Technical Report 3:

THE DOWN-MARKET TREND IN HOUSING PRODUCTION IN BANGKOK, 1980-1987

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### ABSTRACT

me private sector has moved down-market in 1986, initiating at 37 new projects which offer housing at prices ranging from 50,000 to 250,000 baht. A sales office survey was conducted in 11 these projects, as part of the Bangkok Land Management Study. These 37 projects are now producing more than 6,800 low-cost rousing units, usually single-storey and two-storey row houses on 11 individually-owned plots of land. The bulk of the houses in the 175,000 to 200,000 baht range, with average down syments of 52,000 baht, and monthly payments of 1,750 baht on 16-year mortgage loans bearing an 11.75% interest. A significant simber of houses are in the 150,000-175,000 category, with verage down payments of 46,000 and monthly payments of 1,500 baht. A comparison of rates of sale shows that these low-cost buses are now selling three times as fast as other land-and-buse packages on the market.

of we assume. as is the common practice, that new home buyers all be willing to pay 25% of total household income for housing, then households with a monthly income of 6,000 baht can now afford a house in Bangkok. A comparison with conditions in the ousing market in 1980 shows that at that time, almost no bousehold with a monthly income of less than 10,000 baht could fford a house produced by the private sector. At that time 85% if the households in Bangkok, had incomes below that figure. liven the growth of household incomes, the reduction of house izes and plot sizes, the increased availability of long-term inancing, the reduction of interest rates, the increased revalence of installment plans for down payments, illingness of developers to cater to the low-income market, only 5% of the households in Bangkok could not afford to buy a small Mouse in 1986-87. One-third of the population living in slums can now afford to own a small house.

The private sector is now producing houses for sale at prices which are right in the middle of the price range of houses offered for sale by the National housing Authority. If the NHA wants to continue to operate in its traditional markets, it can not longer assume that it can independently determine what it wishes to produce with the assurance that low-income people will purchase whatver it has to offer. More realistically, it may find itself having to respond in a flexible and creative manner to the changing demand and supply conditions in Bangkok's dynamic housing market.

### บทคัดย่อ

ในปี พ.ศ. 2529 ได้มีการเคลื่อนไหวตลาดที่อยู่อาศัยของภาคเอกชน โดยภาค เอกชนได้เริ่มจัดทำโครงการจัดสรรบ้านราคาถูก จำนวนโครงการที่ดำเนินการอยู่ขณะนี้อย่างต่ำ ที่สุดมี 37 โครงการ ราคาขายระหว่าง 150,000 ถึง 250,000 บาท การศึกษาโครงการบ้าน จัดสรรราคาถูกนี้ เป็นส่วนหนึ่งของโครงการจัดการที่ดินในกรุงเทพมหานคร สำหรับวิธีการศึกษา ได้ใช้วิธีสำรวจโครงการและสัมภาษณ์พนักงานขาย จากจำนวน 37 โครงการที่ศึกษามีจำนวนหน่วย ที่ก่อสร้างทั้งหมด 6,800 หน่วย แบบบ้านส่วนใหญ่จะเป็นบ้านแถวขึ้นเดียว หรือบ้านแถวสองขั้น ถ้าหากจะแบ่งประเภทบ้านจัดสรรราคาถูกตามระดับราคาจะสามารถแบ่งออกได้เป็นสองประเภท ใหญ่ ๆ คือ ประเภทแรก บ้านส่วนใหญ่อยู่ในระดับราคาระหว่าง 175,000-200,000 บาท เงินคาวน์โดยเฉลี่ย 52,000 บาท ผ่อนชำระเดือนละ 1,750 บาท ระยะเวลา 15 ปี อัตรา คอกเบี้ย 11.75% ส่วนอีกประเภทหนึ่งมีราคาระหว่าง 150,000-175,000 บาท เงินคาวน์ 46,000 บาท และผ่อนชำระเดือนละ 1,500 บาท จากการเปรียบเทียบอัตราการขายระหว่าง โครงการบ้านจัดสรรราคาถูกกับโครงการบ้านจัดสรรอื่น ๆ ที่ขายอยู่ในตลาดขณะนี้พบว่า บ้าน จัดสรรราคาถูกนี้ขายได้ดีกว่าถึงสามเท่า

ถ้าหากจะใช้ช่อสมมติฐานขึ้งนิยมใช้กันอยู่ทั่ว ๆ ไป คือ ครัวเรือนที่เพิ่งชื้อบ้าน ใหม่นั้นมีความสามารถในการจ่ายเกี่ยวกับเรื่องที่อยู่อาศัยประมาณ 25% ของรายได้ครัวเรือน นั้น หมายความว่าครัวเรือนที่มีรายได้ 6,000 บาทต่อเคือน สามารถชื้อข้านได้สำหรับสถานการณ์ ตลาดที่อยู่อาศัยปัจจุบัน ถ้าเปรียบเทียบกับสถานการณ์ที่อยู่อาศัยในปี 2523 ซึ่งพบว่าครัวเรือนที่ ชื้อบ้านจัดสรรเอกชนได้จะต้องมีรายได้ 10,000 บาทขึ้นไป ถ้าคิดเป็นจำนวนกรัวเรือนจะมีจำนวน ถึง 85% ที่ไม่สามารถชื้อข้านจัดสรรของภาคเอกชนได้ แต่สำหรับปัจจุบันนี้ปัจจัยต่าง ๆ คือ รายได้ ของครัวเรือนที่เพิ่มขึ้น ขนาดของบ้านและแปลงที่ดินที่มีขนาดเล็กลง การให้มีเงินกู้ระยะยาว และ อัตราคอกเบี้ยที่ลดลง และการให้มีการผ่อนชำระเงินดาวน์เป็นงวด ๆ ประกอบกับความตั้งใจจริง ของภาคเอกชนในการจัดสร้างที่อยู่อาศัยให้กับผู้มีรายได้น้อย ปัจจัยเหล่านี้มีผลให้ครัวเรือนใน กรุงเทพมหานครที่ยังไม่สามารถชื้อป้านหลังเล็ก ๆ ได้ มีจำนวนเพียง 45% ในปี พ.ศ.2529–2530 และหนึ่งในสามของจำนวนครัวเรือนดังกล่าวอาศัยอยู่ในชุมชนแออัด

#### I INTRODUCTION

long as the public sector can justifiably claim that the private sector is ignoring low-income house buyers and focussing marketing efforts on the rich, it can fruitfully engage in production and sale of low-cost houses without competing directly with the private sector. Indeed, there is usually a broad segment of the housing market, a specific market 'niche', which housing authorities can operate without significant competition from the private sector. Lack of private-sector interest in this niche leads to the conclusion that it is unprofitable, and provides the rationale for central government budgets, concessions, subsidies and foreign loans which are all required to assist housing authorities in providing houses to those in need despite the losses it entails. One of the key questions being explored by the Bangkok Land Management Study is whether or not such a niche exists in Bangkok at the present time.

The findings of the Study indicate clearly that the private sector now provides housing arrangements that are marketed to all income groups without exception, and that almost all the housing packages produced by the National Housing Authority, with the possible exception of its basic core houses, must compete, to a greater or lesser extent with private-sector housing.

The recent emphasis of the Thai Government on the 'privatization' of its public enterprises in general, and the National Housing Authority (NHA) in particular, calls for operating the Authority as a self-financing institution, without the traditional support from the central government in the form of subsidies, but still with special concessions and with access to foreign loans. This essentially requires the NHA to fend for itself and to operate on a no-loss basis, with the income from the sale and management of housing estates covering its expenses. Given the dynamic nature of the private housing sector in Thailand and its rapid incursion into new markets, the NHA has no choice but to face direct competition from the private sector.

The NHA, given its size, will have to maintain a certain market share. To do so, it can engage in any one of three complementary strategies: Direct competition in the more lucrative markets, cooperation and income-sharing with the private-sector in the limited number of arrangements which can satisfy both parties, and movement further down-market where its may have a relative comeptitive advantage. There is no doubt that the NHA will attempt to explore all three strategies. Regardless of which one takes precedence, all three require a keen market orientation and a deeper understanding of current market operations.

The Land Management Study seeks to provide the NHA with a broad perspective of the present housing market, as well as with more detailed studies of specific segments of the market which focus their efforts on low and middle-income groups, traditionally considered the market 'niche' of the NHA. Four such active market segments have been identified:

(1) The low-cost land-and-house market, which is the

subject of this Working Paper;

- (2) The informal land subdivision market, offering unfilled large plots with minimal services a traditional form of 'sites-and-services' (See Working Paper 5);
- (3) The land rental market, offering small plots for the construction of temporary shelter, mostly in the 'slum' category (see Working Paper 4); and
- (4) The low-cost rental market, offering small rooms and apartments usually in row houses and low-rise apartments.

The low-cost housing market in Bangkok is definitely a new phenomenon, so new in fact that no study or assessment of it exists. This Working Paper is the first attempt to describe it, to provide an initial explanation for its rise, and to begin to assess the policy implications of its future growth.

#### II THE DOWN MARKET TREND

### 1. Methodology

The analysis of the down-market trend in housing production in Bangkok is based on data from four major sources:

- (1) The 1980 Housing Market Survey carried out by the NHA;
- (2) The 1987 survey of low-cost housing projects carried out by the Hangkok Land Management Study team;
- (3) Income distribution data, mostly from surveys by the National Statistical Office (NSO); and
- (4) NHA house prices data from the Department of Finance of the NHA.

The 1980 Land Market Study: The NHA conducted an extensive housing market survey in August of 1980, under the direction of Mr. Alain Bertaud. The study, entitled "Present Standards and Prices on the Housing Market in Bangkok (August 1980)" was based on the analysis of sales office interviews in 126 land-and-house projects, excluding luxury housing estates.

The 1987 bow-Cost Housing Survey: The Bangkok Land Management Study team conducted sales office interviews in more than 120 projects, including all projects that could be identified in the city, whether from newspaper or television advertisements, or from windshield surveys, that were selling land-and-house packages for less than 250,000 Baht. A total of 37 such projects were located during January and February, 1987 (see Annex 1). Valuation surveys were carried out by a team of trained valuers in several projects, with the purpose of determining their cost components and profit levels.

Income Distribution Data: The National Statistical Office has published two reports on incomes in the Greater Bangkok area, which includes the Bangkok Metropolis, Nonthaburi, Pathum Thani and Samut Prakan. These reports provide data on the income distribution in 1975-76 and in 1981. An interim report on average income, but not its distribution, in the first quarter of the year was published by the NSO in 1986. These three sources were used to interpolate the income distribution in 1980 and to estimate the income distribution in 1986. Additional income data from 160 slums surveyed by the NHA in 1985, and consumer price indices published by the Bank of Thailand were used to complement the NSO data (see Annex 2).

NHA House Price Data: Data on house prices of all units built in Bangkok on land purchased and developed by the NHA were assembled by the Study Team from files in the Finance Department of the NHA. Prices of 18,000 housing units put on sale by the NHA between 1981 and 1985 were compared with prices of low-cost houses currently produced by the private sector (see Figures 15 and 18, and Annex 3).

### 2. The Down Market Trend

Between 1974 and 1984, private-sector land-and-house projects in Bangkok expanded at an unprecedented rate. The total number of housing units in these projects increased from a mere 20,200 in 1974 to 113,800 in 1984, an increase of 460%, and an annual increase 19%. <1> This rapid increase in the number of houses offered for sale over the past decade, first to high-income and later to middle-income families, resulted in a saturation of this market and the slowing down of sales in the more-expensive housing categories.

By 1986, while economic conditions and purchasing power improved, and while developers could gain access to cheaper capital and home-buyers to lower interest rates, there still appeared to be an excess capacity in the housing construction sector. As a result, a number of pioneer developers, some new to the field and some already established and experienced in the production and marketing of houses in the city, attempted to capture new markets by appealing to lower-income families. This resulted in the creation of new housing estates in 1986, where some or all of the houses were targeted at groups which were previously excluded from the private-sector housing market.

Low-cost houses in these new estates differed markedly from the typical houses produced in 1980, and documented in the NHA 1980 Housing Market Study in several important aspects:

- (1) Floor areas were smaller;
- (2) Houses were almost exclusively row houses;

<sup>&</sup>lt;1> Results of a comparison of air photographs taken in 1974 and 1984 for the Bangkok Metropolitan Region Study, and later analyzed as part of the Bangkok Land Management Study.

- (3) Plots were smaller; and
- (4) Projects were located further.

In addition, houses became more affordable because of recent changes in economic conditions:

- (1) There was marked increase in liquiditiy in local financial markets, improving access to capital for construction, and inducing many newcomers into the housing sector;
- (2) There was a marked reduction in interest rates;
- (3) Many local commercial banks, finance companies and insurance companies started to compete in the long-term mortgage loan market;
- (4) Paying for the down payment in several installments, over a period of six months and more, became much more prevalent; and
- (5) Household incomes have increased, both in nominal and in real terms.

A comparison of actual changes in the averages values of these key parameters between 1980 and 1986 reveals that floor areas in the new low-cost projects measure less than 50 square meters, compared with 86 square meters in 1980 - a 42% reduction in house size. Average plot sizes are 19 square wah (1 square wah = 4 square meters) in 1986, compared with 44 square wah in 1980 - a 56.5% reduction.

In addition, the sale price per square meter of completed houses changed from an average of 3,500 Baht in 1980 to 2,600 Baht in 1986. This change was partly due to a significant reduction in the cost of construction financing because of lower interest rates and faster construction times, and possibly because of a sdmewhat lower quality of the finished product. Developed land prices, on the other hand, increased from an average of 2,800 Baht per square wah in 1980 to 3,400 in 1986, even though projects were located further away.

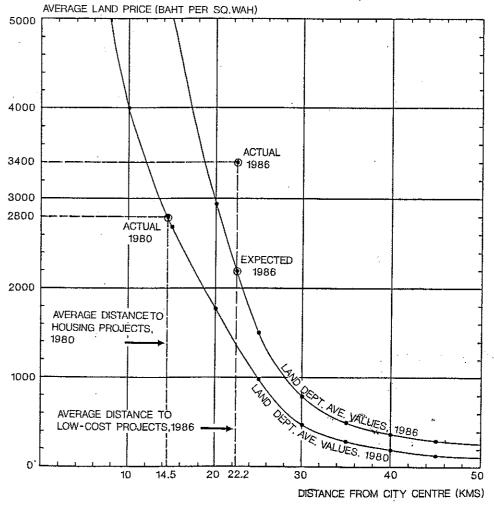
In 1980, the average distance of land-and-house projects from the city center was 14.5 kilometers. This distance did not increase appreciably for new land-and-house projects that were not in the low-cost category. In 1987, the average distance of these new land-and-house projects from the city center was 15.7 kms. Low-cost land-and-house projects, on the other hand, were located at an average distance of 22.2 kilometers from the city center (see attached map).

Average land prices per square wah for each sub-district (kwaeng) in Greater Bangkok were estimated from assessed market values published regularly by the Department of Lands. <2> These values were then plotted against distance from the city center to obtain a curve of average land price as a function of ditance from the city center. The land price curves for 1980 and 1986 are shown in Figure 1 below.

When we examine the increase in land prices between 1980 and 1986

(the shift from the 1980 to the 1986 curve) and combine it with the reduction in land prices due to increased distance from the center (movement along the 1986 curve), we find that the increase in land prices in the new low-cost projects is considerably higher than expected. As can be seen from Figure 1, land prices should have decreased from 2,800 Baht per square wah in 1980 to 2,200 in 1986 at the new locations. Instead, they increased to 3,400. This tends to suggest than on average developers were making considerable profits on the sale of developed land in these projects. In individual terms, some developers which bought land and sold it soon afterwards made large profits, while others sold some of their land holdings at cost prices to reduce their land inventories.

# 1: ACTUAL AND EXPECTED LAND PRICES AT AVERAGE PROJECT LOCATIONS, 1980-1986



<sup>&</sup>lt;2> Department of Lands, <u>Assessed Market Land Values</u> for Bangkok Metropolis, Nonthaburi, Pathum Thani, Samut Prakan, Samut Sakhon and Nakhon Pathom, Central Valuation Office, Department of Lands, Ministry of Interior, Bangkok, 1980 and 1986.

### 3. The Increase in Affordability

Except for the increased distance from the city center, coupled with the increase in developed land prices, all other parameters acted together to make land-and-house packages more affordable. The percentage of the total cost required as a down payment remained approximately the same, but it has now become a general practice to pay it in installements ranging from 3 to 15 months. Interest rates, which averaged 16% per annum in 1980 are now averaging 11.75%. In addition, average household incomes in Greater Bangkok increased by 37% during this period, while the Consumer Price Index increased by less than 32% <3>

The overall effect has been a marked reduction in the price of houses offered by the private sector, an additional reduction in monthly payments because of the lower interest rate, and an additional increase in housing affordability because of the rise in incomes.

The effect of these key paramaters on monthly payments is illustrated in Table 1 below. The average values for each paramter in 1980 were replaced, one by one, by the new values for 1986, and their effect was calculated using the compound interest formula for monthly payments. The reduction of floor area resulted in a 28% reduction in average monthly payments and the reduction in plot size in 14%. The reduction in the sale price per square meter resulted in a reduction of 15%, and the increase in developed land price resulted in a corresponding increase in monthly payments of 9%. Finally, the reduction in interest rates

TABLE 1: A COMPARISON OF AVERAGES OF KEY HOUSING PARAMETERS AND THEIR EFFECT ON MONTHLY PAYMENTS, 1980-1986

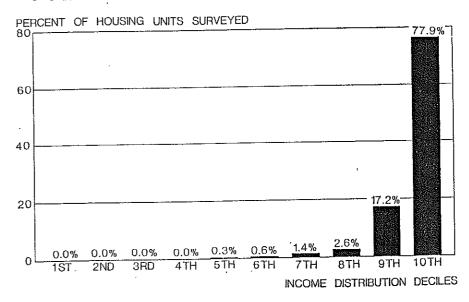
	AVE	RAGE VAL		THE PERCENT EFFECT
PARAMETER	1980	1986	% CHANGE	ON MONTHLY PAYMENTS <1>
FLOOR AREA (SQ.M.)	85.7	49.7	-42	-28
PLOT SIZE (SQ.WAH)	44.4	19.3	-57	-14
HOUSE PRICE (BAHT PER SQ.M.)	3500	2600	-26	-15
LAND PRICE (BAHT PER SQ.WAH)	2800	3400	+21	+9
INTEREST (PERCENT)	16.05	11.76	-27	-17
MONTHLY PAYMENT (15 YEARS)	4380	1760	-60	-60

<1> The percent effect on monthly payments was calculated assuming all other paramaters remain unchanged, and using the compound interest formula for monthly payments.

overall reduction in average monthly payments amounts to 60%, which does not mean that houses were now 60% cheaper, but rather that new houses in the 150,000 - 250,000 Baht range are now being offered at monthly payments which average 40% of the prevalent monthly payments in 1980.

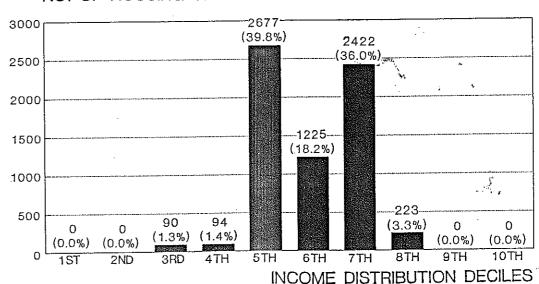
If we assume, as it commonly done, that new home buyers are willing and able to spend 25% of their monthly household incomes on monthly payments, we can examine the target income groups for

# 2: TARGET INCOME GROUPS FOR PRIVATE-SECTOR HOUSING IN 1980



# 3:TARGET INCOME GROUPS FOR LOW-COST PRIVATE SECTOR HOUSING, 1986-1987

NO. OF HOUSING UNITS

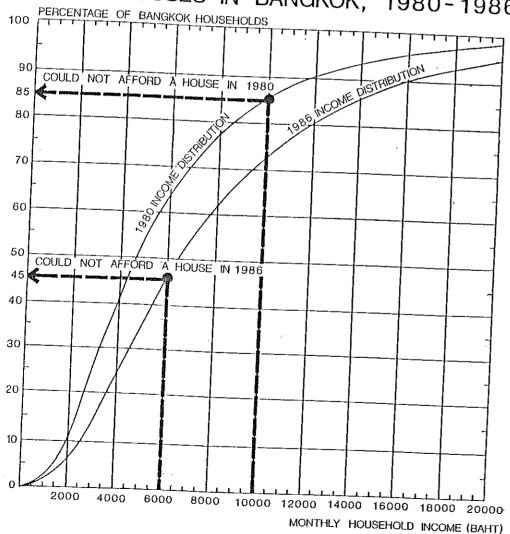


<sup>&</sup>lt;3> Bank of Thailand, <u>Quarterly Bulletin</u>, Vol.26, No.3, September, 1986, Table 54, p.84.
resulted in an a reduction of 17% in monthly payments. The

private-sector houses in 1980 and for low-cost private sector houses in 1986. As figure 2 above demonstrates, most houses offered for sale in 1980 were targeted at the 9th and 10th decile 65% of the households in Bangkok, those with incomes below 10,000 time. In other words, 85% of the houses offered for sale required monthly payments of more than 2,500 Baht.

In 1986-1987, low-cost land-and-house packages were targeted at the 5th - 7th income decile, as shown in Figure 3 above. Significant numbers of these are available for monthly payments of less than 1,500 Baht and thus affordable by households earning reduction in monthly payments and the increase in incomes, only by the private sector. This is illustrated graphically in Figure 4.

# 4: INCREASE IN AFFORDABILITY OF PRIVATE-SECTOR HOUSES IN BANGKOK, 1980-1986



Thus in a span of six years, there was a major increase of housing affordability in the city. Private sector houses became considerably more affordable by middle and low-income groups, and even by large segments of the slum population. An initial examination by the Land Management Study team of the income distribution in 1985 of more than 1,000 slum households in the more established slums in Bangkok (those improved by the National Housing Authority, which normally do not include the lowestincome squatter communities) shows that one-third of this slum population could now afford a low-cost house, provided they were willing to move out of the slums. The average distance of the stums from the city center, however, is less than 9 kilometers, suggesting that many low-income people place an important value on access to income-earning opportunities, despite the miserable environmental conditions and the insecure tenure in the slums in which they live. To take advantage of the new housing opportunities, they will have to trade their present proximity to the city center for a better house and a more secure land tenure in a more distant location.

While it may be difficult to determine actual preferences, it is clear that there is considerable demand for these low-cost houses at the present time, and that distance does not pose an insurmountable barrier to sales. A comparison of rates of sale in the 37 projects surveyed with 35 other housing projects in the city selected at random, shows that the rate of sale of low-cost housing projects averaged 13.5% per month, compared with only 4.5% per month in other land-and-house projects. In other words, low-cost housing projects are sold out on average in 7.5 months, three times faster than other land-and-house projects, which are sold out in 22.5 months.

#### 111 THE MAIN SURVEY FINDINGS

### 1. Number, Location and Size of Projects

The number of projects: The study attempted to identify all projects currently selling houses for less than 250,000 Baht in the Greater Bangkok area. Most of the projects advertized in the media, some had posters on busses, and some had billborads on major highways. Altogether, 37 projects containing low-cost houses were identified, but it is suspected that there are at least 50 such projects in the city at the present time and that their number is growing rapidly. The Bangkok Land Management Study identified more than 500 land-and-house projects currently selling houses in the city, which would mean that low-cost projects now form some 10% of the total number of projects. Unfortunately, these are only rough estimates. A more detailed windshield survey carried out by the Study Team in the northern corridor area of Greater Bangkok, extending northward from Ramindra and Cheong Wattana Road to the northern border of Pathum Thani province also tends to suggest a 10% order of magnitude.

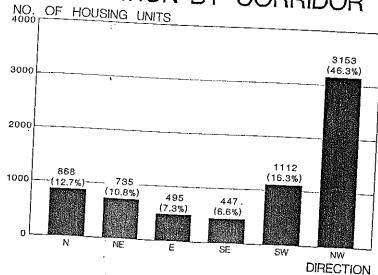
The location of projects: The location of the 37 projects surveyed is given in the attached map. As mentioned earlier, the average distance of projects from the center of Bangkok (taken to be the Hualampong Railway Station) was 22.2 kilometers. Most projects were located on the edge of the urbanized area, but at

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least one third were located in the less developed communities within the boundary of the urbanized area.

Bangkok is expanding along seven established corridors—the northern corridor following Vibhavadi highway towards Ayuttaya, the northeastern corridor expanding towards Minburi and Nong Chok, the eastern corridor expanding towards Lad Krabang and Chonburi, the southeastern corridor expanding towards and beyond Phrapadaeng and Ratburana, the western corridor expanding towards Buddhamonthon and Nakhon Fathom, and the northwestern corridor expanding towards expanding towards Nonthaburi. While almost half of the new low-cost units were located along diffferent corridors in eastern corridor, in newly-accessible areas in Nonthaburi, opened for Corridor, in newly-accessible areas in Nonthaburi, opened for Phya river. This is illustreated in Figure 5 below.

# 5: LOCATION BY CORRIDOR

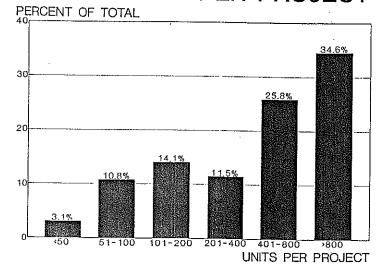


Low-cost housing projects are conspiciously absent from the Taling Chan district along the western corridor, where many new housing projects catering to higher-income groups are now being built. This area has been the target of intense speculative purchase of land, particularly along the newly-opened highway to Buddhamonthon, and except for the very far locations along the highway, land appears to be too expensive for low-cost projects.

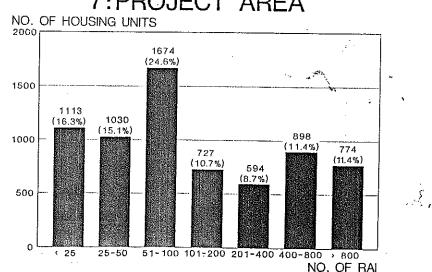
Project size: Many, if not most, of the projects surveyed contained low-cost housing units as well as medium-cost ones. The average number of low-cost units per project was 184, but the distribution of the number of units per project appears in of the units offered. In fact, some projects contained most small number of low-cost houses for sale as a means of attracting low-cost units were already sold.

The actual area of projects was much larger than suggested by the number of low-cost units offered for sale. The average area of projects was 150 rai (1 rai = 0.4 acres), but there was no typical project size as can be seen from Figure 7 below. Project areas tended to be almost evenly distributed in all size categories, from as little as a few rai to as many as 1,100 rai. At a conservative density of 12 low-cost units per rai, an average project could accommodate up to 1,800 units, more than 10 times the number of units now being offered. Altogether, there were a total of more than 5,500 rai of land in the 37 projects surveyed. This land could provide a potential reserve for more than 50,000 low-cost housing munits if they proved marketable and profitable.

### 6: NO. OF UNITS PER PROJECT

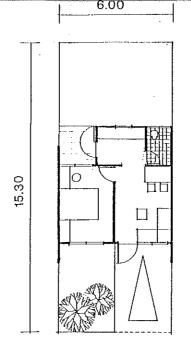


### 7: PROJECT AREA

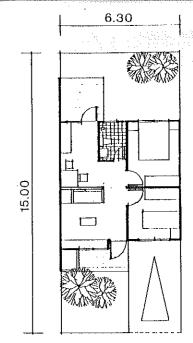


### 2. Plots and Houses

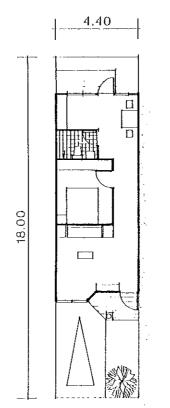
House types: More than 96% of the houses offered were row houses, and of those three quarters of the units were one-storey and one-quarter were two-storey row-houses. The remaining 4% were duplex houses of one or two-storeys, and all the duplex houses sold for more than 200,000 Baht. Several typical variations of row-house floor plans are shown in Figure 8 below. The smaller ones contain two rooms, plus a kitchen and a bathroom, and the larger ones an additional room. Typical perspectives of low-cost houses are shown in Figures 9 and 10.



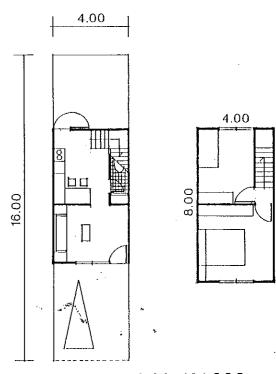
18A: HOUSE 29 SQ.M. 132,500 LAND 23 SQ.W. 57,500 TOTAL 190,000



20A: HOUSE 42 SQ.M. 119,000 LAND 24 SQ.W. 60,000 TOTAL 179,000

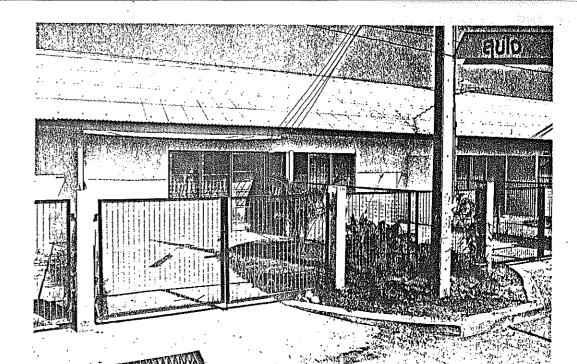


1B: HOUSE 40 SQ.M. 99,000 LAND 20 SQ.W. 60,000 TOTAL 159,000

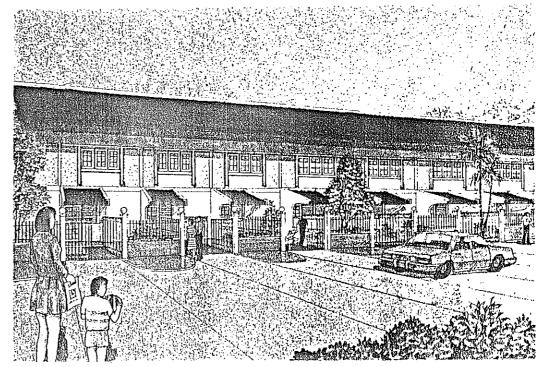


36A: HOUSE 60 SQ.M. 131,000 LAND 16 SQ.W. 48,000 TOTAL 179,000

8: TYPICAL FLOOR PLANS AND HOUSE PRICES (IN BAHT), SCALE 1:200



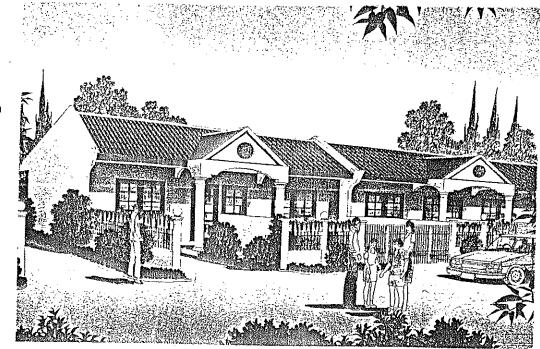
1A: HOUSE 37 SQ.M. 65,000 LAND 20 SQ.W. 60,000 TOTAL 125,000



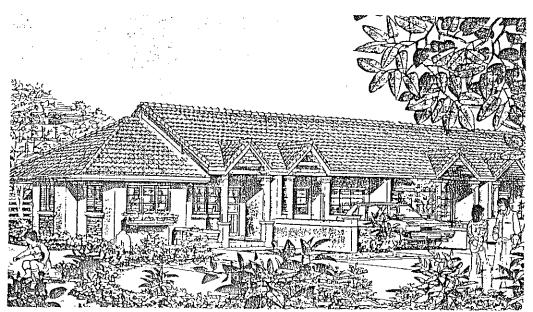
36A: HOUSE 60 SQ.M. 131,000 LAND 20 SQ.W. 48,000 TOTAL 179,000

Š,

9: TYPICAL PERSPECTIVES



3A: HOUSE 40 SQ.M. 130,600 LAND 18 SQ.W. 68,400 TOTAL 199,000



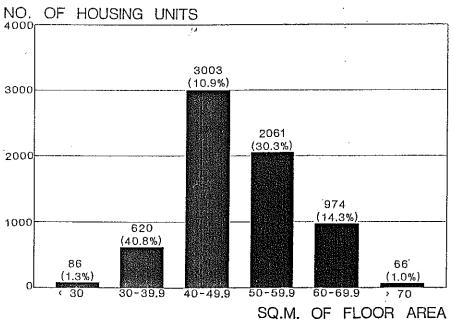
32A: HOUSE 42 SQ.M. 153,000 LAND 20 SQ.W. 76,000 TOTAL 229,000

10:TYPICAL PERSPECTIVES

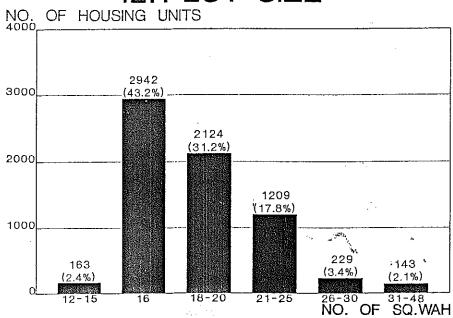
Floor areas in these houses average 50 square meters, but almost a third of the houses offer 50 - 60 square meters and an additional 15% offer more than 60 square meters, as shown in Figure 11 below.

Average plot size was slighly higher than 19 square wah, but more than 43% of the plots were 16 square wah, the most typical plot size, as shown in Figure 12 below.

11: HOUSE SIZE



12: PLOT SIZE

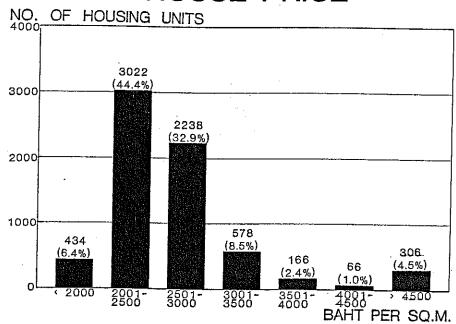


Land and house prices: Bangkok developers typically quote a separate price for the plot of land and a separate price for the house. The price of the house is almost always the actual construction price plus a small percentage of profit. The land price usually includes the raw land price, the cost of infrastructure development, the cost of management and supervision and expenses on promotion, marketing and sales, as

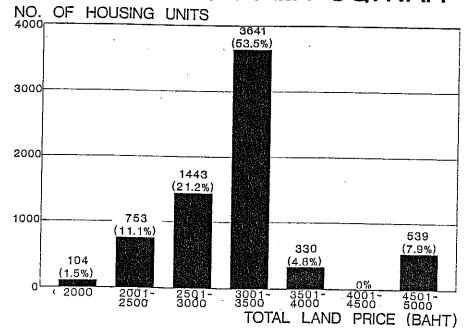
well as the developer's profit. This enables developers to sell vacant plots in their projects, realizing almost all their profit from the sale of the plot itself. Developers interviewed by the study team went as far as saying that they build houses in order to sell plots.

As mentioned earlier, the average price per square meter of a built house was 2,600 Baht in 1986. However, as can be observed in Figure 13 below, more than half of the houses were sold for less than 2,500 Baht per square meter. The average price for developed land was found to be 3,400, and more than half of the plots were sold for 3,000 - 3,500 Baht per square wah, as shown in Figure 14.

### 13: HOUSE PRICE



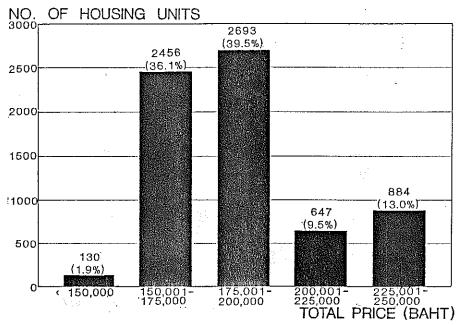
# 14: LAND PRICE PER SQ. WAH



Given these prices, more than three-quarters of the low-cost

housing units surveyed sold for less than 200,000 Baht. In fact, 38% of the units sold for less than 175,000 Baht, as shown in figure 15 below.

## 15: LAND AND HOUSE PRICE



Down payments and monthly repayment: One of the major obstacles to the purchase of houses by low-income households in the past has been the insistence a down payment, amounting to approximatley 25% of the total price of the housing package. Thus, while many households could in fact afford the monthly payments, they could not assemble sufficient savings for the down payment. This obstacle appears to have been overcome. Almost 99% of the developers offered installment plans for the down payment, ranging from 3 to 15 months. Most of them required 2,000 Baht as a registration fee, an average of 13,000 on the occassion of signing the contract, and installments averaging 5,500 Baht over a period averaging 9 months.

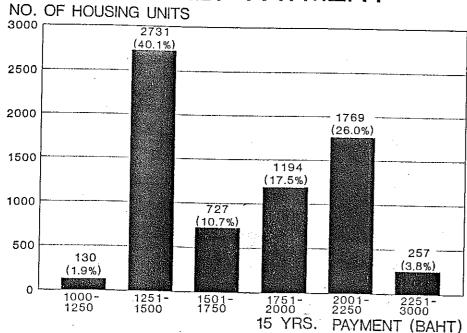
Long-term mortgage loans were offered in all projects without exception, with interest rates ranging from 11.25% to 14.00%, but averaging 11.75%. There were many sources for the loans. Besides the traditional predominance of the Government Housing Bank, all major commercial banks, as well as several finance and insurance companies offered 10-year, 15-year and sometimes 20-year loans at competitive interest rates.

Given the availability of long-term financing, typical 15-year mortgage payments averaged 1,750 Baht per month. But, as can be seen from Figure 16 below, 42% of the units offered for sale required monthly payments of less than 1,500 Baht. Assuming that new home buyers are willing and able to pay 25% of their monthly household income on house purchase, these units were affrodable by families with monthly incomes of less than 6,000 Baht.

Sales office personnel interviewed estimated the household incomes of buyers to be of the order of 5,000 - 7,000 Baht. This suggests that the 25% figure used for estimating housing

expenses for new home buyers is not altogether unrealistic. Consumer Price Indices for the Bangkok Metropolis issued by the Bank of Thailand <4> take housing expenses in Bangkok to be of the order of 23 - 24% at the present time.

# 16: MONTHLY PAYMENT

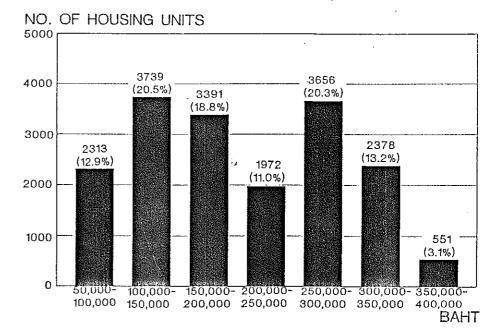


### IV THE IMPLICATION FOR THE NHA

This Working Paper does not attempt to draw final conclusions from the above analysis, which forms only one part of the Bangkok Land Management Study. The policy recommendations of the Study will form an integrated whole and will be incorporated into the Final Report scheduled for publication in August, 1987. It is possible at this point, however, to draw an important implication from our major finding, namely that the private sector is now directly competing with the National Housing Authority, at the very core of its traditional market.

This is made evident by examining the sale prices and monthly payments of recent NHA housing projects in Bangkok. The Study Team has assembled sale price information for all projects located on land actually purchased by the NHA, rather than transferred free, which offered housing units for sale in the Bangkok area since 1981. All together, 18,000 units were offered in Thonburi I (1981), Thonburi III (1981), Hua Mark II (1982), Prachanives III (1982), Lad Krabang (1984), and Bang Plee I (1985). The details on prices and monthly payments are presented in Annex 2. The distribution of house prices in these projects is given in Figure 17 below.

## 17: NHA HOUSE PRICES, 1981-1985



While one third of the NNA units were indeed offered at lower prices than houses now being offered by the private sector, one third competed directly in the 150,000 - 250,000 price range, and an additional one-third was in a higher-price altogether. Unfortunately data on present prices and monthly payments in new NHA projects is not available; as no project is Neither has it been possible to compare the currently on sale. actual products offered by the NHA with those of the private sector in terms of location, infrastructure services and floor and plot areas, finishes and quality of construction. NHA houses are traditionally unfinished structures with considerably better infrastructure and community services that those offered by the private sector. It may be quite possible that NHA products are indeed better than those offered by the private sector, but what is of issue here is their marketability. At present, the NHA may be losing an important market in the 150,000 - 250,000 category, without necessarily asserting itself in the higher-price housing market, particularly with its current emphasis on unfinished houses.

The above analysis does not necessarily imply new directions for the National Housing Authority. Instead, it aims at exposing the Authority to the fact that the private sector is moving into its traditional markets, and that in the future, in order to maintain its market share it would need to compete in the housing market place. Whether it aims at cooperating with the private sector or at pursuing its goals alone, it needs to become more aware of the situation in the housing market. Fossibly for the first time, the NHA may find itself responding to market demand and supply pressures, rather than determining independently what it wishes to produce with the assurance that low-income people will purchase whatever it has to offer.

<sup>&</sup>lt;4> Bank of Thailand, Quarterly Bulletin, Volume 26, No. 3 September, 1986, Table 54, p. 84.

# ANNEX 1: SUMMARY RESULTS OF SALES OFFICE SURVEY OF 37 LOW-COST PRIVATE - SECTOR HOUSING PROJECTS IN BANGKOK, DECEMBER 1986 - FEBRUARY 1987

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	30	BAN PRUK SA	PRUK SA LAND & HOUSE	₩ 15.40 28.00	15.0 RDW	1 Å1 66	219000	16 3500	56000	40 183000 4075	40	00001-0004	Y	2 K	10.4	0 B.O N	Y	57000		25000		1	1.75 22	335.50		IF B	1000	10 15.15	
	31	HONS PRAYUL	HONG PRAYUL CO.LTD.	NN 18.90 24.40	200.0 ROW	t A: 81	195000	20 3500	70000	40 125000 3125	35	5000-8000	×	0 Y	7.0	0 6.5 N	Ť	55000	5000	20000			- 1			BKB, TFB ISIA		41 50.62	
.	į		KIJ MAKIN CO.LTD.	MW 18,90 22,15	250.0 DUF	1 Ar 60	229000	20 3800	76000	42   153000 3642		7000-E000	Y	3 %		0 5.0 Y		17000	5900	9000		180000 1		220		SCB, SHB	1000	6 10.00	
	23	RATTANA THIBED	RATTANATHIBED CO.LTD.	NW 19,25 21.15	500.0 ROW	2 A: 660 2 B: 188	175000 187000	16 3500 16 3500	29600	48 119000 2479 54 133000 2462	40	3500-6000 4000-6000	Y	3 Y	10.1	0 B.OY	×	50000 53000	5000 5000	0	3750 E	136000 1	1.75	160	30 1330 )0 1470. )0 1560	14.	87.01	172 91.49 50 100.00	9 86.0
	31	RON KLDA TOWN HOUSE 2	MITR PRACHA VILLA EO.LID.	ER 40 KV 21 12	RON PAN	2 Ct 50	199000	16 3500		60 143000 2383		4000-7000	ļ	<b>,</b> u	, _			55000	5000	15000	4167 [3	}			70 1350			30 50.00	
			MITH PRACKA VILLA CO.LID. MITH PRACKA VILLA CO.LID.	ŀ	BO.O ROW	1 Ar 1400	175000 175000	16 3500 16 3500		56 119000 2125 56 119000 2125		4000-5000 4000-5000	,	3 K		0 - N		52500 52500		15000					70   1350			300 21.43	
-			ROUN BEAU HOCK COLLID.	•	350.0 ROW	7 At 85	179000	16 3000		61 131000 2117	30	8000	) Y	3 K		K - 0		54000	3000		2000 1	125000	1.75	160				0 0.00	
					ROW		227000	20 3000		86 169000 2560	35	10000	[	- "	11.41	1	•	A9000	-3000	0	2790 1	160000				CND CND		86 19.20	- 1
	1	BUA THONG KAE HAR	BUA THONG KAE HAH CO.LTD.		75.0 ROW	2 At 34	139000	12 2000		39 135000 2288		5000-6000	Y	1.4		0 - K		49000			4000	110000				GHB		34 62.96	
4=1	*****	2277F3XK#9XXX9V3X6CXX6KXK9223		**********	*********	**********		*******	<b>42247522</b>	EXESCREP:32:27:3	======	ERRXTESEE==	J====:		=======	*********				*****	ETTTELLIBR	= =====================================	*******				. District	1001 	E30

			LOCATION	Froject Char	ecter15t1c5 	****** 222	*********	pr (Ces ************************************	*****		********	FUCCOTE SELAT	***********	222234444	*******		HILLYCFIZE.	al terus				Rate of	
No.	Name of Project	Kame of Developer	Cor- 6eo- Road	Land House	Mo. of Mo. of To sto- units I	otal [Pin	Frice Total	House Fotal Price size house per	AYE.	of buyers	? of -up to	ved worn worn ad? main scno	numa well wa watr?	Down t	tostias Pay regis-	y∎ent Hon at d∙	thly Repay Own ment	Loan Inte	Menthly Hent	aly Kanthly	Bank or (inan-	Date Ho.of Pe sales units ce	er- No.ol
			dor dist. (km)		type pi	rice wat	wah) (Bht)		byrs			(H) (H) (H)	tr,8) tr,86	(8ht)	tration cor (Bht) sid	gsing (B)	hti eunth	(Bht) rate	10-yrs 15-	rrs 20-yrs		star sold uni	fts sold/
(8)	(b)	ic)	(d) (e) (f)	(8) (11		(1) is:	(n) (o)		(2)	**************************************	lul (v) (w) (	x1 (y) (z)	(as) [bs]	1 (Ca)	(0) (1	er) (E	*) {as}'	**************************************		:======= :K	(e1)	**************************************	-11 (41)
01	INUL INUMEE	SLC (THAILAND) CO.LID.	N 43.00 47.10			25009 20	3000 40000 3000 40000		1	5000-B000		24.0		23000	2000	10000 2	600 F	100000 11.75	1420	:=======  04 -	BKB	86.11 5L 36	
				ROV	1 E1 100 2	39000 30	3000 90000 3000 90000 3000 120000	44 119000 2731	-	- 6000-10000				32000 42000 44000	3000	12000 41	167 6 500 6	127000 11.75 167000 11.75	2396 1	164 - 726 -		85.11 0 ( 86.11 0 (	
	UNIVERSITY NOME & BARDEN	SONTHERN CO.LTD.	N 38.00 44.70		I At 10 2		1800 50400		1	6000-8000	Y 1 Y Y	7.0 -	<b>*</b> Y	38000	3000	12000 41 0 31	934 6	176000 11.75		984 -		84.11 0 0	ŀ
02		SITA CO.LTD.	N 34.80 38.30		I At 28 1		3800 68400			4000~B000	Y 6 Y Y			59700	•	0 9	:	172000 11.75 139300 11.25			GH8	87.01 7 20	
04		SUP STAN CO.LTD.	M 33,90 37,10	1000.0 RDW	1 At 77 10		3000 60000			5000-7000	N OYY	10.0 -		85000		5000 20		100000 11.25	•	550 - 350 -		87,01 10 35	1
05	nimi witth	PROX PHOL NIVER CO.LTG.	R 27.50 29.70	100.0 REW	J A1 60 11	75000 20	2700 51000	50 141000 2920	35	6000-B000	Y 2 N X	6.0 -	7 #	58000		20000 2		137000 11.25		200 2050		B7.01 17 21	[
0.6	THE KAEN	LERT MINIRI CO.LTD.	# 22.00 26.70	20.0 RBN	1 As 72 13	70000 Z1	5000 105000	35 65000 1857	35	4000-5000	K ON Y	9.0 6.0	y H	50000		17000 50		120000 12,25			RKB	87.01 5 6 87.01 54 75	
07	LARG SI VILLA	PATTAKASAK EO, LTO.	¥ 17.20 17.70	9.0 RGW	1 At 106 21	19000 18	4800 76800	36 142200 3950	35	8000	Y 4 Y Y	6.5 6.0	T H	54000	5000 1	19000 50	000 6	165000 13.00			BKB	84.09 102 98	
08	XAO SAEK 5	TURAKIJ ANAN CO.LTD.	N 22.30 24.45	30.0 ROW	1 A: 50 11	79000 16	3500 63000	30 136000 4533	40	6000-7000	Y 17 Y	4.0 -	n y	39000	5000 1	10000 24	100 10	160000 11.25	- 2	DZE 1874	GRB	86.01 50 100	i
01	DOX HUANG	NU BAN DONKUANS CO.LID.	N 23.70 27.10	30.0 ROW			3000 72000 3000 72000			-	Y 1 N Y	10.0 4.5	H Y	20000 30000		5000 33 5000 33		[30000 11.25		500	GRB -	87.01 0 0	
۱.	MU BAN POON	PDOX CO.LTD.	ME 21.50 30.15	20.0 ROW			Z500 62500		45	5000-7000	T ANY	7.0 7.0	Y W	39000		10000 60		150000 11.25 150000 11.25		300 - 300 -	PL B		0.00 0.0
		FRIERDSHIP LAND & ROUSE	RE 15.75 26,95		1 A: 100   15		3500 77000			5000-8000	Y 5 Y Y	8.0 6.0		10000	4000	0 40		159000 11.75		700 -	BER	96.06 [2] 9E 87.01    1	
17		THEP WAXDRN NIVED CO.LTD.		20.0 ROW	1		4000 76000			8000-10000	Y 4 Y Y	4.0 -		20000	0	0 200		187000 EL.50		500 -	BKB	P6.17 16 ton	
				ROW ROW	1 C: 4 21		4000 B0000 4000 B0000		35	8000-10000 8000-10000		•		20000	. 0	0 700 0 200		198900 11.50 199900 11.50	- 2.	140 - 155 -		66.12 4 100	
				DUP DUP	2 Es 23 23 2 Fs - 2 24		4000 96000 4000 110400			8000-10000 8000-10000				20000 20000	0	0 200 0 200		210000 11.50 229000 11.50		500 - 350 -	<u> </u>		7.39 1.3
13	SAE NEE VILLA	SAE KEE VILLA CO.LTD.	NE 18.30 29.60	10.0 ROW	1 A: 52 IS	7000 13	5000 75000	60 122000 2033	35	6000-B000	Y 3 N Y	6.0 6.0	ı K	47000	0 1	5000 5	350 6	150000 11.50	1899 -		BKR	B7.01 50 96	6.15 25.0
11	KAE HART THIP	THIP NATEE CONSTRUCTION	HE 13.00 19.90	5.0 ROW	1 A: 58 16	9000 16	4000 84000	44 105000 2386	30	5000-7000	7 7 7 7	. 7.0 6.0	8 Y	17000	0	0 98	300 5	120000 [1.50	1800 t	500 -	BKB, TFB	86.02 32 35	5.17 2.5
15	KAO SAEN 7	TURAKIJ ANAH CO.LTD.	NE 20.52 31.20	20.0 RDN RGM			3500 56000 3500 98000		35 40	.000-B000	7 37 7	12.0 8.0	H Y	35000 47000		5000 30 5000 33		160000 13.00		24 1874	1	86.11 14 100	
1,,	KAE HAH WAKORN, RAMKAMHAENS	XAE HAH MAKORM CO.LTO.	NE 20.50 25.75				7850 71250			-				36000		0000 43		190000 13.00 140000 13.00		119 2024	•	84.01 0 0	ĺ
1				ROW DUP	1 B: 107   19	6000 23	2850 71250 2850 71250	40 124750 3118		5000-8000 6000-9000	YLYY	10.0 6.0	K Y	49000 57000	0 5	0000 65	500 b	147000 13.00 143000 13.00	- 21	00 1950 50 1900	SHR	86.01 t09 100 86.01 78 100	0.00 7.8
				DUP			2850 B5500		45	£500-9500				50000		0000 47		171000 13.00		00 2300	1	Bå.01 104 100	
17		SIRIM THEP CO.LTD.	NE 13.80 18.50	7.0 ROW	2 A: 37 24	7000 14	5000 70000	72 179000 2486	35	10000	A 3M A	9.0 6.0	א ץ	49000	9000 2	0000 50	)00 B	180000 11.75	2185 -		GH8,CYCRP,BKINS	95.08 8 47	7.06 `0.4
18	THAI SAXUTR	STAN ROME COLLID.	E 22,00 25.10	BO.O ROV	,		2500 57500 2500 57500			5000-6000 6000-8000	N OA A	8.0 5.0	Y K	18000 24000	0	0 48 0 26		172000 14.00 216000 14.00		.00 - i00 -	THAT SAMUTE INS	67.01 16 B0 87.01 30 75	
19	JULLAMART VILEA	JULLAMART CO.LTD.	E 23.00 26.60	8.5 ROY	2 Å: 70 [9	9000 18	5000 90000	84 109000 1703	40	1000-5000	Y 1 . Y	10.0 -	Y K	39000	2000	7000 50	) 6	160000 11.50	- 18	70	<b>С</b> НВ	E6.17 37 52	2.86 12.3
70	JAANJUREE	LAND & HOUSE CO.LTD.	E 23.80 28.60	130.0 ROW			2500 60000			5000-6000 6000-7000	ж оуу	8.0 6.0	r H	39000 79000	3000 5000	0 50 0 74		120000 12.00			1	E6.11 151 76	
21	KING KAEN VILLA	KING KAEW VILLA CO,LID.	E 24.00 29.80		I A: 40   15		2500 120000	36 94000 2611	ľ	5000-6000	Y A Y Y	8.0 4.0 !	v v	50000			100 10 100 10	[70000 12.00 [00000 11.75		10 -		88.11 0 0 88.12 39 97	Į.
l"	ALLO ROLF TIELL	KING MICK TECCH DUTCING	21.00 21.00		1 B: 41 17 1 C: 78 19	31 0000		40 \$14000 2850	45	5500-6500 5500-7000		0.0 1.0	, ,	60000 65900			97 11		1610 13		1	E6.17 32 78 96.12 68 87	8.05 10.7
22	ROK YEN PATTANAKARN	MUBAN ROHYEN CO.LTD.	SE 20.10 18.20	8.0 RDM				39 190000 4871		6000-10000	Y 1 N Y	6.0 6.0	y N	50000	5000	0 64		185000 11.75				E6.03 48 52	i
23	BAN RINTR THONG	LERT HIMIT CO.LTD.	SE 13,70 15,90	40.0 ROW			5000 [05000		40	4000-B000	Y BRY	11.0 - 1		69000	•	5000 70		120000 11.75			1	B6.06 129 92	
24	ROK YEH KIKED 4	ROMYEN HINED CO.LTC.	SE 18.75 21.30	10.0 ROW	1 A1 42 19	9000 21	<b>4</b> 900 102900	50 94100 1922	45	4000-10000	ץ עו. א	6.0 6.0 1	r »i	49000	4900	0 150	100 3	150000 12.75	2130 17	76 -		E6.01 28 66	
25	ROM YEN PROJ.3	ROMYEK HIWED CO.LTO.	5E 19.30 23.40	7.5 ROW	2 A: 40 20	7000   12	5000 40000	64 149000 2328	40	5000-8000	Y 2 Y Y	7.0 6.0 1	<b>t</b> t	47000	5000	0 88	100 5	160000 11.25	2400 22	00 -	БИР	E6.11 15 37	r.50 3.8
26	CHOLLATHEP	UDOKSUK LAND & HOUSE	SE 25.40 28.90			,	3900 97500			5000-8000	ץ אס א	12.0 8.0 1	r al	37000		B000 29		160000 12.25				86.07 40 100	
				ROW	1 B: 40 20 1 C: 53 23		3900 97500 3900 70200			5000-6000 6000-7000				45000 46000		8000 35 8000 36	00 10			91 1831 38 2058		86.09 32 89 66.09 57 98	
27	SIN SOMBOOM KAE HAH	SIN PATTANA TANEE CO.LTD.	SW 19,90 22.15	50.0 RDW	1 A: 800   19	5000 20	3500 70000	45 125000 2777	35	2000-9000	* 0 Y ' Y	12.0 8.0 1	ı y	55000	5000 1	0000 100	00 4	140000 11.75	2350 21	00 -	GHB, TFB	85.04 460 82	1.50 31.4
28	6A LAR HOME NINED	GRAND TOKER THEER TRADE	SN 23.25 29.55	52.0 ROX			7000 32000 2000 48000		35 40	7500 8000	Y 90 K	P.O 6.0 )	ı y	20000 24000		3000 150 5000 190		170000 12.25 216000 12.25		00 1700		95.01 - 95.01 -	
21	SRI SATIEN NIKED	SRI SATIEN LAND I HOUSE	SN 27.06 31.05	į	1		2500 50000			4000-5000	Y 1 X Y	22.0 B.0 h	( Y	22000	0 1		İ	122000 12.00				85.03 O O	- ).00 · 0.0
1				RGM Row		8000   16	2500 40000 2500 52500	54 158000 2925		5000 5000				58000 70000	1 0		00 10	140000 12.00 170000 12.00	- 16	80 1541 40 1871		85.03 0 0 85.03 44 42	0.00 0.0
30	BAN PRUK SA	PRUK SA LAND & HOUSE	HN 15.40 28.00	15.0 ROW			3200 24000			10000-0000	7 2 7	[0,0 8.0 %	! Y	59000	4000 2	3000 <u>a</u> 0		160000 11.75				87.02 <b>10</b> 15	1
21	HORG PRAYUL	HONG PRAYUR COLLID,	NW 18.70 24.40	200.0 ROW	t A: BL t9	5000 20	3500 70000		35	5000-6000	H 0 Y Y	7.0 6.5 N	, ,	55000	5000 2	6000 100	ι οο	140000 11.25	2100 :18	00 170 <del>0</del>	BKB, IFB	86.01 41 30	.62 2.9
32	KRESDA MAXORN 10	KIJ KAKIN EQ.LTD.	MW 18.90 22.15	250.0 DUP	1 A: 60 22	9000 20	3800 76000	42   153000 3642	45	7000-8000	Y 3 N Y	18.0 5.0 Y	. ж	49000	5900	9000 70	00 5	180000 11.25	- 22	00 -	GHB	87,02 & 10	.00 6.0
23	RATTANA THIBED	RATTAHATHIBED CO.LTD.	NW 19.25 21.15				3500 56000			3500~6000	Y 3 Y Y	10.0 B.0 Y	N .	50000	5000	0 37		125000 11.75		80 1350			
1				ROW Row			3500 56000 3500 56000			4000-6000 4000-7000				53000 55000	5000 5000	0 40 0 41		136000 11.75 144000 11.75		90 1470 09 1560		87.01 177 91 87.01 50 100	
	: ]	KITR PRACHA VILLA CO.LTD.			1 At 60   175	5000 16	3500 56000	56 119000 2125	40	4000-5000	Y JK Y	3.0 - N	Y	52500	1000 1	5000 40	00 [0	122500 11.75	- 11	70 1350	SCB.	87.01 30 50	.00 15.0
35		HITR PRACHA VILLA CO.LTD.			1 A11400 17	5000 16	3500 56000	56 119000 2125	40	4000-5000	A 2 M A	5.0 - N	Y	52500	1000 1	5000 40	00 10	122500 11.75	н	70 1350	SCB.	86.11 300 21	.43 75.0
38	BAN BUA THONG	ROUM BEAU KOON CO.LTD.	MW 21.00 24.25	350.0 RON Row	2 A1 B6 179 2 B1 448 229		3000 48000 3000 40000		30 30	B000 10000	Y IN Y	12.0 10.0 N	Y	54000 89000	3000 3000	0 20 0 27		175000 11.75 160000 11.75	- 16 2400 20	00 - 00 -		86.01 0 <b>0</b> 86.01 <b>86 1</b> 9	
37	BUA THONG KAE HAH	BUA THONG KAE HAH CO.LTD.	NV 25.00 28.40	75.0 ROY	2 81 34 15	7000 IZ	2000 74000	59 135000 2288	46	5000-4000	Y   Y Y	6.0 - H	1	19000	5000 1	2000 40	00 в	110000 11.25	1595 13	40 -	CK8	86.01 34 62	.96 2.6
	T D T A L	######################################	*********		**************************************		**********	***************************************	722232b	F#####################################			***********	£252223838	, ,	#########	*******	 	**********	*********	***************		
*****	**************************************	38322565295286622652662	27.2 23.75	***********	4810 ************************************		************	*************	******	**********	25C\$32 <u>22</u> 2346558x	=======================================	*********								*********		
leanne Goarce	**************************************	****	**************************************	130.73 22222222222	177	117,3	3386 69693 **********************************		******	*****	***********	**********	**********	52724 *********	2082 1	3140 J\$	50 9	140000 11.78	- []		**************************************	po.n #1	44 15.4
01000		,		-				3	_ 27	130													•

ANNEX 2: THE INCOME DISTRIBUTION FOR GREATER BANGKOK, 1980-1986

Income Decile	Percentile	Income R 1980	lange (Baht) 1986
1st	0 - 10	0 - 1955	0 - 2627
2nd	10 - 20	1956 - 2583	2628 - 3495
3rd	20 - 30	2584 - 3225	3496 - 4415
4th	30 - 40	3226 - 3937	4416 - 5387
5th	40 - 50	3938 - 4664	5388 - 6389
6th	50 - 60	4665 - 5497	. 6390 - 7611
7th	60 - 70	5498 - 6741	7612 - 9433
8th	70 - 80	6742 - 8488	9434 -11820
9th	80 - 90	8489 -11575	11821 -16012
10th	90+	11576+	16013+
1			

Source: The Bangkok Land Management Study, March 1987. Calculated from National Statistical Office data for 1975-76, 1981 and 1986.

The National Statistical Office (NSO) published two socioeconomic studies which contain income distributions for Greater Bangkok and for Bangkok's city core, one for 1975-6 and one for 1981. More recently, the NSO published a draft report on average incomes during rthe first quarter of 1986. These three sources were used to calculate the income distribution in Greater Bangkok for 1980 and 1986 shown in the above table. The 1980 income distribution was calculated by interpolation, assuming a constant rate of growth in all income categories.

Average monthly incomes in Greater Bangkok grew by 24% between 1981 and 1986, from 5,972 in 1981 to 7,410 in 1986. The 1986 income distirbution was calculated by assuming a growth of 24% in all income categories.

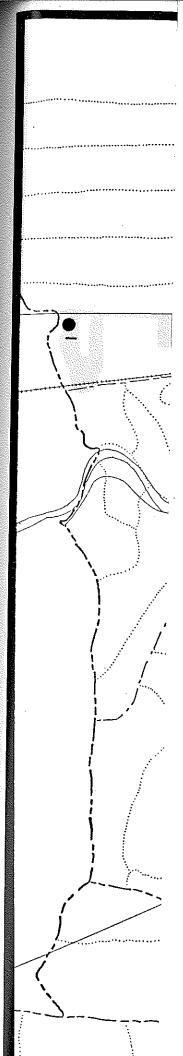
Greater Bangkok includes the adjoining provinces of Samut Prakan, Nothaburi and Pathum Thani were rural incomes are lower than the average incomes in the city core and in the suburbs. Bangkok city core incomes are 20 - 25% higher. In terms of housing affordability, therefore, a higher percentage of the city's households can now afford low-cost houses, possibly as high as 65% of the total.

The Bangkok Land Management Study has assembled household 'income figures from a survey of more than 2.000 households in 160 slum locations in Bangkok where the NHA has undertaking slum

upgrading. While these slums are not necessarily the poorest, as most of the poorest families live in squatter slums where land tenure conditions do not allow the NHA to intervene effectively. these slums do represent the great majority of Bangkok slums which are in fact rental slums. While the average household size in Greater Bangkok was reported to be 4.2 in 1981 and 3/8 in 1986, slum households average 4.9 persons per household. 37% of these households has monthly incomes of more than 6.000 Baht and could thus afford a low-cost house.

# ANNEX 3: PRICES AND MONTHLY PAYMENTS OF NHA HOUSING UNITS IN BANGKOK, 1981-1985

							-		
PROJECT NAME <13	> SALE YEAR			PMT	INTE- REST (%)		MNTHLY CHARGE (Baht)	LOAN REPAYMENT (Baht)	TOTAL MNTL PAYMENT (Baht)
1 72		ļ			·			,	(pant)
1. Thonburi I	1981	500	100100	14000	15	1.5			
		1640	287598	15000	15	15 15	210	1205	1415
		264	386114	20000	15	15	290	3815	4105
2. Thonburi III	1981				10	10	375	5124	5499
TITE TELEVISION OF THE PERSON	1901	650	160754	20500	15	15	210	1000	
•		600	324400	45500	15	15	290	1963	2173
3. Hua Mark II	1982	000				10	-230	3903	4193
	1002	990	229300	18000	15	15	210	2057	
		338	281800	42300	15	15	320	2957	3167
		806 134	296600	27000	15	15	270	3352 3773	3672
4.		134	394500	73700	15	15	290	4490	4043
1. Prachanives III	1982	1811	10000				200	4490	4780
<del>-</del>	2004	968	188500	27400	15	15	235	2255	
		1010	236200	30100	15	15	235	2885	2490
		153	300300	35700	15	15	295	3703	3120
		100	392503	65000	15	20	285	4313	3998
5. Lad Krabang	1984	286	70700	~				4010	4598
		767	70700	7000	15	20	160	839	000
2		272	77800	7500	15	20	170	926	999
		705	101600	10000	15	20	180	1206	1096
		134	115800	11000	15	20	190	1380	1386
	ļ	226	134896	17000	15	20	195	1552	1570
¥	j	455	150000	19000	15	20	200	1725	1747
		221	154000	13000	15	20	200	1857	1925
		254	168200	20000	15	20	195	1951	2057
•	- 1	14	195122	25000	15	20	210	2240	2146
	1		214143	30000	15	20	220	2425	2450
	]	40	297500	40000	15	20	230	3391	2645
. Bang Plee I	1985	1260	70000				200	2291	3621
	1000		79237	6000	15	20	200	964	
	}		128118	12000	15	20	220	1529	1164
	- 1	`		30000	15	20	255	2900	1749
		700	347201	4200Ò	15	20	260	4019	3155 4279
OTAL	1	18000				······································		4010	4219
EIGHTED A	VERA	A G E	205640	22063	15 -				
				55000	15 1	7.3	237	2516	2754



Source: Bangkok Land Management Study, March 1987.
<1> Includes all housing units built on land purchased by the National Housing Authority in the Greater Bangkok area excluding shophouses, flats and units leased rather than sold outright.

