

The Transformation of Land Supply Systems in Third World Cities

Edited by

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8 The informal land subdivision market in Bangkok

SHLOMO ANGEL AND SOPON PORNCHOKCHAI

By 1950, the residential sector in Bangkok was made up of three major components: individually-built houses on relatively large plots of land, shophouses, and densely-built slum areas. Beginning in the 1950s, land developers started to provide subdivided plots in land subdivision projects, making themselves indispensable intermediaries between the rural landowners and those buying urban residential land plots on the suburban fringe:

'A land developer is a social agent who transforms non-urban land into potential urban land and realises a profit by selling it on the urban land market. Such an operation implies that the land developer must have the full control of land ownership, either by purchasing the land or, less frequently, by reaching a notarised agreement with the original landowner. The land developer coordinates, supervises or carries out by himself operations such as land surveys, land subdivision, application for new title deeds and transfers of ownership. He or she often also undertakes various tasks such as earthfilling, construction of access roads, and drainage, and the supply of water and electricity' (Durand-Lasserve 1983:287).

The land subdivision market grew fast, much faster than the growth of planned public infrastructure networks. Subdivision developers were able to penetrate new vacant lands by nego-

Table 1: Growth of the residential sector in greater Bangkok, 1974-1984

Housing type	1974		1974-1984		1984	
	Area (rai) No.	Units No. %	Area (RAI) No. %	Units No. %	Area (RAI) No. %	Units No. %
Land and house projects	8,331	7.2 20,193 3.7	18,653 (223.9)	93,562 (463.3)	26,984 14.4	113,755 12.6
Land subdivisions	47,824	41.2 31,393 5.7	12,368 (26.4)	39,072 (124.5)	60,462 32.3	79,465 7.6
Shophouses	5,339	4.6 134,766 24.4	4,222 (79.1)	112,787 (83.7)	9,561 5.1	247,553 27.4
Individual buildings	37,779	32.6 207,156 37.5	32,213 (85.3)	64,110 (29.7)	69,992 37.4	271,266 30.1
Slums	12,172	10.5 139,326 25.2	869 (7.1)	20,821 (14.9)	13,041 7.0	160,147 17.8
Institutional housing	4,424	3.8 19,156 3.5	2,493 (56.4)	19,795 (103.3)	6,917 3.7	389,512 4.3
Total residential sector	115,869	100.0 551,990 100.0	71,088 (61.2)	350,147 (62.9)	186,957 100.0	902,137 100.0

Source: Bangkok Land Management Study, March 1987.

(1) Percentage figures in parentheses indicate the rate of growth between 1974 and 1984.

tiating with landowners for road access and building the roads by themselves, resulting in an unplanned and minimal road network covering vast tracts of land. By 1974, more than 40 percent of the total residential land in Bangkok was in land subdivisions (Table 1). However, many subdivisions remained unsold or sold and vacant, as buyers saved for building houses, or as speculators who bought plots were waiting for their values to rise. Beginning in the late 1960s a second generation of developers began to construct land-and-house projects which offered a complete package including a title deed, a fully-built house and long-term financing.

During the late 1970s and the early 1980s, land-and-house projects began to overtake the land subdivision projects, rapidly increasing their share of the market. Air photograph analysis of the residential sector in 1974 and 1984 shows an increase of 26.4 percent in the area devoted to land subdivisions, and a corresponding increase of 124.5 percent in the number of units built in land subdivisions. Land-and-house projects show an increase of 224 percent in area and a corresponding increase of 463 percent in the number of units built.

The increase in the area of land subdivisions and the more rapid increase in the number of units built still left many subdivisions vacant or only partially occupied. By 1984, there were more than 60,000 rai in land subdivisions. At a conservative density of 5 units per rai (1 rai = 1600 sq.m.) they could accommodate 300,000 housing units, and yet only 70,000 units have been built on them. More than three quarters of the land is still vacant and reserved for future residential development.

Most land subdivisions in Bangkok typically consist of large plots, sufficiently large to contain a free standing house and a garden. Access to the site is provided through narrow lanes which are usually built by private developers seeking access to their land. These developers, in cooperation with the local village headmen successfully negotiate with neighbouring landlords for free right-of-way in exchange for road access on the edge of their plots. Roads are thus laid wherever landlords are most cooperative, often resulting in a zigzag pattern. Negotiations, however, are usually quick and problem free, and developers help finance the minimal land fill and the laterite surfacing necessary to make roads passable throughout the year.

These developers are sometimes the landowners themselves sometimes brokers assembling land for sale for a commission,

sometimes the village headmen, and sometimes any of these in a loose partnership. Developers do not usually cooperate in joint ventures and appear to prefer to work alone. If more than one is participating, each has his or her own project. They are characteristically short of capital and have little access to banks, thus making every effort to reduce their cash expenditures whether on infrastructure and services or on marketing.

As a result, plots in land subdivisions are usually left unfilled and serviced by a network of raised roads which are sometimes paved or at other times remain unpaved. Electricity is usually provided, as well as water, either from the metropolitan water mains or from shallow or deep wells. In general no other services are provided, no amenities, and no public parks and playgrounds.

During the late 1960s there were a number of scandals involving land subdivision. One large developer failed to transfer plots to buyers having earlier mortgaged his land to repay a debt, while others promised services and failed to deliver them. The public outcry that followed resulted in Revolutionary Decree No.286, issued in 1972, which aimed at curbing malpractice in the subdivision and sale of land. As often happens the decree broadened the scope for the control of land subdivisions. In addition to ensuring that land to be subdivided would be free of encumbrances and that developers would have to ensure the delivery of services by depositing financial guarantees, the decree established various regulations requiring minimum plot sizes, road and drainage standards and public amenities. The additional objectives of the decree included the need to protect the urban environment through the introduction of expensive sewage treatment, the need to share the public finance burden by providing land parcels for social infrastructure and the need to ensure proper city planning and traffic flow by providing wide and properly paved roads. No special privileges and exemptions were granted for subdivisions catering to low-income families.

While many land-and-house projects which were more visible and formal in nature started to follow these regulations, traditional land subdivision now became illegal. The decree may have indeed succeeded in curbing some of the earlier offenders, and in protecting the authorities from embarrassment. Fortunately it did not altogether destroy the traditional land subdivision market. Many of the less capitalised entrepreneurs opted to continue to subdivide land in the traditional manner utilising a loophole in the

regulations which exempted a subdivision into nine plots or less from adherence to them.

Subdivision developers would thus obtain one or more land parcels for a land subdivision project. Each of the parcels would then be divided into nine plots, and the plots would then be transferred to acquaintances and relatives. Once the new title deeds were obtained they were submitted again for the subdivision into nine plots until the desired plot layout was achieved. The Land Development Department has been aware of this loophole and is currently revising the regulations. In the meantime, while nine-plot subdivisions have been rejected by officials from time to time, it has been generally possible to provide plots in many projects that do not conform to Revolutionary Decree No.286.

These plots still play an important role in low- and middle-income housing in Bangkok. They are indeed a form of 'sites-and-services' offered by the private sector. They are often the first step up the housing ladder for slum families and it is not unusual to see people moving their slum house and reconstructing it on a plot, after having been evicted from the slum they inhabited before. Indeed, informal subdivisions do not discriminate among different income groups. They contain a large variety of houses, some quite cheap, some rather expensive. However, since land tenure in these areas is eminently secure, for the families holding legal titles to their plots, even the more modest houses inevitably improve over time as families invest their savings and their labour in building and extending their homes.

The following sections examine current land subdivision projects in greater detail in an effort to shed light on their characteristics and their method of operation with a view to adopting the correct set of policies in the future. Thailand's successes in development can largely be attributed to an open minded and pragmatic attitude which until now has managed to avoid major mistakes. A deeper understanding of each segment of the land and housing market and particularly of the role now being fulfilled by the private sector in low-cost housing provision is necessary if mistakes are to continue to be avoided in the future. While it may seem appropriate to control certain malpractice it does appear unreasonable to destroy an important segment of the residential land market catering to low-income families without replacing it with a better alternative for meeting their needs.

Number, location and size of land subdivision projects

We estimate that the number of land subdivision projects currently selling plots is of the order of 100. This estimate was arrived at by identifying 60 projects through newspapers and through the examination of the Government Housing Bank files, by talking to land subdividers, and by assuming that the Study Team was not able to identify many of the more outlying, or hidden projects. This estimate only provides an order of magnitude and must await a more comprehensive survey to arrive at a better figure. The 27 projects surveyed by us contained all together 5,201 plots for sale, of which two thirds were already sold. On average, each project sold 10.2 plots per month. Using these figures, we estimate that 10,000-15,000 plots are sold per year in active land subdivision projects in the Bangkok Metropolitan Region.

More than two thirds of the projects are located upward of 30 km. by roads from the centre of Bangkok. An additional fifteen percent is located within 20 km. and another fifteen percent between 20 and 30 km. from the centre (Figure 1).

The average size of a land subdivision project was calculated to be 38 rai (6.15 ha.) but there was no typical project size to be found. There were projects measuring three rai or less as well as projects measuring more than 100 rai (Figure 2). The average number of plots per project was found to be 135 but given the average plot size and the typical plot layout, these projects could accommodate up to 215 units on average if all the land in the projects was subdivided into plots for sale. Land subdivision projects are much smaller than typical National Housing Authority projects in Bangkok, where the average land area is 613 rai (99 ha.) or typical low-cost housing projects now being built in the city, where the average land area is 150 rai (24 ha.).

A multiple regression analysis of all the major variables affecting the rate of sale of plots in land subdivision projects identified project size as one of the variables significantly affecting sales. The larger the project, the more plots were sold per month.

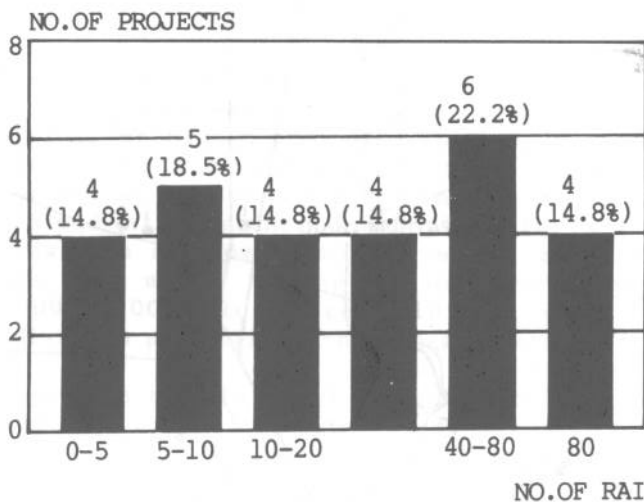
Plots and houses

Land subdivision projects traditionally appeal to families who want to have a relatively large free-standing house located in a garden with a few fruit trees. Many families are indeed willing to live with their parents, to rent a flat or a house for a long period, and even to live in a slum, until



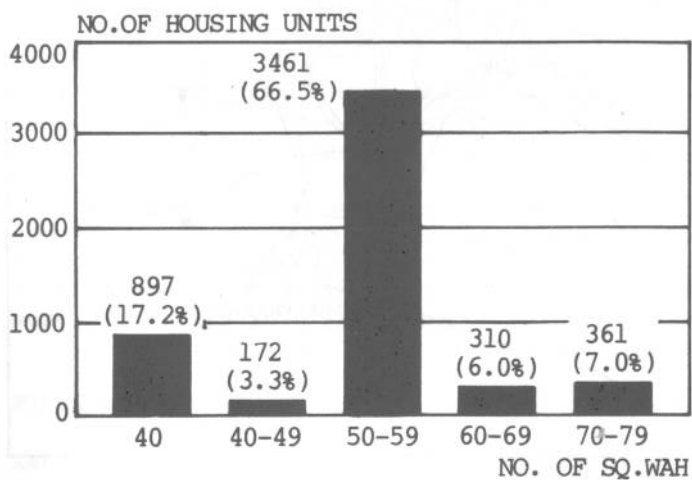
Source: Bangkok Land Management Study, BHA-ADB-PADCO.

Figure 1: Location of 27 land subdivision projects surveyed in 1987



Source: Bangkok Land Management Study, BHA-ADB-PADCO.

Figure 2: Project area



Source: Bangkok Land Management Study, BHA-ADB-PADCO.

Figure 3: Plot size

they can accumulate enough resources to build a 'real' house, which in the Thai cultural context means a one- or two- storeyed detached house. As a result, plot sizes offered in these projects are typically much larger than those offered in low-cost housing projects. The average plot size in the plots offered measured between 50 and 60 square wah (Figure), (1 square wah = 4 sq.m.).

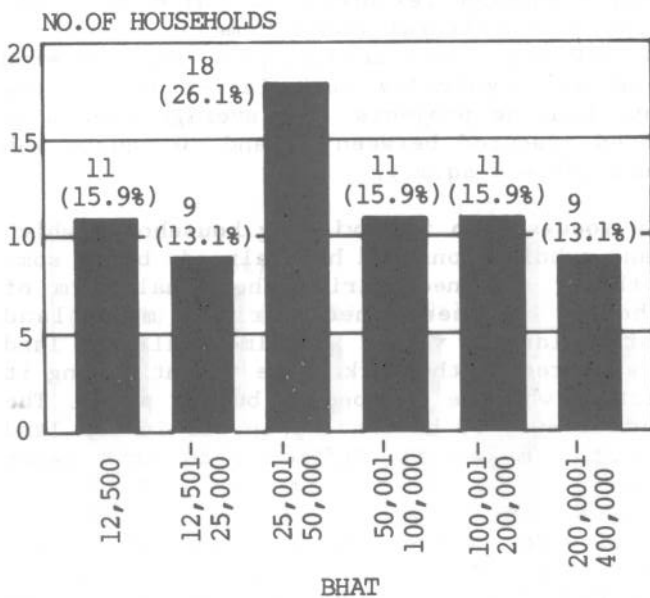
The field survey focussed on interviewing households which have moved into land subdivisions and have already built some form of housing there, not necessarily the final form of their planned house. As mentioned earlier many land subdivisions are still largely vacant and almost all the land subdivisions newly offered on the market are vacant making it difficult to ascertain who are the people buying plots. The small number of interviews, 70 households in all in ten land subdivision projects, makes it difficult to draw major conclusions.

Figures 4 and 5 below do, however, offer an initial insight into the characteristics of houses in land subdivisions. House prices range from 10,000-400,000 Baht, and are fairly evenly distributed in all price categories. Similarly, the floor areas of houses are fairly evenly distributed in all categories, from as little as ten sq.m. to 200 sq.m. This does suggest, as mentioned earlier, that land subdivisions appeal to people of a very large range of incomes, in contrast with typical private sector housing projects which cater for a much narrower income range. Land subdivisions thus continue the Thai tradition of mixed residential land use in great contrast to western cities where neighbourhoods are sharply distinguished by class and income.

Infrastructure and services

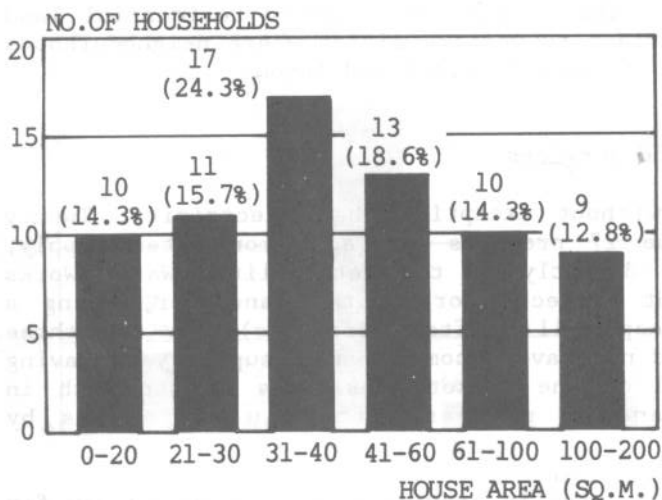
All projects, without exception, had electricity. Twenty three out of the 27 projects had a common water supply, either provided directly by the Metropolitan Water Works Authority (eight projects) or by the landowner, using a shallow or a deep well (fifteen projects). In the three projects that did not have a common water supply yet, having just been placed on the market, residents had to bath in nearby canals and to purchase water in containers by themselves.

Land subdivisions usually provide for the right-of-way for main and secondary roads. Roadbeds are filled while the plots themselves are sold unfilled. The width of roads varies between four and sixteen metres but the majority of main



Source: Bangkok Land Management Study, BHA-ADB-PADCO.

Figure 4: Costs of houses (in.Baht)



Source: Bangkok Land Management Study, BHA-ADB-PADCO.

Figure 5: Area of houses

roads are six to eight metres wide. Fifteen of the 23 projects surveyed had eight metres wide main roads. Secondary roads are narrower usually measuring four to six metres in width.

Whether or not the roads are paved is a key issue in land subdivision projects. Seventeen of the projects surveyed did not provide paved roads, while ten others did. Unpaved roads are usually filled and surfaced with laterite, while paved roads are usually made of concrete and are considerably more expensive. Many land subdivisions expect the municipality to take over the roads and pave them at a later date, thus saving the initial outlay, but at the same time reducing the attractiveness of the plots.

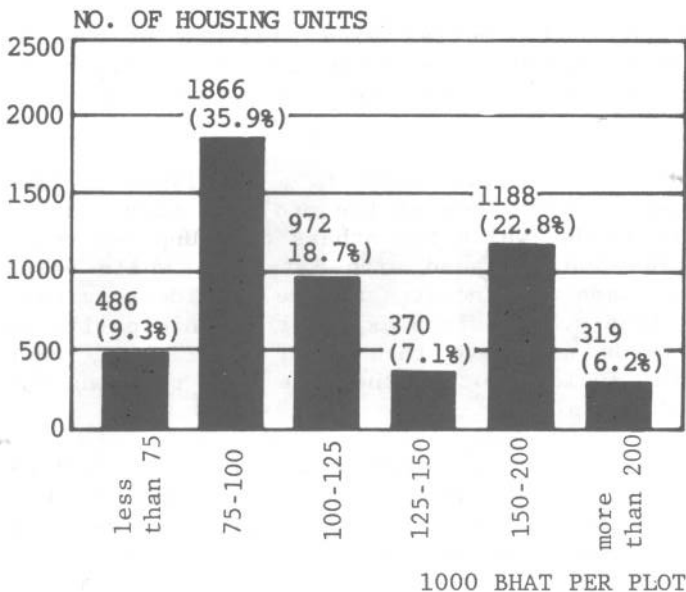
Other than roads, water and electricity no other services are provided; neither drainage nor sewerage, parks, playgrounds or kindergartens, as stipulated in the land subdivision regulations of Revolutionary Decree No.286.

Generally the suburban fringe of Bangkok is served by buses, which carry commuters into the centre of the city. Where there are roads, but no buses, pick-up trucks are usually available to convey passengers to the main roads. Where there are no pick-up trucks there may be motorcycles and sometimes boats. In exceptional cases, people have to walk. Among the 27 land subdivision projects surveyed six had both bus and pick-up services; ten had bus but no pick-up services; eight had pick-up services but no buses; and three had neither buses nor pick-up services yet and people had to walk or go on bicycles about 1.5 km. to a nearby road.

Plot prices and development costs

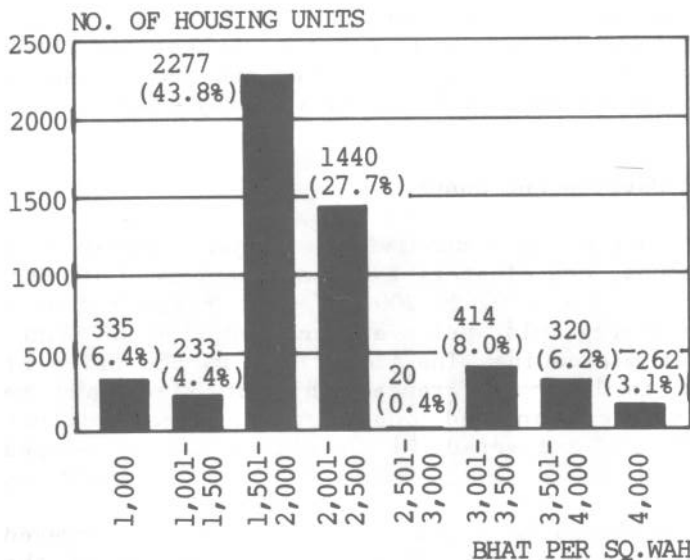
Plot prices in current land subdivision projects break into two distinct groups, one clustering around the 75,000-100,000 and another around the 150,000-200,000 Baht price category (Figure 6). The average plot price encountered, 130,000 Baht, is thus somewhat misleading. The variations in the price of plots are due to both differences in plot sizes and to differences in location and quality of infrastructure services which are reflected in the price per developed square wah of land.

The average developed land price in the projects surveyed was 2,278 Baht in early 1987. More than two thirds of the plots were sold for 1,500-2,500 Baht per square wah (Figure 7).



Source: Bangkok Land Management Study, NHA-ADB-PADCO.

Figure 6: Plot price (in 1,000 Baht per plot)



Source: Bangkok Land Management Study, NHA-ADB-PADCO.

Figure 7: Land price per square wah

A team of trained land valuers was sent to four typical land subdivision projects to assess the cost components and the profit margins that together make up this price. The results of their report are summarised in Table 2.

Table 2: Cost components of one square wah of land in four land subdivision

Item	Sooksan		Minburi		Patana		Koomklao		Average	
Raw land	980	49.0	892	49.6	1,098	43.9	743	43.7	928	46.4
Roads	77	3.8	39	2.2	129	5.2	4	2.4	71	3.5
Water supply	13	0.7	16	0.9	29	1.2	19	1.1	19	1.0
Electricity	34	1.7	30	1.7	61	2.4	11	0.6	34	1.7
Overheads	100	5.0	54	3.0	125	5.0	85	5.0	91	4.6
Interest	300	15.0	323	18.0	281	11.2	178	10.4	271	13.5
Total cost	1,504	75.2	1,353	75.2	1,724	69.0	1,076	63.3	1,414	70.7
Profit	496	24.8	444	24.7	778	31.1	625	36.8	586	29.3
Sale price	2,000	100.0	1,800	100.0	2,500	100.0	1,700	100.0	2,000	100.0

Source: Bangkok Land Management Study, March 1987.

The average raw land price in the four projects assessed was 928 Baht per square wah or 46.5 percent of the sale price for developed land. Raw land prices for the majority of projects was of the order of 700-1,400 Baht per square wah. This price is considerably higher than the maximum price for raw land in the Bangkok Metropolitan Region by the National Housing Authority - 500 Baht per square wah.

None of the four projects assessed by the valuers provided paved roads, although ten of the other 23 projects surveyed did. The average sale price per square wah in these four projects is thus somewhat lower than the overall average, 2,000 Baht as compared with 2,275 Baht. In general the cost of infrastructure in these land subdivision projects is extremely low. In the four projects assessed, infrastructure cost amount to approximately six percent of the final sale price and nine percent of the total cost. The sale price of developed land is 215 percent that of the raw land price resulting in an average profit margin of approximately 30 percent.

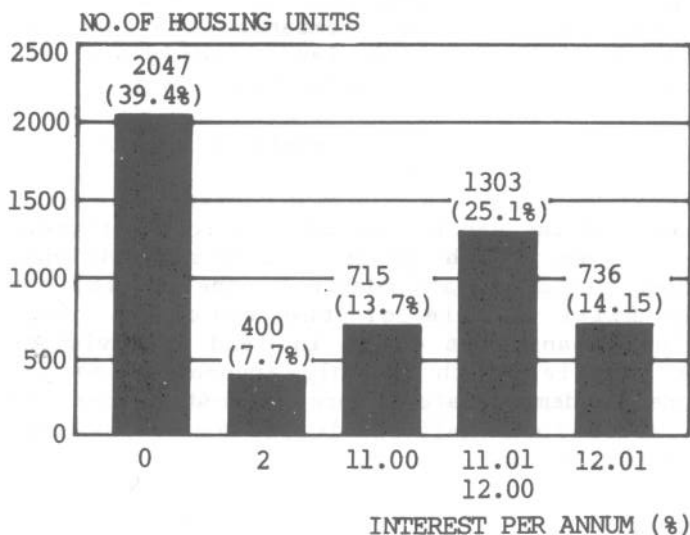
Financial terms

Most land subdivision projects do not calculate interest rates using amortisation tables, but rather determine an informal rate at which they calculate the required monthly payments. As can be observed in Figure 8, almost 40 percent of the projects have a 0.0 percent interest rate, and an additional 20 percent offer below-market interest rates. Only three of the projects surveyed required interest rates of fifteen to sixteen percent. Part of the explanation appears to reside in the informal and rather traditional nature of the arrangements. Part of the traditional system involves payment for one square wah per month, say 60 monthly payments for a plot measuring 60 square wah. Indeed, the distribution of repayment periods shown in Figure 9 closely resembles the distribution of plot sizes shown earlier in Figure 3, reflecting the prevalence of this practice.

Almost two thirds of the buyers pay for the plots within 41-60 months, that is in three and a half to five years. Generally, families buy plots and pay for them gradually. Once they have paid for the plot, they save for the construction of a house. Buying a plot of land is thus a form of forced saving for low- and middle-income families. It is rare for a family to buy a plot and finance a house at the same time, but it appears quite common for families to move their houses from other locations and reconstruct them on the site, or to build a small temporary house with minimal expenditure.

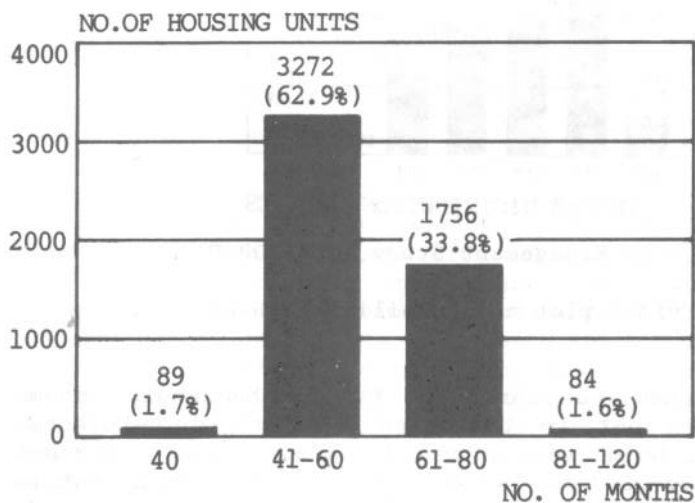
Down-payments for plots were found to be low, 60 percent were below 10,000 Baht and an additional 25 percent were below 20,000 Baht. No data were obtained on terms of payment for the down-payment itself, but the general approach of land subdividers is rather buyer-oriented, trying to fit their collection schemes to the buyer's income patterns. The multiple regression analysis identified the amount of down-payment as a significant variable affecting the rate of sale of plots in land subdivisions.

It is common for the first group of monthly payments, say for the first eighteen months, to be made to the project owner, after which the land is transferred to a financial institution; the project owner is paid off and the buyer pays the rest of the monthly payments to the financial institution, usually in his own neighbourhood. The payment records appear to be good, with little or no default reported by the sellers. Forty-seven percent of the buyers paid less than 1,500 Baht per month, and an additional 50 percent paid less than 2,500 Baht per month.



Source: Bangkok Land Management Study, NHA-ADB-PADCO.

Figure 8: Interest rate



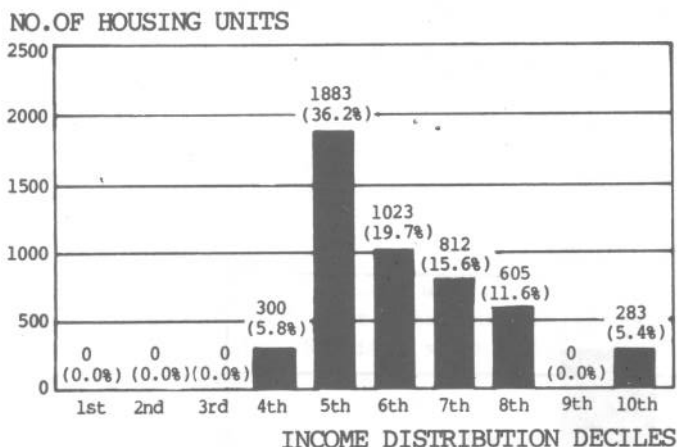
Source: Bangkok Land Management Study, NHA-ADB-PADCO.

Figure 9: Repayment period

Although the Government Housing Bank does not provide long-term loans for land purchases, limiting its loans to house-and-land packages only, there are many other banks, credits 'fonciers' and insurance companies that provide financing for the purchase of land in land subdivisions. All the major banks provide such financing to their clients.

Affordability

If we assume that families can pay up to 25 percent of their monthly household income for the plots in land subdivisions, we find that these plots are affordable by the fourth, but mainly by the fifth decile of the current income distribution. This means that plots in land subdivisions actually serve families with monthly incomes below the median. As Figure 10 demonstrates, more than 40 percent of the plots were found to be affordable by households with incomes below the median income in the city at this time.



Source: Bangkok Land Management Study, NHA-ADB-PADCO

Figure 10: Subdivided plot affordability 1986-87

This is further substantiated by the household income surveys carried out in ten land subdivision projects. Sixty-eight households were surveyed and more than 50 percent were found to have incomes below 6,000 Baht per month that is below the median income in Bangkok. It should be noted, however, that the sample surveyed was small and not necessarily random and that the assumption that households can pay up to 25 percent of their incomes on the purchase of

plots is also questionable, particularly if they have to continue to bear other housing expenditures. Field observations, as well as the household income surveys do indicate, however, that plots in land subdivisions are in fact purchased by lower-than-median income families.

Rate of sale of plots

Land subdivision projects sometimes continue to sell plots for many years, and sometimes sell plots rapidly. The average date of the start of sales in the projects surveyed, all of which still offer plots for sale, was November 1983, that is four years ago. Two thirds of the overall number of plots were sold by the time of the survey.

Land subdivision projects sold 10.2 plots per month on average. A multiple regression analysis was carried out to determine which variables were significantly correlated with the rate of sale of plots. The two projects where plots were sold the fastest, one at the rate of 75 plots per month and the other at the rate of 33 plots per month, were considered too unique to be included in the analysis. General variables such as 'road distance from the city centre', 'plot price', 'plot size', 'price per square wah', 'interest rate', 'repayment period', 'width of main roads', 'number of bus lines', or 'date of sales started' did not appear to lead to a significant relation to the rate of sale. Only the 'down-payment', the 'monthly payment' and the 'size of projects' were found to be significantly correlated with the rate of sales at 0.05 level of significance.

Three policy implications

The informal land subdivision system in Bangkok is only one of a number of markets providing housing alternatives to lower-income people in the city and any attempt to formulate policies which take it into account must be conceived in a more comprehensive framework of national housing policy. Indeed, it is unfortunate that up to the present, its role in the provision of low-cost housing has been ignored. At this point in time it is only possible to draw a few general guidelines for policies affecting the future growth of the informal land subdivision market in Bangkok. An important opportunity for implementing such policies may be forsaken, if the new land subdivision regulations currently being discussed are passed without due regard to the findings of this study.

Three important issues appear to emerge from the findings:

- i. the need to draw attention to this phenomenon in spite of the danger of exposing it to stricter controls;
- ii. the need to devise two sets of regulations for land subdivisions, in spite of the official reluctance to do so; and
- iii. the need to allow infrastructure services in low-cost subdivisions to improve over time, possibly with public assistance.

Each one of these three issues is controversial, and each requires a difficult resolution of conflicting interests and objectives.

The issue of drawing attention

This study has drawn attention to the informal land subdivision system in Bangkok and to its role in supplying low-cost housing alternatives to families below median incomes in Greater Bangkok. Drawing attention to this phenomenon is a two-edged sword. On the one hand, it is important to point out to those responsible for maintaining and increasing the supply of low-cost housing arrangements in the city that this market segment does indeed supply housing solutions. The National Housing Authority (NHA) as the government agency with the mandate to oversee housing conditions and improve them should indeed take heed of the various land and housing market segments that serve low-income groups, and urge other government agencies, in this case the Department of Lands to relax the conditions governing land subdivisions so as to make them more accessible to low-income groups. At present, the NHA is chiefly concerned with its own housing production, rather than with increasing production in existing markets. It would do well to become involved in facilitating production by other market agents who in fact do their own work. To the extent that the facts of this case succeed in drawing attention to this market segment, and to the extent that the NHA acts to move the government to respond positively to its potential, the goal of this research effort would have been achieved.

There is, however, another important point to be considered. The informal land subdivision system is at present extra-legal. Technically, no laws are being broken by anyone submitting or approving a nine-plot subdivision. In an

important way, however, the spirit of the Revolutionary Decree No.286 is being ignored, but in another way the Department of Lands is responding positively to a real need by allowing this practice to continue. Blaming the Department of Lands for laxity in enforcing the decree would therefore be counter-productive. Thus, if drawing attention to this practice may prove embarrassing to the Department of Lands, it will not have achieved its original purpose. The Department is most likely to respond to this challenge by a stronger emphasis on law enforcement and by calling for an end to the nine-plot subdivision process, thus leading to the abolition of traditional subdivisions.

Indeed, the Department is concerned with ridding the regulations of this loophole, and is currently in the process of revising them. Some officials have been instructed not to approve nine-plot subdivisions where they suspect that they are part of a larger subdivision. The most feasible course of action at this time may be a low key intervention with the Department of Lands, suggesting that informal subdivisions do play an important role in low-cost housing provision, and that they should be allowed to survive without necessarily requiring the passage of special regulations governing them. If this is sufficient to ensure the survival of low-cost land subdivisions, the problem can be easily solved. It becomes more difficult if a more serious campaign is required to persuade the Department of Lands to take a public stand on the issue, and to create two separate standards for land subdivisions. The two-standard system always poses difficult dilemmas for officials.

The two-standards dilemma

At present there is only one standard for land subdivisions, applying to all classes of construction for all income groups. Clearly, the higher standards required by the land subdivision regulations increase costs of development and hence the prices of plots. At present plots are affordable by families with lower-than-median incomes, but with a minor increase in development costs, they would no longer be affordable. Moreover, any increase in the cost of housing which is now available with only minor infringements of the spirit of the law forces some families further down the housing ladder, increasing the number of slum dwellers and particularly the number of squatters which occupy land illegally and thus break the law in a more serious manner. Indeed while the number of squatments as a proportion of the total slum dwellers in Bangkok is low, it is definitely on the increase; the number of squatter settlements rose from

108 in 1974 to 175 in 1984, squatters comprised one quarter of all new slums created between 1974 and 1984 (Table 3).

Table 3: Increase in the number of slum communities, 1974-84

	<u>Rental slums</u>	<u>Squatters</u>	<u>Number of communities</u>
1974 slums	632 (85%)	108 (15%)	740 (100%)
New slums 1974-84	213 (76%)	67 (24%)	280 (100%)
1984 slums	845 (83%)	175 (17%)	1,020 (100%)

Source: Bangkok Land Management Study, March 1987.

Clearly then there is scope for allowing land subdivision for low-income groups to continue, possibly with the creation of special minimum standards befitting the ability to pay of lower-income groups. This is indeed the approach taken in Bogotá, the capital of Colombia, which passed special subdivision regulations ('normas minimas') in 1972, to create an alternative to informal 'pirate' subdivisions in the city.

The aim of the legislation in Bogotá was to open a new market in legal land subdivisions, that would appeal to those preferring smaller plots with better services to larger ones with minimal services (Carroll 1980). The 'normas minimas' approach has been quite successful, but some of the similar difficulties encountered with its acceptance in Bogotá are likely to be found in Bangkok. There was considerable resistance to the proposed standards by officials who claimed that by having two separate standards they officially endorsed discrimination between rich and poor, and gave official support to the creation of new slums. Infrastructure authorities, who also resisted the move to allow 'normas minimas', claimed that lower road, water and electricity standards posed later maintenance problems and additional expenses.

In spite of these objections, the 'normas minimas' regulations were accepted and approved. They still suffer from lack of official support, which in turn creates delays in the issuance of permits, sometimes lasting one or two years. There is also reluctance on the part of 'pirate'

subdividers to seek permits. As a result, 'normas minimas' plots are still in short supply, although they do sell well in spite of the fact that they are more expensive than plots in 'pirate' subdivisions.

In the case of Bangkok, the same official reluctance to approve two separate standards exists. Revised land subdivision regulations have now been drafted and are likely to be approved soon by the Department of Lands. These revised regulations do not attempt to devise two standards or to relax the rules for low-cost subdivisions. In fact, low-cost land subdivision developers and buyers have never been sufficiently organised as a group to exert any influence on the drafting of the regulations.

This is unfortunate, particularly because such regulations could play a most useful part in mediating and resolving conflicts between buyers and sellers of serviced plots. This original role envisioned for Revolutionary Decree No.286 has now been superseded by attempts to control the form of land subdivisions, demanding that sellers produce a different product than the one they do now and that buyers pay more for services they do not necessarily want. It is only to be hoped that future insistence on expensive standards and regulations will be restrained lest it hurt the people it originally sought to protect.

The gradual improvement of infrastructure services

At present, many land subdivisions provide unpaved roads. Later, some of these roads are transferred to the municipality free of charge. The municipality then paves them and ensures that they are properly maintained. This process makes it possible for the private sector to negotiate for road right-of-way, and for the public sector to receive the right-of-way free of charge, unburdened by the need to acquire road space by the use of eminent domain. The criticism often levelled at this process is that roads are located in an unplanned manner, that they are not sufficiently wide to accommodate future vehicular traffic, and that the public is burdened with costs that should be born by the developers. An additional argument is that the developers may be making excessive profits, and that some of these profits should be used to provide better roads.

It is difficult to assess at this point whether or not subdivision developers are making excessive profits, although it does appear that the profit margin in the land subdivision process is higher than in the land-and-house business. To the extent that these subdivisions are serving low-income

groups, the provision of paved roads by the municipal authorities does serve a socially useful function, and is by nature redistributive and socially justified. It does, in the last analysis, save the authorities both time and money as well, even though the roads may not be as wide and as well located as they indeed should be.

There is room for cooperation, therefore, between land subdividers and municipal authorities, ensuring that road right-of-way is up to the municipal standards, if it is later to be paved and maintained by the municipality. Some informal arrangements may already be operating in this manner, and they are to be preferred to strict regulations requiring that all roads be paved to a high standard in advance.

To conclude, the key policy implication of the above analysis circles around the need to maintain the low cost of land subdivisions in Bangkok, so as to continue to make them affordable to families with incomes below the median. This can only be done through an improved understanding of their needs, as well as those of the developers who are currently meeting their needs. These low-income families are the ones most likely to suffer from too narrow a focus on a set of subdivision regulations which is solely aimed at moderate- and high-cost land-and-house projects.

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Annexe 1: Summary results of sales office survey of 27 land subdivision projects in Bangkok, December 1986-February 1987 (selected reporting)

S1. No.	Developer	Land area (rai)	No.of plots	Size of plots (sq.wah)	Price/ sq.wah	Plot price	Down payment	Monthly payment	Payment period
1.	Land owner	76.5	200	74	2,500	185,000	0	1,500	60
2.	Land owner	100	680	50	2,500	125,000	0	1,500	120
3.	Company	60	350	50	1,500	76,500	0	1,800	31
4.	Company	6	40	50	6,000	300,000	300,000	4,064	10
5.	Land owner	50.7	400	50	1,700	85,000	0	1,700	60
6.	Company	80	300	100	4,000	400,000	200,000	n.a.	120
7.	Land owner	80	300	100	600	60,000	5,000	1,146	48
8.	Company	40	150	45	2,000	90,000	0	1,500	60
9.	Land owner	20	140	66	1,200	79,200	5,000	n.a.	60
10.	Company	9	71	30	5,500	165,000	0	1,375	120
11.	Land owner	10	60	50	1,800	90,000	0	n.a.	60
12.	Land owner	46	170	50	1,800	90,000	0	1,500	60
13.	Company	120	500	50	2,000	100,000	10,000	2,500	60
14.	Company	15	60	50	3,600	180,000	18,000	2,000	180
15.	Company	38.2	200	50	3,900	195,000	3,900	2,173	120
16.	Company	35	96	60	2,500	150,000	0	1,500	96
17.	Company	10	71	50	2,500	125,000	0	1,500	48
18.	Land owner	11	80	50	2,000	100,000	0	2,000	48
19.	Land owner	30	173	50	2,400	120,000	6,000	1,800	120
20.	Company	84	240	200	2,000	400,000	150,000	5,744	60
21.	Land owner	4	16	100	2,500	250,000	n.a.	n.a.	60
22.	Land owner	11.5	35	100	720	72,000	18,000	1,971	36
23.	Company	70	400	50	3,220	160,000	0	2,069	120
24.	Land owner	8.8	48	60	1,440	86,400	20,000	1,335	60
25.	Land owner	5	30	60	1,833	11,000	20,000	1,500	60
26.	Company	3	20	60	1,300	78,000	10,000	n.a.	120
27.	Land Owner	1.5	10	50	2,000	100,000	20,000	n.a.	20

Source: Bangkok Land Management Study 1987.