

Access to Land and Location of Informal Settlements in Tacloban City, Philippines

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Abstract: *Growth of informal settlements is a common characteristic of the towns and cities of most developing countries. Slums and squatter settlements are the dominant forms of informal settlements. Land is very limited and urban land is scarcer. Access to land is one of the most difficult factors for the urban poor and inaccessibility to land mostly contributes to squatting on vacant urban lands. The Philippines is rapidly urbanizing and its urban development is severely featured by the continuous and rapid rise of informal settlements. Informal settlement problem is considered a national malady in the Philippines. Informal settlements are growing mostly in vacant government lands along coasts, riverbanks and creeks in the Philippines. This paper tries to relate between access to land and location of informal settlements in the context of Tacloban City, Philippines. Tacloban City is a provincial capital and a rapidly growing urban center due to its role in terms of economy, politics, administration and culture. Informal settlements exist all over the City of Tacloban. Most of the informal settlements are located along shorelines and riverbanks, which are designated as danger areas. Informal settlers find their shelter illegally occupying publicly and privately owned lands. Informal settlements located in danger areas are developed mostly in public lands and are within the city proper and near the central business district (CBD). Informal settlements located in danger and non-danger areas are characterized by poor housing, lack of tenure, inadequate basic services, underdeveloped basic infrastructure and inadequate income. The paper intends to present the implications of location in informal settlements in Tacloban City, Philippines.*

Key Words: *Informal settlement, location, access to land, case study, Tacloban City, Philippines.*

Introduction

Growth of informal settlements is a common characteristic of the towns and cities of most developing countries. Informal settlement problem is a national malady in the Philippines (Santiago, 1992). The Philippines is rapidly urbanizing and its urban development is severely featured by continuous and rapid growth of informal settlements. The squatter population of the country appears to be the largest among the ASEAN (Association of South East Asian Nations) countries

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(Santiago, 1992). This problem is caused, among others, by unregulated urbanization. The slum and squatter manifests the serious housing problem of the country, which is caused by the confluence of several factors such as poverty, high rate of population increase, absence of a comprehensive approach to urban development, land access problems, inefficient financing system, poor organizational structure and weak local governments (Santiago, 1992). In the Philippines, informal settlements develop in once vacant land, along sea shore, river banks, railway tracks, on pavements, garbage dumps, mountain side, highways, roads and reclaimed land earmarked for development projects. Most of these informal settlements are located on danger areas and environmentally sensitive areas, the land is owned by the government. In almost all key policies on shelter, the location of informal settlements is concerned and resettlement programs proposed for informal settlements located in danger areas.

In this paper, the unplanned settlements located on government or private lands with or without legal basis were used as informal settlements.

Location is an aspect of informal settlement, which is very closely related to other aspects like housing, basic infrastructure and services. Where as quality of life depends on the adequate shelter, basic services and infrastructure, the slum and squatter dwellers live in substandard living condition. Not only they live in congested, unhygienic and crowded houses, these settlements even lack basic urban amenities, social infrastructure and services. Location has direct or indirect impacts on quality of life in the informal settlements. Whereas inaccessibility of the urban poor to land and housing cause rise in formal settlements due to rapid urbanization, poverty and rural-urban migration, location of informal settlements in danger area in the Philippines is a serious concern. Most of these settlements are located on illegally occupied publicly or privately owned land. The informal settlers belong to the poor section of the society, and since they cannot afford to have formal housing and access to land, they accommodate themselves in locations, which are mostly not suitable for living and consequently lack investments in their house, improvements in basic services and infrastructures, and prone to disasters. Besides the impact goes beyond the settlement boundary from scenic, environmental, elite and administrators point of view. For this paper, location was defined as the land on which the informal settlements developed is danger area or non-danger area in terms of location along shoreline, riverbanks, creeks, garbage dumps.

Land is the most important factor in human life as it is directly or indirectly related to all human needs including space for living, for production and for breathing. Land is a very limited and precious resource in most parts of the world. Urban land is scarcer. Land is the most critical issue in urban areas of most developing countries. Informal settlement growth has been observed as a major land use problem in many of the developing countries. A significant majority of its urban population is rapidly being marginalized from getting

legitimate access to land for residential purposes. The far reaching land values due to limited supply, high demand and speculative market, in couple with uneven and skewed distribution of land ownership and mismanagement and increasing poverty cause severe housing problem leading to phenomenal growth of informal settlements in urban landscape.

Informal settlements contain a huge portion of urban population, even up to half the population of towns and cities live and work in these over-crowded and under-serviced, autonomous, unplanned, unregulated or dysfunctional settlements. The inhabitants of these low-income settlements are severely affected by sub-standard housing, deprivation of poverty, social insecurity and environmental degradation.

The common fabric of the urban landscape is the continuous and mushrooming growth of squatter settlements. Informal settlers belong to the urban poor and even the poorest of the poor in urban economy. The access to land is the most difficult thing for the urban poor and the inaccessibility to land mostly contributes to squatting on vacant urban land in the Philippines, located most often in danger areas like riverbanks, shorelines, creeks, garbage dumps etc. Slums and squatter settlements are common forms of informal settlements. Although the nature and extent of informal settlements varies from one to another and from country to country, this type of urban problem is common to cities of both developed and developing countries.

METHODS AND MATERIALS

This paper is based on the findings of survey, non-participant observations, key informant interviews and review of secondary literature available in form of reports, articles, papers and studies. The survey was carried out on 102 sample households in six selected sample informal settlements in Tacloban City.

RESULTS AND DISCUSSION

The Phenomenon of Informal Settlement

The term 'informal settlement' has no unique definition. The degree and definition varies from one local authority to another and one country to another (Payne, 2001). In general, informal settlement designates a very poor area or settlement in the city or towns. Slum, squatter settlement, marginal or informal settlement is often used interchangeably (UN ESCAP, 1987). Slum and squatter settlements are the dominant forms of low-income settlements in most of the developing countries. Informal settlements are developed when people build on land they have no legal tenure or by not conforming to planning, registration and/or building regulations of the respective local authorities in which they are located (Abbot, 2001). Informal settlements is defined as "Spontaneous, unplanned or unregulated sub-markets, which commonly attract the general label of self-help housing, slums, or squatters" (Payne 1988). Cities Alliance regards informal settlements as unplanned and under-served neighborhoods typically

settled by squatters without legal recognition or rights. Whereas squatters illegally reside on land, slum residents have legal access to the land through, for example, ownership or lease. A slum is broadly defined as dilapidated shelter. Furthermore, an informal settlement can, for example, be an illegal subdivision or squatter settlement (<http://www.unhabitat.org/hd/hdv7n3/12.htm> downloaded on April 6, 2003).

A squatter settlement is defined as a residential area, which is developed without legal claims to the land and/or permission from the concerned authorities to build; as a result of their illegal or semi-legal status, infrastructure and services are usually inadequate (<http://www.gdrc.org/uem/squatters/define-squatter.html> downloaded on April 5, 2003). Due to its inherent "non-legal" status, has services and infrastructure - both network and social infrastructure, like water supply, sanitation, electricity, roads and drainage; schools, health centers, market places etc below the "adequate" or minimum levels. Most of squatter settlement households belong to the lower income group, either working as wage labor or in various informal sector enterprises. On an average, most earn wages at or near the minimum wage level. The key characteristic that delineates a squatter settlement is its lack of ownership of the land parcel on which they have built their house. These could be vacant government or public land, or marginal land parcels like railway setbacks or "undesirable" marshy land.

Slums and squatter areas can be distinguished. Whereas slums are semi-permanent, semi-legally structured structures on rental land, squatter settlements are developed with legal claim or permission from the owner. Thus informal settlements can be both illegal or semi-legal residential areas with substandard living conditions lacking adequate housing, infrastructure and services. Definition of an informal settlement varies widely from country to country and depends on a variety of defining parameters. Therefore there is no concrete definition of squatter settlement as qualifying definitions, characteristics, quality and examples of squatter settlements vary widely. Although informal settlements have various names (local/colloquial) in different regions such as Favelas (Brazil), Bidonvilles (France and France-speaking Africa), Kampung (Indonesia), Barriadas (Peru), Kachi Abadis (Pakistan), Shanty Town (English speaking Africa), Ranchos (Venezuela), Callampas, Campamentos (Chile), Villas Misarias (Argentina), Colonias Letarias (Mexico), Kevettits (Myanmar), Gecekondur (Turkey), Bastei (Bangladesh), Juggi-johmpri (India) and so on, but share the same miserable living conditions. In the Philippines, the word "Barong-Barong" is used to call informal settlements as squatter area (barong barong in Filipino language).

Rise and Extent of Informal Settlements in Tacloban City

Tacloban City – is one of the largest cities in the Region VII of the Philippines. Tacloban City, which is the capital of the Province of Leyte, is a growing city in the Region 8 (Eastern Visayas) (Figure 1). It is 360 miles southwest of Manila.

Its geo-strategic location contributes to become regional center, provincial capital and center of trade, commerce and industry, which leads to continuous population growth, urbanization and rise of informal settlements. Tacloban City is experiencing higher urbanization rate compared to other cities for being the provincial capital, regional center for trade, commerce, industry, education, transport and communications. In terms of population, Tacloban City is the most populated city followed by Ormoc City. The PPDO: PPFP 2000-2009 estimated by the year 2009, Tacloban city will have 13.7 percent of the total provincial population. During 1990-1995, the population growth rate was 3.84 percent and annual urban population growth during 1990-2000 was 4.53% (Table 1). According to the 1995 Census, the urban population accounted to 90.76 percent compared to rural population of 9.24 percent of the total population. According to Provincial Physical Framework Plan 2000-2009, urban population change during 1995-2009 in Tacloban City is estimated 66.86 percent (PPDO: PPFP 2000-2009). As of 2000, the population growth rate is 1.4% (Tacloban City Profile for 2001).

Table 1: Population Growth of Tacloban City

Census Year	Population Size	Urban Population
1995	167310	151846
2000	178639	163695
2005	243876 (Projected)	221335 (Projected)

Source: NSO quoted from CPDO: CDP for 1998-2007, Vol. 3 and Tacloban City Profile for 2001

Informal settlements are growing in vacant government lots along coasts, riverbanks and creeks. Proliferation of informal settlements is aggravated by the rapid increase in population and consequently growing housing demand (CPDO: CDP for 1998-2007, Vol.3). Informal settlements are spread all over the City of Tacloban. Due to the city's growth due to regional headquarter, provincial capital, agglomeration economies, urbanization along with industrialization, informal settlement is a serious problem of the City. Squatter settlements along river and seashore, which are designated danger area is a typical picture of informal settlements in Tacloban City. The Comprehensive Development Plan identified the extent of the informal settlement, which are characterized by high density, inadequate basic services and infrastructure (roads, electricity, water supply, drainage, garbage disposal, sanitation etc) and poverty (CPDO: CDP for 2000- 2009 Vol.1).

The city lacks accurate statistics on informal settlements and land area occupied by the informal settlers. Out of 138 barangays, 62 barangays are with informal settlements. But not all settlement has big number; some barangays has several or few squatter families (ranging from 1 family to 857 families). Some squatter areas are resettled and land is given for use. Both private and public land

squatted, there is no accurate data on private land squatter areas. There is no survey data on number of settlers. Out of 13119 squatter families, 6311 on private land and 6166 families on public land (CPDO). According to key informant interview, there is no accurate survey data and this data is based on estimation accounting 10% per barangay population is informal settlers. Even the NSO statistics defining lot occupancy without the consent of the owner represent under-enumeration since households are stated in the 2000 Census (NSO, 2000).

Location of informal settlements indicates socioeconomic determinant of land use. Most of the informal settlements are located in public land but also on private land. The largest amount of the land occupied by informal settlers is public, but also private land is affected. It is observed that the occupants pay rent formerly and still some pay, others do not pay either may be for unclear reasons or change of ownership and pending cases (Straub, 2002). Locations of the informal settlements are mostly on riverbanks, shorelines, creeks, which are designated as danger areas since these are along shoreline, riverbanks, creeks and garbage dumps. As of 1997, Tacloban City has 14,202 informal settlers, located in 37 barangays (CPDO: CDP for 2000-2009, Vol. 1). About 84% of informal settlers (make shift dwelling and no secure land tenure) of 14,202 informal settlers along the coasts of Cancabato Bay and Panalaron Bay (Figure 2). Many are at the banks of Mangonbangon River and Lirang Creek. The number and geographical distribution is presented in Table 2. From the data it is revealed that 38 percent of the total population in 37 barangays are informal settlers. Surprisingly all these informal settlements are in the city proper.

Most of the barangays along seashore and riverbanks are dominated with informal settlements since the government owns the land and these locations are danger areas. These locations are preferred because these are closer to downtown or central business district (CBD), which offer livelihood opportunities for the informal settlers and reduced travel time and expenses for transportation to livelihood activities, which are reveled in the survey under this study.

Table 2: Informal Settlements Population in Tacloban City by Location as of 1997

Serial	Location	Total Populati on	Informal Settlement Population	Non - Informal Settlement Population	% of Informal Settlement Population	% of Non - Informal Settlement Population
A. Along the Sea Coast						
Cancabato Bay						
1	Barangay 25	2016	1209	807	60	40
2	Barangay 31	619	402	217	65	35
3	Barangay35-A	643	321	322	50	50
4	Barangay 48	532	292	240	55	45
5	Barangay 48	646	355	291	55	45
6	Barangay 51	548	301	247	55	45
7	Barangay 52	1580	316	1264	20	80

Serial	Location	Total Populati on	Informal Settlement Population	Non - Informal Settlement Population	% of Informal Settlement Population	% of Non - Informal Settlement Population
8	Barangay 54	737	147	590	20	80
9	Barangay54-A	713	142	571	20	80
10	Barangay56-A	520	104	416	20	80
11	Barangay 58	1075	215	860	20	80
12	Barangay60-A	1056	633	423	60	40
13	Barangay 61	924	92	832	10	90
14	Barangay 75	597	29	568	5	95
15	Barangay83-A	1469	44	1425	3	97
Sub-Total						4602
Panalaron Bay						
16	Barangay 37	2988	1790	1198	60	40
17	Barangay36-A	838	502	336	60	40
18	Barangay 65	996	547	449	55	45
19	Barangay 66	1269	698	571	55	45
20	Barangay66-A	1180	649	531	55	45
21	Barangay 67	970	533	437	55	45
22	Barangay 68	1942	1068	874	55	45
23	Barangay 69	1778	977	801	55	45
24	Barangay 70	965	525	440	54	46
Sub Total						7289
B. Along Riverbanks						
25	Barangay 39	2472	274	2198	11	89
26	Barangay 42	947	568	379	60	40
27	Barangay42-A	1037	674	363	65	35
28	Barangay 43	605	60	545	10	90
29	Barangay43-A	986	197	789	20	80
30	Barangay 44	420	42	378	10	90
31	Barangay44-A	279	27	252	10	90
32	Barangay 45	283	10	273	4	96
33	Barangay 54	737	36	701	5	95
34	Barangay54-A	713	35	678	5	95
Sub Total						1923
C. Other Areas						
35	Barangay 2	859	42	817	5	95
36	Barangay 6	1067	146	921	14	86
37	Barangay 6-A	307	200	107	65	35
Sub Total						388
TO TAL		37313	14202	23111	38	62

Source: CPD: CDP for 2000-1009, Vol. 3

Nature and Characteristics of Informal settlements located in danger areas and non-danger areas

Most of the informal settlements in Tacloban City are located on danger areas like riverbanks, creeks and shorelines. According to the survey, 67.5 percent of the informal settlement population is located in danger area and 32.5 in non-danger area. Keeping in mind the factors like rent-free on government land, close proximity to the place of work and transport cost, a large number of people have settled themselves on the danger areas i.e., along shoreline and riverbanks. Most informal settlements are developed on public land since riverbanks, creeks and shorelines are considered public lands while on private it is very few in terms of per barangays (urban village). The study revealed that 90.2 percent of the informal settlers are located on public land. As the public land like shoreline, creek and river, the informal settlement size is bigger and the informal settlers live in threat of eviction from government. Because of their tenure insecurity, naturally squatters are only prepared to make minimum investments in the construction or maintenance of their dwellings and other improvements on land.

It is revealed from the survey that the primary reason for migration of about 63 percent households is economic (to find a job or employment opportunities) and 37 percent non-economic (education purpose, 8 marriage/relative's/friends' influence, family feud, landlessness, low income, NPA rebels in the place of origin) (Table 6.8). This explains the regional disparity in terms of poverty, and employment situation in urban centers of neighboring provinces (Table 3).

In Tacloban City, most of informal settler occupants are wage laborers/carpenters/construction workers, small business/petty traders/vendors, fishermen, and drivers/transport workers. Of the total population, about 31 percent are primarily engaged in vending/sari-sari store/small business, followed by 22 percent in wage labor/skilled labor/carpenter/construction workers, about 16 percent in private firm/private employment and 10 percent in fishing Table 4). About 6.2 percent of the total working population are having secondary occupation. Among them, about 38 percent are engaged in small business like vending, about 18 percent in wage labor and 15 percent in fishing. The significant number of occupation in fishing indicates the presence of seas and rivers potential for fishing surrounding the city. Small business as primary and secondary occupation, 39.6 percent and 47.8 percent are found in danger area against 14.3 percent and 18.2 percent in non-danger area respectively (Table 4).

Table 3: Primary Reason of Migration by Location

Primary Reason of Migration	Location of Informal Settlements		Total (N = 102)
	Non-Danger Area (N = 32)	Danger Area (N = 70)	
Job/Livelihood/Employment Opportunities	56.3%	65.7%	62.7%
Education of the Household Head/Children/Grand Children	15.6%	10.0%	11.8%
Marriage/Relatives' influence or arrangement	6.3%	10.0%	8.8%
Others (broken family/landless/NPA rebels/Death of husband)	21.9%	14.3%	16.7%

Table 4: Occupation of Household Heads by Location

Occupation Type	Location				Total (N = 102)	
	Non-Danger Area (N = 32)		Danger Area (N = 70)			
	Primary	Secondary	Primary	Secondary	Primary	Secondary
None	15.6%	65.6%	7.1%	74.3%	9.8%	71.6%
Small Business	3.1%	3.1%	25.7%	11.4%	18.6%	8.8%
Wage/Skilled Labor	40.6%	9.4%	22.9%	4.3%	28.4%	5.9%
Jeep/Bus/Truck Driver	3.1%	3.1%	4.3%		3.9%	1.0%
Pedicabs/Tricycle Driver	6.3%	3.1%	5.7%	2.9%	5.9%	2.9%
Government Office Staff	3.1%	3.1%	2.9%	1.4%	2.9%	2.0%
Private Employee	6.3%		11.4%		9.8%	
Farming/Fishing	15.6%	3.1%	12.9%	4.3%	13.7%	5.9%
Others	6.3%	9.4%	7.1%	1.4%	6.9%	2.0%

Informal settlers have inadequate income (Table 5). Majority of the informal settlers are low -income earners and have no fixed or regular income. About 50 percent of the household's monthly income is 5000 pesos and below. Many of them are either unemployed or under employed. About 52 percent of the informal settlers are unemployed. Most of the informal settlers are informal sector occupants. Their occupation includes vending, fishing and wage labor etc. In order to find their livelihood, most of the informal settlers squat land in the city proper as they find space along shoreline and riverbanks. Since majority of the residents of informal settlements have very low income, it is one major factor that force them to live in miserable conditions.

Although more than 85% of households in danger and non-danger area own housing units, most of the dwellings are built of light materials (Table 6). But the survey found that strong built materials was used for construction of housing structures in danger area, however, many of the housing units are inadequate in terms of floor size, congestion, and number of rooms. The dwellings on the

danger zone or developed inside sea or river are worst and can be washed away with heavy rain and flood and typhoons and also prone to other environmental risks.

Table 5: Households by Number of Income Earning Member by Location

Monthly Household Income (Peso)**	Location of Informal Settlements		Total
	Non-Danger Area	Danger Area	
	(N = 32)	(N = 70)	(N = 102)
< 1000	6.3%	1.4%	2.9%
1001 – 3000	12.5%	18.6%	16.7%
3001 – 5000	28.1%	27.1%	27.5%
5001 – 8000	28.1%	30.0%	29.4%
> 8000	25.0%	22.9%	23.5%

Table 6: House Occupancy and Type of House by Location

House Occupancy	Location		Total (N = 102)
	Non-Danger Area (N = 32)	Danger Area (N = 70)	
Owner Occupant	93.8%	85.7%	88.2%
Tenant Occupancy	3.1%	7.1%	5.9%
For Free	3.1%	4.3%	3.9%
Other		2.9%	2.0%
House Type			
Wooden	15.6	5.7	8.8
Concrete	3.1	12.9	9.8
Light Materials		1.4	1.0
Mixed Wooden-Concrete	34.4	42.9	40.2
Mixed Wooden-Light Materials	43.8	31.4	35.3
Mixed Concrete-Light Materials	3.1	5.7	4.9

Regarding expenditure pattern, about 90 percent of the households' average monthly expenditure is upto Php 3000. Only 2 percent households' monthly expenditure ranges between Php 3000 – 7000. About 4 percent of the households spend above Php 7000 per month. It is revealed that households in informal settlements located in danger areas spend less than those in non-danger areas (Table 7). The reason is transport cost for work for the households in danger area is either nil or less compared to those in non-danger area since informal settlements are proximate to and nearby downtown.

Another reason is that informal settlements in danger areas are government owned and thus, most of the informal settlers has no house or land rent. The

* 1 US Dollar = 53 PhP (during survey period)

average household expenditure is Php 5065 and most part of expenditure goes for food followed by recreation, water, lighting, travel cost for work, education, health and clothing (Table 7)

Table 7: Proportion of Average Monthly Expenditure by Major Items

Household Expenditure Items	Average Expenditure (Php)	Percentage of Total HH Expenditure
Total Expenditure	5065	100%
Food	3121	62%
Clothing	135	3%
Education	178	4%
Health/Medicine	163	3%
Lighting	303	6%
Water	297	6%
Fuel	209	4%
Recreation	332	7%
Travel Cost for Work	256	5%

Informal settlements have limited access to basic services and infrastructure (Table 8). In all the informal settlements studied, government utility or public facilities including water supply, electricity, garbage disposal, paved roads, drainage, street lighting etc are existing, but seemed quite inadequate and the result is poor sanitation, drainage, and improper waste disposal. A large number of informal settlers use water lines of others and many of them do not have electricity connection. More than 50 percent has no own toilet facilities and 34.3 percent dispose human wastes and more than 5 percent dispose garbage in the river/sea/open space. Only 28.5 percent has own piped water connection and 19.6 percent of the households use electricity for lighting. Informal settlements are prone to environmental risks. Due to poor sanitation, drainage, water logging, flooding and poor housing, most of the informal settlers are prone to environmental risks. Those settlers who are living on sea or riverbed, easements, creeks, garbage dumps they are more vulnerable to environmental pollution.

From the survey on 102 households in six sampled informal settlements, it was found out that 74.5 percent of informal settlers living in danger area are within 2 kilometers of distance from downtown, while 35.2 percent in non-danger area. From the maps it is seen that most of the settlements are within the city proper are danger areas and closer to the downtown or CBD. This finding has implications on the place of work and travel cost for work discussed later and presented in Table 9.

Table 8: Basic Services and Infrastructure by Location

Type of Basic Services and Infrastructure	Location of Informal Settlements		Total (N = 102)
	Non-Danger Area (N = 32)	Danger Area (N = 70)	
Toilet Technology			
Open Pit	3.1%	8.6%	6.9%
Close Pit	3.1%	1.4%	2.0%
Water Sealed	78.1%	44.3%	54.9%
Flush	3.1%	1.4%	2.0%
Sea/River/Earth/Open Space	12.5%	44.3%	34.3%
Toilet Facilities			
Individual	68.8%	40.0%	49.0%
Community	9.4%	5.7%	6.9%
Public		2.9%	2.0%
Shared with Other	21.9%	51.4%	42.2%
Main Source of Drinking Water			
Purchase and fetch from Brngy/Municipal Water System	12.5%	1.4%	4.9%
Purchase and fetch from Neighbor's Piped Water Connection	46.9%	68.6%	61.8%
Artesian/Pump Well	6.3%		2.0%
Spring/River	3.1%		1.0%
Open Well	6.3%		2.0%
Own Piped Water	25.0%	30.0%	28.4%
Main Source of Domestic Water			
Own Piped Water Connection	18.8%	28.6%	25.5%
Spring/River	12.5%	2.9%	5.9%
Artesian/Pump Well	12.5%		3.9%
Open Well	40.6%	28.6%	32.4%
Purchase and fetch from Neighbor's Piped Water	15.6%	40.0%	32.4%
Main Source of Lighting			
Kerosene	31.3%	14.3%	19.6%
Electricity	68.8%	84.3%	79.4%
Battery		1.4%	1.0%
Main source of Fuel			

Type of Basic Services and Infrastructure	Location of Informal Settlements		Total (N = 102)
	Non-Danger Area (N = 32)	Danger Area (N = 70)	
Firewood	56.3%	18.6%	30.4%
Charcoal		7.1%	4.9%
LPG	31.3%	45.7%	41.2%
Kerosene	12.5%	28.6%	23.5%
Waste Disposal			
Deposit in Plastic Bag and Leave for Garbage Truck	43.8%	90.0%	75.5%
Burn in the Backyard	34.4%	2.9%	12.7%
Compost Pit	6.3%		2.0%
Thrown in Sea/River/open space	3.1%	1.4%	2.0%
Garbage Truck and Thrown in Sea/River/Other Place		4.3%	2.9%
Compost Pit and Burn in the Backyard	9.4%		2.9%
Open Pit	3.1%		1.0%
Burn Backyard and Thrown in Sea/River/Other Place		1.4%	1.0%

Table 9: Distance of Informal Settlements from CBD by Location

Distance from CBD	Location		Total (N = 551)
	Non - Danger Area (N = 179)	Danger Area (N = 372)	
Within 2 Kilometers from CBD	35.2%	74.5%	61.7%
Outside 2 Kilometers from CBD	64.8%	25.5%	38.3%

About 69 percent of informal settlers' working places are within the city proper. The higher percentage of work place of the informal settlers living in danger areas (Table 10) indicates that danger areas are located nearby CBD, which provides livelihood opportunities. From the spatial analysis made in Chapter V, it was found that most of the informal settlements located in danger areas are almost in walking distance or short distance (from 0.5 km to 2km).

Most of the informal settlers living in danger area (about 59 percent) travel to the workplace on foot compared to 43.8 percent in non-danger area. In both cases the second most common mode is jeepney. Since for informal settlements located in danger area work place is nearby, the common mode is walk which indicates no travel cost for work.

Table 10: Place of Work and Mode of Transport for Work by Location

Place of Work	Location		Total (N = 166)
	Non - Danger Area (N = 58)	Danger Area (N = 108)	
City Proper	62.1%	72.2%	68.7%
Outside City Proper	37.9%	27.8%	27.8%
Mode of Transportation for Work	(N = 48)	(N = 91)	(N = 139)
Walk	43.8%	59.3%	54.0%
Jeepney/Multicab	3.3%	26.4%	28.8%
Tricycle	8.3%	4.4%	5.8%
Pedicab	6.3%	1.1%	2.9%
Bicycle		2.2%	1.4%
Bus	4.2%	3.3%	3.6%
Other	4.2%	3.3%	3.6%

CONCLUDING REMARKS

Rapid urbanization, incidence of poverty and migration, pressure on land and housing deficit are all connected to continuous rise of informal settlements in Tacloban City. Out of 138 barangays, 62 barangays are with informal settlements spread all over the city. But most of the informal settlements are located within city proper and nearby CBD and most of these are located along riverbanks and shorelines. Mangonbangon River has highest number of squatter areas. Along Cancabato Bay and Panalaron Bay, approximately 85 percent of these landless dwellers are located. This reflects that vacant public land along river, shoreline, and creek more accessible than private land and also historical growth of the number of settlers. Most of the informal settlements in urban area are close to central business district, markets and other commercial areas. About 38 per cent of the barangay population is informal settler population. Most of the informal settlements in Tacloban City are located on danger areas like riverbanks, creeks and shorelines that are located on public lands. Strikingly a large majority of the informal settlements develop on danger zone and legal easements.

It can be said that access to land of the poor rural immigrants lead them to squat on danger zone areas and various factors influence them to reside in those areas. The implications of location are reflected in their housing, basic services and infrastructure including sanitation, waste disposal, electricity, place of work, distance and transport. So informal settlers have least options and land inaccessibility determines location of informal settlements in danger and non-danger areas.

In line with the existing policies and laws, onsite upgrading of the informal settlements is recommended based on the study and the lesson and experience from other countries with the similar problem. As most of the informal

settlements are located along shoreline and riverbanks, naturally the land belongs to the government and since the informal settlers has been living in these areas for long time and government already put a lot of infrastructure and services in these settlements located along shoreline and riverbanks, upgrading of the settlements can be practical on the shoreline or riverbank which are not within danger zone and ecologically sensitive areas. Onsite upgrading is less expensive for both side – government and households. Upgrading cost can reduce social and environmental cost in the long run. It ultimately prevents squatting and professional squatting as well.

From the study it was found that there are many settlements are inappropriately located just for shelter needs in the city. These settlements are located on riverbed and/or seabed, i.e. out of sea wall, creeks, drainage and dump sites, which are not suitable for living from environment point of view of the city and health point of view of the residents. Informal settlers occupied these danger zones and easements violating the DENR regulations and the Environment Code and other existing laws. DENR defined 20m out of seawall along shoreline and 3 meters along the river with no settlement¹.

Based on the study, since the informal settlers are lacking tenure and in constant threat of ejection, legalization of tenure is highly recommended for settlements located in non-danger zone in line with Article VIII, Section 31 of the UDHA. As majority of the informal settlement household' monthly income is below 5000 peso, the criteria of the underprivileged for socialized housing is eligible, which will correspond to the Local Government Act, Department of Agriculture's land conversion mandate, RA 6657 CARL agricultural land reclassification for socialized housing. As various studies and policy experience has provide that secure tenure is of particular importance to the infrastructure improvements including housing and basic services. It promotes equity, efficiency and productivity and a facilitating instrument, thus contributing to the improvement of the quality of life. Community Mortgage Program (CMP) as introduced by the Philippine Government can be implemented in provision of tenure. It is also applicable for either onsite upgrading along shorelines and riverbanks that are beyond legal easements and danger zone and in relocated land for improvement of tenure for sustainable development of the informal settlers.

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