOWS
PRIVATE BEDROOM	PRIVATE BEDROOM	PRIVATE BEDROOM	PRIVATE BEDROOM	PRIVATE BEDROOM
-	VENTILATION/ WINDOWS	VENTILATION/ WINDOWS	VENTILATION/ WINDOWS	VENTILATION/ WINDOWS
-	2 PRIVATE BEDROOMS	2 PRIVATE BEDROOMS	2 PRIVATE BEDROOMS	2 PRIVATE BEDROOMS
-	-	-	-	BUNK BED
-	VENT/ WINDOWS RM.1	VENT/ WINDOWS RM.1	VENT/ WINDOWS RM.1	VENT/ WINDOWS RM.1
-	VENT/ WINDOWS RM. 2	VENT/ WINDOWS RM. 2	VENT/ WINDOWS RM. 2	VENT/ WINDOWS RM. 2
LIVING SPACE	LIVING SPACE	LIVING SPACE	LIVING SPACE	LIVING SPACE
LIVING SPACE WINDOW	LIVING SPACE WINDOW	LIVING SPACE WINDOW	LIVING SPACE WINDOW	LIVING SPACE WINDOW
DINING AREA	-	-	-	-
-	DINING SPACE	DINING SPACE	DINING SPACE	DINING SPACE
DINING AREA/SP WINDOW	DINING AREA/SP WINDOW	DINING AREA/SP WINDOW	DINING AREA/SP WINDOW	DINING AREA/SP WINDOW
KITCHEN	KITCHEN	KITCHEN	KITCHEN	KITCHEN
KITCHEN WINDOW	KITCHEN WINDOW	KITCHEN WINDOW	KITCHEN WINDOW	KITCHEN WINDOW
COUNTER SINK	COUNTER SINK	COUNTER SINK	COUNTER SINK	COUNTER SINK
COUNTER STOVE AREA	-	-	-	COUNTER STOVE AREA
CLOSET SPACE	CLOSET SPACE	CLOSET SPACE	CLOSET SPACE	CLOSET SPACE
STORAGE SPACE	-	-	-	STORAGE SPACE
BALCONY	BALCONY	BALCONY	BALCONY	BALCONY
FINISHED INTERIOR	-	-	-	FINISHED INTERIOR
SHOWER/ TOILET	SHOWER/ TOILET	SHOWER/ TOILET	SHOWER/ TOILET	SHOWER/ TOILET
S/ T WINDOW/ VENTILATION	S/ T WINDOW/ VENTILATION	S/ T WINDOW/ VENTILATION	S/ T WINDOW/ VENTILATION	S/ T WINDOW/ VENTILATION
NATURAL LIGHT	NATURAL LIGHT	NATURAL LIGHT	NATURAL LIGHT	NATURAL LIGHT
COMMERCIAL SPACE	COMMERCIAL SPACE	COMMERCIAL SPACE	COMMERCIAL SPACE	COMMERCIAL SPACE

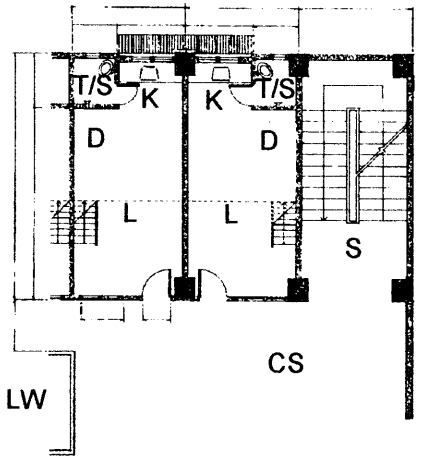
UNIT ASSESSMENT STUDY



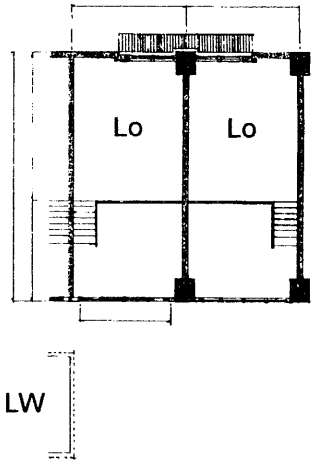
VITAS
MEDIUM RISE
HOUSING PROJECT
TONDO, MANILA
1 bay unit 1m: 200m



VITAS
MEDIUM RISE
HOUSING PROJECT
TONDO, MANILA
2 bay unit 1m: 200m

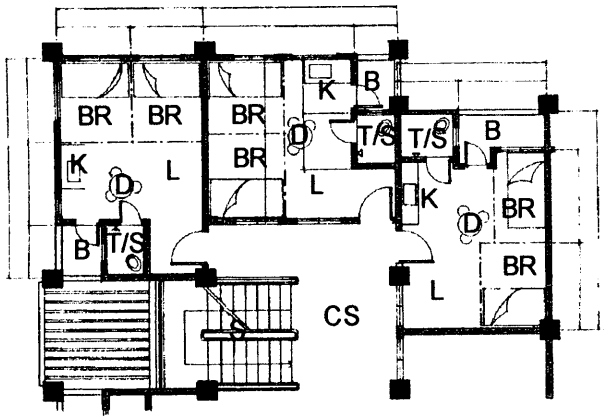


SMOKEY MOUNTAIN
MEDIUM RISE
HOUSING PROJECT
TONDO, MANILA
typincal units 1m: 200m

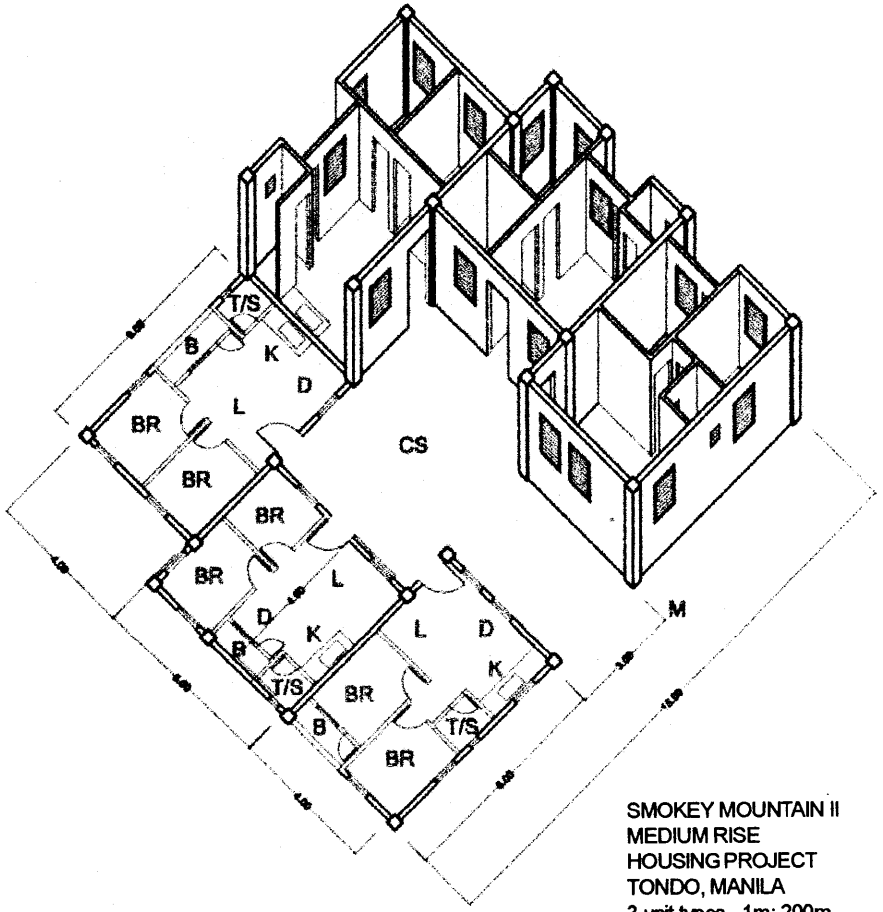


SMOKEY MOUNTAIN
MEDIUM RISE
HOUSING PROJECT
TONDO, MANILA
unit lofts 1m: 200m

M	mezzanine
CS	common space
L	living space
D	dining space
K	kitchen
T/S	toilet/ shower
B	balcony
BR	bed room
Lo	loft
C	corridor
S	stairwell
T	tindahan, store
LW	light well

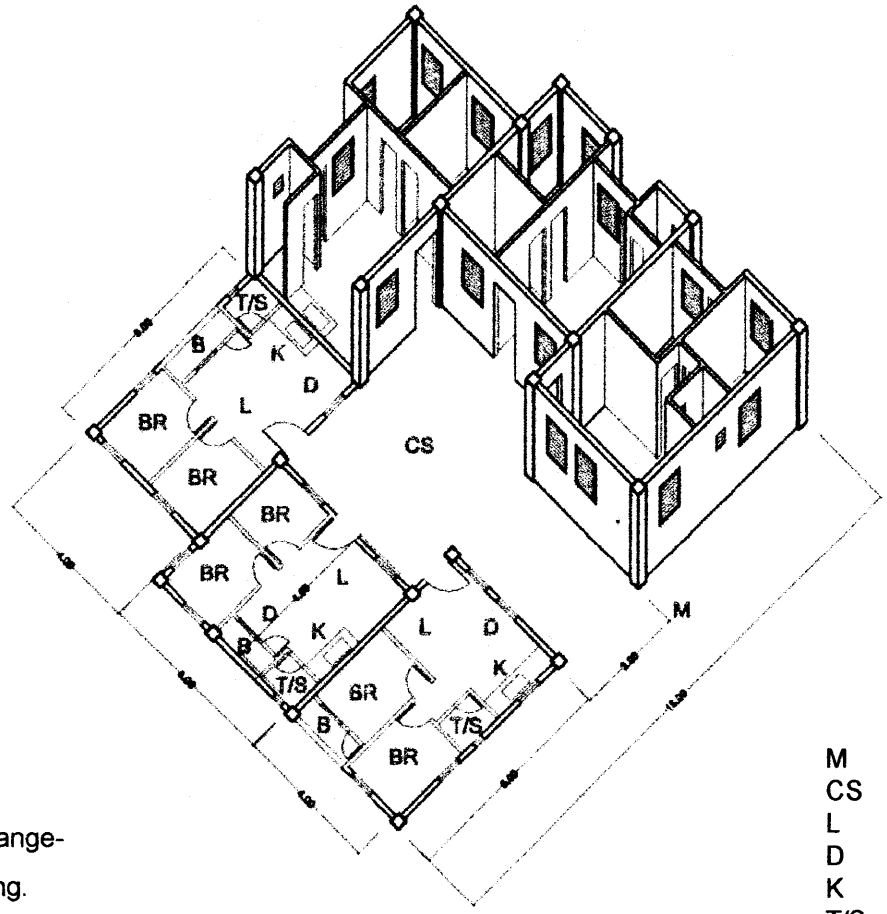


MAHARLIKA
MEDIUM RISE
HOUSING PROJECT
TAGUIG, MANILA
3 unit types 1m: 200m



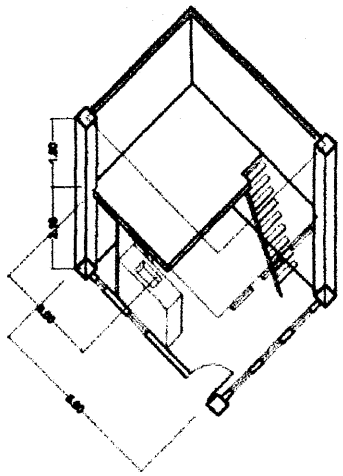
SMOKEY MOUNTAIN II
MEDIUM RISE
HOUSING PROJECT
TONDO, MANILA
3 unit types 1m: 200m

SMOKEY MOUNTAIN PHASE II
UNIT DESIGNS

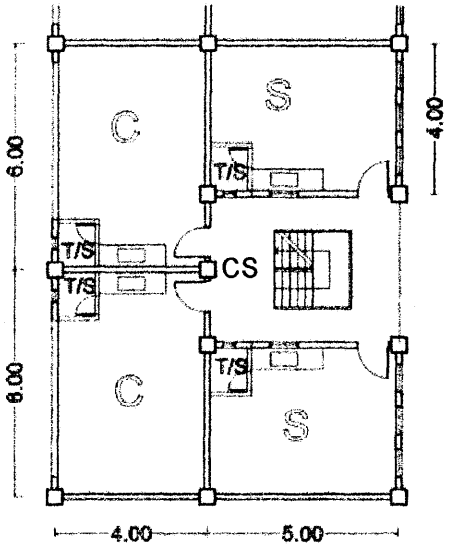


- primary unit type, cloister arrangement of 6 units for typical wing. each unit has a living, dining, and kitchen space, a toilet/ shower unit, a balcony, and two bedrooms.

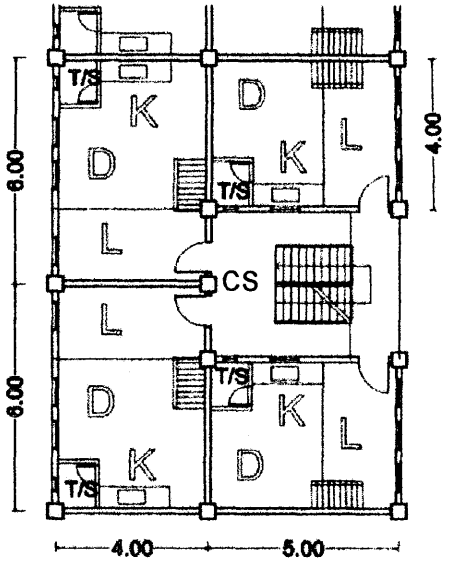
M	mezzanine
CS	common space
L	living space
D	dining space
K	kitchen
T/S	toilet/ shower
B	balcony
BR	bed room
C	commercial unit
S	studio unit
Lo	loft



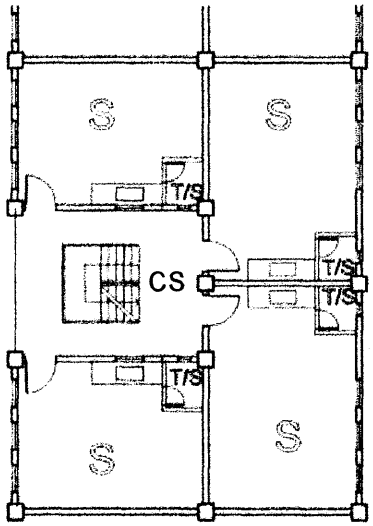
- secondary building type, apartment loft



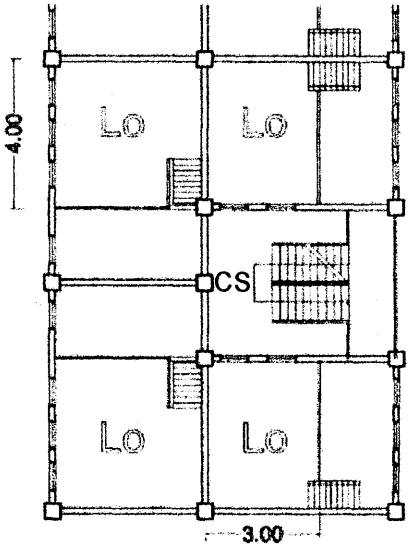
- secondary type, commercial unit



- secondary type, apartment unit



- secondary type, studio unit



- secondary type, loft space

The Smokey Mountain Medium Rise Housing Project Phase II proposal implemented assessments of the three existing projects; Vitas, Smokey Mountain Phase I, and Maharlika Village, in the development of new public housing standards in the aspects of land use, site planning, building design and unit design. These guidelines are meant to make improvements on future public housing projects based on the new data and designs. This study developed objectives for future communities to have a more desirable, self sufficient, active and, in short, a more livable environment with public amenities which provide a means of livelihood.

With continued investigation into these new objectives of public housing communities, this project can further it's potential reality by;

- Demonstrating it's flexibility within other site boundaries.
- Test the building ventilation chimney effect through wind tunnel studies to propose proper proportions which will maximize the ventilating effects of the primary, courtyard, housing type.
- Devise actual construction costs to demonstrate an actual economical situation which is the most fitting to the requirements of the Philippine National Housing Authority.

The National Housing Authority of the Philippines cooperated with my investigations under the agreement that they would receive rights to this research. This project will be sent, or personally presented, to the NHA, to bring to their attention the possibilities of improving their public housing systems, by recognizing particular social and economic needs of the residents, and providing a means of livelihood, in the form of adding public amenities within the community, to decrease the existing problems of distance, time, space and welfare..

Glossary

angkan	of the same ancestral lineage
estero	river
higaan	sleeping area
jeepney	open air taxi
kainan	dining area
kamag-anak	extended family, primary cousins and relatives
kasilyas:	bathroom
kusina	kitchen
mag-anak	immediate family, parents and siblings.
sala	living room
sari sari store	variety store
shanties	make shift squatter housing, usually made of a variety of materials.
slum	house unfit for human habitation. crowded and squalid district in a city.
squatter	individuals who occupy lands or housing units without the express consent of the owner.
tindahan	store
tulugan	bed room

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