



Attributes of informal settlements affecting their vulnerability to eviction; a study of Bangkok⁽¹⁾

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1. This article is based primarily upon the analysis of two sets of data - the National Housing Authority's 1988 Congested Areas Survey (raw computer data) and Sapon Porchokchai's 1,020 Slums Survey data. It is based upon part of the research carried out for the author's doctoral dissertation at the Human Settlements Division, Asian Institute of Technology, Bangkok. Both critical and editorial comments by Dr. Yap Kioe Sheng (advisor) from the Asian Institute of Technology are gratefully acknowledged.

I. INTRODUCTION

THIS PAPER CONSIDERS what makes an informal or illegal settlement in Bangkok susceptible to eviction by comparing characteristics of those settlements from which inhabitants were evicted between 1984 and 1988 with settlements which were not. It considers the extent to which such factors as the size of settlement, distance from city centre, age, level of illegality, degree of community organization, and the extent to which the inhabitants feel threatened by eviction are related to whether the inhabitants are evicted or not. The paper is based upon some of the research carried out for the author's dissertation entitled "Eviction, the right to shelter and the urban poor: a study of factors influencing eviction of informal settlements in Bangkok, Karachi and Seoul." The dissertation ascertains the rates of eviction in the three cities and explains their variation by studying the factors that influence the occurrence of evictions.

II. INFORMAL SETTLEMENTS IN BANGKOK

SQUATTING, IN THE strict sense of the word, is very limited in Bangkok. Informal settlements mainly appear in what are termed "slum rentals" that is, informal settlements on land rented from its owner, and where the structures are built by the residents and do not conform to the planning or architectural standards and regulations applicable to formal residential development. Squatter settlements in Bangkok are different in that the land is not

2. Yap, Kioe Sheng (1992), "The slums of Bangkok" in Yap K.S. (editor), *Low-Income Housing in Bangkok: A Review of Some Housing Sub-markets*, HSD Monograph 25, Human Settlements Division, Asian Institute of Technology, Bangkok.

3. PADCO (1987), "The land and housing markets of Bangkok: Strategies for Public Sector Participation - Final Report Recommendations", *The Bangkok Land Management Study*, Bangkok, 5 August.

4. Sopon, Pornchokchai (1985), "1020 Bangkok slums - evidence, analysis, critics", School of Urban Community Research and Actions, Bangkok.

rented but illegally occupied although, physically, it is difficult to distinguish between the two. Even the legal distinction is not very clear because the slum renters' land tenure status is also very fragile. The rental agreements are mostly for short-term periods, even when they are in written form. The landowner can refuse to renew the agreement at any time, leaving the residents with no legal protection nor the right to refuse to leave. Security of tenure is made even more precarious by a law which annuls the rental agreement if a fire occurs in the settlement from whatever cause, and requires the site to be kept clear for a minimum period of 45 days after any fire.

There are considerable variations in the formal land tenure status of slum dwellers. Less than half (46 per cent) have written rental contracts. Of the rest, 21 per cent have the landlord's permission to stay without written contracts, or are squatters, with neither an agreement nor permission to stay. Around 5 per cent of slum dwellers' contracts have expired.⁽²⁾

In Bangkok, informal settlements are generally referred to as "slums", a term which includes both slum rentals and squatter settlements. Most of the "slums" occupy private land; in 1984, the proportion of slums located on private land was reported to be 65 per cent. These are mostly slum rentals, while only 4 per cent are squatter settlements.⁽³⁾ In cases of informal settlements on public land, temples and mosques represent religious institutions owning the highest number of land parcels, followed by the Crown Property Bureau which handles the royal family's properties. The Irrigation Department holds land mainly along the canals and waterways that abound in Bangkok. Other land-owning public agencies include the Treasury Department, the State Railways of Thailand and the Port Authority of Thailand, etc.

While Sopon Ponchokchai reported an estimated 1,020 informal settlements in 1984, the 1988 National Housing Authority slum survey indicated an additional 321 informal settlements existing at that time, which were either overlooked or not covered by Sopon. By 1988, the number of informal settlements increased from 1,341 to 1,553. The population for the 1,020 informal settlements reported by Sopon in 1984 was estimated at 1.01 million.⁽⁴⁾ However, as 321 informal settlements had been overlooked or not covered in the survey, so the population amounted to 1.17 million in 1984 and around 1.30 million in 1988, an increase of 0.13 million between those dates. The proportion of the total urban population residing in informal settlements amounted to 24.2 per cent in 1988, assuming Bangkok's city population was 5.36 million at that time.

III. EVICTIONS IN BANGKOK

a. Defining Evictions

IN EVERYDAY LANGUAGE, evictions may be described as involuntary movements of people from their habitat. The 1981 Webster Dictionary's definition of an act of eviction is "...the recovery of land or tenements from another's possession by due course of law" or

the "...dispossession in virtue of a paramount title". The process or act of eviction includes three components - land, legality or title, and the presence of more than one interested party. It stems from a claim to land, where one party has the claim by virtue of physical possession and another party has the legal title. Physical possession resulting in an association with the land may justify the claim to it in terms of basic human rights once the need and the lack of better or equal alternatives for shelter is established.

In cases of eviction, the first party - the landowner - is usually made up of private owners, private trusts and public land-owning agencies. The second party is invariably the urban poor. The lack of a legal claim to land excludes the possibility of their seeking support from the formally established institutions. However, their social, political and economic position may determine the eventual outcome of eviction disputes.

b. Costs of Eviction

When a community is forced to move away from its location it experiences a range of hardships and costs. The social and economic consequences may involve:

- * loss of income and employment;
- * loss of investment in housing as most of the building materials are lost even though some may be re-used at the new site;
- * an increase in the cost of housing due to the limited number of options available;
- * an increase in the amount spent on transportation as alternative sites are usually located further away, and/or access is more difficult; and
- * loss of already small amounts of savings due to the high costs of resettlement and new debts due to loans required for new construction.⁽⁵⁾

Daily wage earners, such as construction workers, lose their "contact points" for finding jobs, and street vendors lose established locations and fixed customers. In cases of relocation involving the break up of the community, losing neighbours means the loss of arrangements and mutual safety-nets - for instance where neighbours shared food and lent each other or pooled money in emergencies.⁽⁶⁾ There are also psychological costs involved. "On the grounds ... of both spatial and interpersonal orientations and commitments, dislocation from the residential area represents a particularly marked disruption in the sense of the community for the majority of this (the working class) group."⁽⁷⁾ This creates a lot of negative energy among those evicted. The loss of home often leads to feelings of grief and "grieving for a lost home is evidently a widespread and serious social phenomenon following in the wake of urban dislocation."⁽⁸⁾

c. Reasons for Evictions in Bangkok

In the case of Bangkok, eviction from private or public land is

5. Yap, Kioe Sheng (1988), "Effects of slum eviction and resettlement in Bangkok", Draft Research Proposal, Human Settlements Division, Asian Institute of Technology, Bangkok.

6. ACHR (1989), "Battle for housing rights in Korea: report of the South Korea project of the Asian Coalition for Housing Rights", Asian Coalition for Housing Rights/Third World Network, Penang.

7. Fried, Marc (1963), "Grieving for a lost home" in Leonard Duhl (editor) *The Urban Condition*, Basic Books, New York.

8. See reference 7.

9. Boonyabancha, Somsook (1983), "The causes and effects of slum evictions in Bangkok" in Shlomo Angelet al. (editors), *Land for Housing the Poor*, Select Books, Singapore, pages 254-280.

10. Aldrich, Brian C. (1987), "Habitat defense in south-east Asian cities", *Southeast Asian Journal of Social Science*, Vol.13, No.2, pages 1-14.

11. See reference 3.

12. See reference 3.

mostly caused by development pressures resulting in an alternative land use which gives a higher return on the property investment. According to Boonyabancha,⁽⁹⁾ landlords wishing to evict residents from their land mostly cite the need to divide the land passed on through inheritance as the reason for eviction. It would seem that the new owners inheriting the land do not have the same relationship of mutual concern that the original owner may have had with the dwellers and thus are not concerned with the hardships that eviction entails. Other reasons cited include capitalizing on the market value of the land by selling or leasing it, or by developing it.

The general momentum of evictions in Bangkok is highest near the city centre, with the percentage of families already evicted or facing eviction declining with increased distance from the city centre. Aside from land market pressures due to centrality, evictions occur because of road improvements away from the city centre which increase accessibility and attract higher income groups to those areas. The substantial land use changes result in a number of evictions in the areas adjacent to the roads. Of the 86 case studies by Boonyabancha, the type of development activity leading to the highest number of evictions were road construction (17 cases) and commercial development (16 cases). However, a substantial number of cases (25) had no specific proposed development.

Thailand's economy grew rapidly during most of the 1980s. Due to its urban primacy, Bangkok has borne the bulk of the accompanying development pressures resulting in a land market characterized by rapidly rising land prices. Because of Bangkok's land market, development for profit is a more important reason for informal settlement evictions. Private land near the city centre and at the fringes consists of land formerly used for rice cultivation that is held in small parcels which often have multiple owners. Amalgamation of such land is difficult and time-consuming. Thus, the large blocks of land held by government agencies become particularly valuable for large-scale commercial developments. As these lands are usually occupied by low-income people through slum rentals or squatting, the pressure to move them is further increased. Government agencies also tend to act according to market principles of profit-making and so more evictions are reported to occur in informal settlements located on government land.⁽¹⁰⁾

IV. INFORMAL SETTLEMENTS AND EVICTIONS BETWEEN 1984 AND 1988

a. Rates of Eviction between 1984 and 1988

ACCORDING TO A comparison of aerial photos, a total of 150 informal settlements disappeared between 1974 and 1984 giving way to other land uses.⁽¹¹⁾ The average size of informal settlements prior to 1984 was 205 households,⁽¹²⁾ implying that a total of about 30,750 households were evicted between 1974 and 1984. A total of 107 settlements disappeared between 1984 and 1988, four of

13. Land-sharing is a technique applied successfully, albeit on a very limited scale, in Bangkok to solve the eviction problem. The site of the informal settlement is reorganized so that the community can continue to inhabit a portion of the area they originally occupied while the rest of the land is cleared for development by the landowner. For details see: Angel, Shlomo and Somsook Boonyabancha (1988), "Land-sharing as an alternative to eviction: the Bangkok experience", *Third World Planning Review*, Vol. 10, No. 2, May 1988, pages 35-72.

which were upgraded by means of a land-sharing arrangement.⁽¹³⁾ The 103 evicted informal settlements housed around 12,086 households; given that 246,624 households lived in informal settlements, this means 4.9 per cent of households were evicted. For the period 1974-1984, the average annual eviction rate (i.e. the annual average for the proportion of households living in informal settlements that were evicted) was 1.68 per cent, while for the period 1984-1988 it amounted to 1.22 per cent. The overall average annual eviction rate in Bangkok during the 14-year period was 1.55 per cent annually (see Table 1).

b. Changes in Informal Settlement Distribution within the City between 1984 and 1988

Between 1984 and 1988, 315 new settlements were added to the informal housing stock while only four settlements were upgraded. Meanwhile, 22 informal settlements merged with other settlements (see Table 2) and there was a net increase of 212 settlements. While, on average, around 26 settlements per year were evicted or removed, around 80 new settlements per year emerged. In other words, during this four-year period, the overall growth rate in terms of number of new settlements was around 54 settlements per year.

Among the districts within the Bangkok Metropolitan Administration where at least two evictions have occurred, the highest percentage of evictions from informal settlements took place in District Samphang Thawong (56 per cent), followed by District Pathum Wan (26 per cent). These districts are located in the oldest part of the city where only a few informal settlements are left. That is why the number of evictions was low, even though the proportion of settlements which were evicted was high. In terms of absolute numbers, the greatest number of informal settlements was evicted in District Yan Nawa (12 settlements), followed by District Huai Khwang (11 settlements). These districts lie in the fully built-up area surrounding the city centre which is where most "slum removal" occurred between 1984 and 1988.

In 1988, in the 15 districts lying to the east of the Chao Phraya river, of the total 600 informal settlements, 72 were evicted while 528 survived, a 12 per cent eviction rate. Within the nine districts located to the west of the river that fall within the metropolitan

Table 1: Evictions in Bangkok

Period	Source of information	No. of slums evicted	No. of households evicted	Total existing households	Evicted households	Eviction rates (% per year)
1974-84	A	150	30,750	182,450	16.85	1.68
1984-86	B	49	8,820	183,600	4.80	1.20
1984-88	C	107	12,086	247,194	4.90	1.22

Overall Average Evictions Rate = $[(1.68 \times 10) + (1.22 \times 4)] / 14 = 1.55\%$

Note: A = Aerial photos interpretation (PADCO)

B = 1987 NHA Slum Survey

C = 1020 Slums Survey (Sopon, 1984) and 1988 NHA Slum Survey raw data

Table 2: Overview of Bangkok Informal Settlements by Status in 1988

Status of Settlement in 1988	No. of Settlements	Total No. of h/holds
Evicted ⁽¹⁾	103	12,161
Upgraded by land sharing	4	756
Existing settlements reported by Sopon ⁽²⁾	913	170,168
Existing settlements overlooked/ not covered by Sopon	321	29,372
Existing settlements added b/w 1984-88	315	32,100
Total existing settlements in 1988 ⁽³⁾	1,549	231,640

Note: Status of settlement based upon 1988 NHA survey's raw data entries:

1. Includes settlements reported as indiscernible, evicted/removed or burnt down.

2. Includes all settlements reported to exist in 1984 and also existing in 1988.

3. Includes all settlements existing in 1988, i.e. those reported by Sopon, those not included by Sopon and those newly added between 1984 and 1988.

administration, 25 informal settlements were evicted while 318 survived, an eviction rate of only 7.3 per cent for the settlements reported to exist in 1984 by Sopon. Thus, we can conclude that eviction rates have been much higher in the districts to the east of the river.

Between 1984 and 1988, in the districts forming the oldest part of the city, evictions from informal settlements occurred while no new settlements were added. Districts immediately surrounding the core generally experienced both evictions and the appearance of new informal settlements during this period. Districts forming the eastern fringe of Bangkok had a greater number of new informal settlements. The bulk of the new informal settlements were added outside the districts within the Bangkok Metropolitan Administration, in Samut Prakan Province (141 settlements) and in Nontaburi Province (47 settlements). The trend of new informal settlement formation is towards the eastern fringe and in the outlying areas of the metropolitan area.

c. Threat of Eviction and the Occurrence of Eviction

The National Housing Authority, in its 1988 slum survey, distinguishes six stages of eviction, based upon Boonyabancha's⁽¹⁴⁾ spectrum of eviction threats. In ascending order, except for the "others" category, these are:

- * rumours
- * eviction order
- * negotiation
- * arson
- * demolition
- * others

Of 265 informal settlements under threat of eviction in 1984,

14. See reference 9.

only 34 were actually evicted, while 69 not under threat of eviction were evicted. In other words, among the settlements evicted, only 34.6 per cent faced the threat of eviction in 1984. This suggests that the residents of around two-thirds of the informal settlements evicted within the space of four years or less did not experience any specific threat of eviction in 1984. Thus the level of threat of eviction in 1984 does not correlate with the actual incidence of eviction between 1984 and 1988.

The level of eviction pressure faced by the communities inhabiting informal settlements seems to have been based upon responses from the inhabitants. They reflect the assessment of the threat of eviction from the community's point of view and represent the level of the threat perceived by the community. In 1984, residents of 26 per cent of the 1,020 informal settlements were experiencing a "perceived" threat of eviction. According to the National Housing Authority's 1988 slum survey data, 24 per cent of all existing informal settlements in 1988 reported (perceived) eviction pressure. The bulk of the eviction pressure (51 per cent) is accounted for by the first of the six stages of eviction according to Boonyabancha's scale,⁽¹⁵⁾ during which the community receives rumours that it is soon to be evicted. Of the informal settlements existing prior to 1984, 27 per cent faced (perceived) eviction pressure, whereas fewer than 12 per cent of new settlements appearing since 1984 did so. This suggests that the proportion of informal settlements facing perceived eviction pressure (which is mainly based upon "rumours") is decreasing over time. This decrease does not necessarily translate into an expected reduction in the number of evictions in the coming years. As we have seen, residents of only one-third of the 103 settlements that were actually evicted by 1988 had felt or "perceived" eviction pressure in 1984.

d. Distance of Settlements from City Centre

The average distance of informal settlements from the city centre was 7.1 kilometres in 1984.⁽¹⁶⁾ It increased to 10.1 kilometres in 1988, indicating an outward spread of the informal settlements from the centre over the years. Of the 1,020 informal settlements existing in 1984, surviving settlements were located at an average distance of 7.2 kilometres from the city centre, while those evicted were at an average distance of 6.6 kilometres. The more centrally located settlements were evicted, supporting the theory that proximity to the city centre increases the vulnerability of settlements to eviction.

A higher percentage of the evicted settlements was found in the more central locations. Forty-two per cent of evictions took place within 5 kilometres of the city centre, while 84 per cent of all evictions took place within 10 kilometres of the centre. The percentage of surviving informal settlements was higher in the outer rings, with the greatest difference between the percentage of surviving and evicted settlements occurring in the 5 to 15 kilometre band around the city centre.

In 1984, 81 per cent of all informal settlements were located within 10 kilometres of the city centre, while in 1988 the figure

15. See reference 9.

16. See reference 4.

was 62 per cent. Whereas in 1984 almost all existing informal settlements (over 95 per cent) were located within 15 kilometres of the city centre, by 1988 around 20 per cent were located more than 15 kilometres away. There are two reasons for this: new informal settlements being formed tend to locate farther out and settlements closer to the city centre (mean distance up to 6.6 kilometres) have been more prone to eviction.

e. Size Fluctuation with Distance from City Centre

The average size of communities inhabiting informal settlements, in terms of the number of households, decreased from 179.4 in 1984 to 154.2 households in 1988 (see Table 3). This may indicate that the larger settlements have been evicted at a higher rate, or that the new settlements being formed are smaller. However, the average size of the 103 informal settlements evicted between 1984 and 1988 was 117.3 households while for those which survived the number was 186.4 households, showing that the smaller settlements were evicted (see Table 4). The average size of settlements emerging between 1984 and 1988 was 104.2 households. This small size of new informal settlements is thus mainly responsible for lowering the average size.

With respect to distance from the city centre, settlements which were evicted between 1984 and 1988 were generally smaller in size than those which survived in each distance category (see Table 5). However, among those located within five kilometres of the city centre, the average size of the evicted informal settlements was exceptionally small (88.9 households). The difference between the size of evicted and surviving informal settlements was greatest in the settlements which were within 5 kilometres of the centre.

Table 3: Overall Attributes in 1984 and 1988

Settlements' attributes	1984 ⁽¹⁾	1988
Average size (no. of hh)	179.4	154.2
Average distance from centre (km)	7.1	10.1
Average age (years)	25.2	29.0 ⁽²⁾
Total households	183,040	248,873
Total population	1.01m	1.36m

1. After adjusting for time lapse of 4 years

2. Includes only 1,020 slums as reported by Sapon

Table 4: Overall Attributes of 1,020 Informal Settlements in 1984

Settlements' attributes	Slums reported to exist in 1984		
	Evicted	Surviving	Total
Average size (no. of hh)	117.3	186.4	179.4
Average distance from centre (kilometres)	6.6	7.2	7.1
Average age (years)	25.6	25.2	25.3
Total households	12,086	170,954	183,040
Total population	0.06m	0.90m	1.01m

Table 5: Attributes - Status by Distance from City Centre⁽¹⁾

Dist. from city centre (kilometres)	% of settlements		Average size (no. of h/holds)		Total no. of h/holds	
	Evicted	Surviving	Evicted	Surviving	Evicted	Surviving
< 5	41.7	31.4	88.9	168.8	3,820	48,561
5-10	41.7	48.8	143.2	205.5	6,159	92,051
10-15	11.6	14.7	116.7	162.5	1,400	21,938
15-20	1.9	3.6	100.0	169.6	200	5,596
20 >	2.9	1.0	168.3	228.0	505	2,052

1. Figures in the column may not add up to 100% due to rounding off of decimals.

Among the informal settlements that survived between 1984 and 1988, the average community size increased by 10.4 households per settlement, registering an increase of 4,530 households in the total "slum" population by 1988. However, the size of informal settlements' communities has reduced significantly inside the 10 kilometre ring around the city centre, while it has recorded the largest increase within 15 and 20 kilometres of the centre. Settlements beyond 20 kilometres have experienced a modest increase in community size.

f. Legal Status of Informal Settlements

Around 16 per cent of the total settlements existing in 1984 were squatter settlements, whereas the remaining were slum rentals. Of the 103 evicted settlements, around 20 per cent were squatters, indicating only a slightly higher incidence of squatter settlements among the evicted settlements. The difference in the percentage of squatter settlements and slum rentals whose inhabitants were evicted is not significant enough to suggest that squatters are more likely to be evicted than slum renters.

It may be noted that while all squatters face the threat of eviction, since they may be evicted for lack of legal status, they may not always be experiencing eviction pressure. This is especially relevant to informal settlements located along canals and railway lines. Being located on public land and due to reasons of safety and security, they have squatter status. However, there may be no development pressure on the land because the land-owning public agency has no alternative plans to use the land and the land is safe from market pressures from private developers.

g. Community Organization and Physical Improvement

In Bangkok, the National Housing Authority undertakes physical upgrading work in various informal settlements on a limited scale. The community inhabiting the settlement has to organize itself and form a representative committee as a pre-requisite to upgrading. Three levels of community organization can be

defined with reference to physical improvement: settlements whose communities have not been organized for physical improvement; settlements whose communities have been organized but which have not yet benefited from physical upgrading; and settlements whose communities have been organized and where physical upgrading has been carried out.

Around 72 per cent of the 1,020 informal settlements reported in 1984 were not organized for community development work, while 11 per cent were organized but had undergone no upgrading work. The remaining 17 per cent had both community organization and some physical upgrading or improvement work. Less than 7 per cent of the evicted settlements belonged to the last category. In comparison, 17.25 per cent of the surviving informal settlements had both committees and upgrading. This suggests that, to some extent, informal settlements having a community committee and undergoing upgrading work are less susceptible to eviction.

The percentage of informal settlements having undergone upgrading work was higher in the case of the settlements that survived. The difference between the evicted and surviving settlements is very marked, however, in the case of those located within five kilometres of the city centre. In the surviving settlements, the incidence of upgrading work was highest within this radius, but was the lowest for any distance category in the evicted settlements. This was especially true among centrally located settlements, where the rate of survival has been higher for those which had reported upgrading work.

V. THE STRENGTH OF RELATIONSHIP OF FACTORS INFLUENCING EVICTIONS

a. Logistic Regression of Eviction Factors

LOGISTIC REGRESSION ANALYSIS was applied, with evicted-or-survived during the 1984 to 1988 period as the dependent variable. The categorical dependent variable had two possible values, evicted (0) or survived (1) to derive a model for explaining the correlation of independent variables upon the categorical dependent variable. Three categories of "slums", as per the National Housing Authority's 1988 survey data, were considered as evicted. These included informal settlements reported to be present in 1984 but by the 1988 slum survey were:

- * found to be evicted
- * found to have been burnt down
- * could no longer be discerned

The attributes of the evicted informal settlements before their disappearance were accessed from the 1984 survey data. Informal settlements reported to be in the following classes as per the 1988 survey were not considered in the analysis because no entries were available in the 1988 survey data:

- * upgraded settlements
- * settlements with fewer than 10 housing units
- * settlements with fewer than 10 housing units and fewer than 15 households
- * settlements to which questionnaires were not served
- * settlements for which no data was available

Attributes of the informal settlements that were assumed to have an influence on their eviction were entered into the analysis as independent variables. The attributes that could be considered were limited to those variables for which data was available from the 1984 survey. These were:

- * size of the informal settlement (number of households)
- * centrality of location
- * age of the settlement
- * legal status
- * upgrading status
- * land ownership
- * eviction pressure in 1984

b. Results from the Logistic Regression Analysis

Informal settlements with the following attributes were found to have a higher chance of survival (see Table 6):

- * large community size (the significance of the relationship is stronger and the effect is greater for larger slum communities);
- * socially organized, having undergone physical upgrading;
- * medium age;
- * location away from the city centre, or in the west of the city across the Chao Phraya river. (The influence of location in terms of geographical location had a more significant relationship than centrality measured as distance from the city centre.)

Informal settlements with the following attributes were found to be more susceptible to eviction:

- * those located on privately owned land or on public land (informal settlements located on land with mixed ownership tended to be the least susceptible to eviction);
- * those whose residents felt pressure of eviction to be present (in 1984);
- * those that were either young (less than five years in existence) or old (over 50 years in existence).

c. Comparing Findings from Logistic Regression to Initial Findings

The larger size informal settlements are less susceptible to eviction than the smaller ones. This substantiates our initial findings that the mean size of the evicted settlements (117.3

Table 6: Results of Logistic Regression Analysis

Dependent Variable: Evicted (0), Surviving (1)

Independent Variables	Coefficient	Significance
Variables increasing chances of survival		
Upgrading work carried out, and community committee exists	0.5790	0.0004
Size:		
between 100 to 150 households	0.3047	0.0249
between 150 to 300 households	0.4104	0.0029
over 300 households	0.9446	0.0000
Age of settlement (22 to 35 years)	0.2688	0.0314
Location of settlement (to west of river)	0.3505	0.0033
Distance from city centre over 12.5 km.	0.4444	0.0243
Variables increasing susceptibility to eviction		
Ownership of land:		
private	(-)1.4917	0.0002
public	(-)1.0626	0.0093
Pressure of eviction reported in 1984	(-)0.5689	0.0000
Age of settlement (less than 5 years)	(-)0.3868	0.0133
Age of settlement (over 50 years)	(-)0.9777	0.0002
(-)2 Log Likelihood = 2212.988 (df 1717)	significance level: 0.0000	
Model Chi-Square = 180.823 (df 12)	significance level: 0.0000	
Goodness of Fit = 1722.632 (df 1717)	significance level: 0.4572	
% correct = 63.01 per cent		

households) was smaller than that of informal settlements surviving during the period 1984-1988 (186.4 households).

Whereas the mean distance from the city centre for evicted settlements (6.6 kilometres) is less than the mean distance for surviving settlements (7.2 kilometres), a strong correlation between the distance of the settlement from the city centre and its susceptibility to eviction could not be established. However, the lower susceptibility to eviction of informal settlements located more than 12.5 kilometres from the city centre indicates that eviction is not as likely in settlements located in the periphery.

Informal settlements located in the west of the city are more likely to survive, since the major thrust of development activity in Bangkok has occurred to the east of the Chao Phraya river which roughly divides the city along a north-south axis and has the effect of a natural barrier to development pressures. The degree of vulnerability of informal settlements located in the provinces to the north and south of Bangkok (Nonthaburi and Samut Prakan) and thus outside the metropolitan administration is also less than those in the east. While the lower vulnerability in Nonthaburi and Samut Prakan provinces could be explained by their greater distance from the city centre, this is not so in the case of the

western section of the city.

There is a relationship between the age of the settlement and its susceptibility to eviction as established by the logistic regression analysis. Young settlements (less than 5 years old) and also old settlements (over 50 years old) are susceptible to eviction, while those in the middle range are found to be safer.

VI. CONCLUSIONS

a. Attributes affecting Informal Settlements' Vulnerability to Eviction

ALTHOUGH NO SIGNIFICANT relationship could be established between the distance from the city centre and an informal settlement's vulnerability, the fact that most of the evictions occurred within the central areas (within a six-kilometre ring around the city centre) suggests that land market forces have been strong, with a high demand for land in the central locations. Settlements located away from the centre (more than 12.5 kilometres) have been less vulnerable to eviction, suggesting less land market pressures in the periphery.

A large community generally suggests a larger settlement area. It was expected that larger informal settlements would be more vulnerable, being under greater pressure of eviction since they occupied larger plots of land more suitable for commercial development. Our findings, however, showed a different result, with smaller sized settlements more likely to be evicted rather than the larger ones. This has been most pronounced in the five-kilometre ring around the city centre where land market pressures are very high.

Location with respect to the river affects an informal settlement's vulnerability to eviction suggesting that the river plays a significant role as a threshold for land values. Land situated across the river from the city centre presumably has a lower market value suggesting that the river acts as a barrier to accessibility.

Carrying out upgrading work within a settlement seems to reduce the probability of the settlement's eviction. However, it is the biased selection criteria used by the National Housing Authority when choosing which settlements to upgrade that is responsible for the relationship rather than the effect of community organization developed during the upgrading exercise. Settlements with the legal status of slum rentals and which have a large community are mostly included for selection, resulting in these settlements being more likely to survive.

The vulnerability to eviction of newly formed settlements, i.e. those less than five years old, could be explained by the fact that strong community organization or leadership may not as yet have developed and thus the community may have found it difficult to withstand eviction pressure. Those who survived the initial period would have stabilized once a sufficient level of community organization had been achieved. The fact that the old settlements are also susceptible to eviction suggests that, having existed for

a long time, the land value of the settlement or its surroundings would have increased to an extent where land market forces leading to evictions become overwhelming.

Another reason for the old settlements being more vulnerable may be related to their location. Informal settlements with such long histories are mostly located in the more central areas of the city since much of the outer areas of the city were not then in existence. Thus, the very old settlements are vulnerable to eviction due to their attractive locations.

b. Classification of Attributes influencing Vulnerability to Eviction

The attributes that were found to increase or decrease an informal settlement's vulnerability to eviction can be classified into two groups - those affecting the level of community organization within a settlement and those determining the land value pressure on the site. The specific attributes related to the first group are the size of the community, the age of the settlement and the presence of a representative community committee, and upgrading work. Attributes related to the second group include the distance of the settlement from the city centre, the general geographical location of a settlement with respect to the city, and major topographical features serving as barriers to development pressures.

i. Community Organization

The small size of a community implies that the strength of community organization would be limited and their efforts would not be sufficiently effective to ward off eviction attempts due to fewer members. Settlements that are too young suggest a lack of maturity in community organization due to the short lifespan.

Settlements where upgrading work has been carried out by the National Housing Authority have representative community committees, whereas such committees are generally missing in the other settlements. Thus, the occurrence of upgrading work suggests not only higher levels of consolidation but also of community organization. Settlements with no upgrading have been found to be more prone to eviction. The relative rate of incidence of evictions among slums with upgrading work is generally lower than that found among those without upgrading. The difference in eviction rates was particularly notable within five kilometres of the city centre, where evictions have generally been concentrated. The three attributes, small size, young age and absence of upgrading work indicate lower levels of community organization within an informal settlement, which increases their vulnerability to eviction.

ii. Land Values

In the context of a particular city, old settlements are located in the older parts of the city comprising the core area which usually forms the approximate centre of the city. Land values in the city

centre keep on increasing as there is a great demand for land located there. Similarly, while settlements that are located across the river from the city centre are less exposed to land market forces, since the river acts as a barrier to market pressures, those to the east of the river are exposed to land market pressures. Thus, we can see that the fact of whether a settlement is old, or is centrally located or located to the east of the river, is essentially related to the value of land and land market pressures. The increase in land value of the site of the informal settlement increases its vulnerability to eviction.

c. Distinguishing Threat from Occurrence of Eviction

The common perception that there exists a gradual sequential process in different stages of eviction, from "no threat" of eviction, followed by increasing levels of threat of eviction to the actual demolition of the structures, did not withstand statistical testing based upon empirical evidence from Bangkok. No direct correlation could be established between reported threats of eviction and the actual occurrence of evictions over time. The "threat of eviction" seems to have been recorded by indicators based upon a community's response. It would, therefore, reflect the perception of the community regarding the threat, and not the actual eviction pressure that may exist.

To be in a better position to determine informal settlements' degree of vulnerability to eviction, we should, therefore, consider the three cases, namely informal settlements without (perceived) eviction pressure, informal settlements with (perceived) eviction pressure, and informal settlements susceptible to evictions, as separate categories. It is possible for an informal settlement experiencing eviction pressure for a very long time to continue to survive although the process of consolidation would be severely hampered due to a lack of perceived security of tenure. On the other hand, a settlement with no perceived eviction pressure could be evicted in a shorter span of time.

The attributes that we have identified as affecting vulnerability to eviction should be taken into consideration while measuring eviction pressure. They should provide the basis for an objective assessment, free from the subjective perception of the community.