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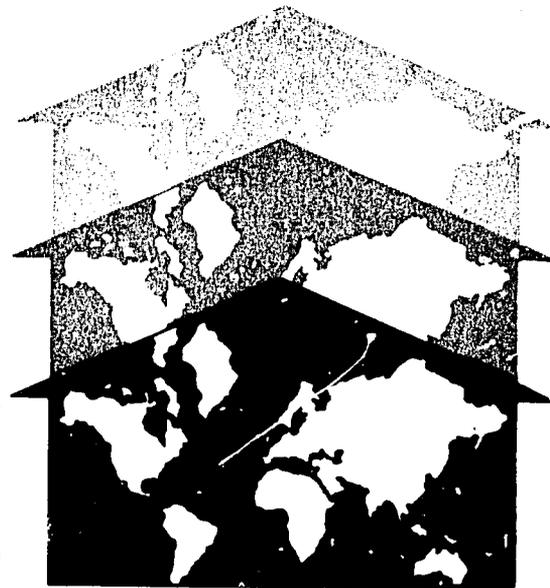
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REVIEW OF
NATIONAL HOUSING AUTHORITY
PROGRAMS FOR THE
REGIONAL CITIES OF
THAILAND

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November 12, 1979

REVIEW OF
NATIONAL HOUSING AUTHORITY
PROGRAMS FOR THE
REGIONAL CITIES OF
THAILAND

FINAL REPORT

Prepared for:

Office of Housing
U.S. Agency for International Development
Washington, D.C.

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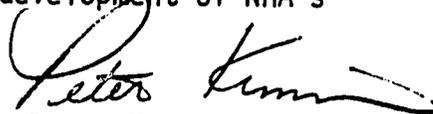
FOREWARD

The Office of Housing of AID has been working with the National Housing Authority of Thailand in the development of its policies and programs including upgrading, core housing, and regional city projects. In addition to a \$50 million Housing Guaranty Program to support these new directions of the NHA, an IIPUP Grant (Integrated Improvement Program for the Urban Poor) has been approved to help the Housing Authority design its regional city projects including socio-economic components.

As a first step in the secondary city program, AID contracted with Louis Berger International to help the NHA complete background analyses of shelter and community development in the regional cities; to help prepare an initial set of guidelines, methodologies, and work plans; and to review preliminary planning for the initial projects.

This assignment was undertaken by Peter Gajewski, housing economist and team leader; Stanley Jewkes, shelter policy and programming specialist; and Cynthia Cook, social infrastructure specialist. They worked with the NHA in Thailand during July, 1979. Mr. Gajewski then discussed the team's recommendations with the NHA in November.

This report is provided to the NHA to assist them in their planning. It does not represent the official position of the Agency for International Development. AID does take great interest in the development of NHA's regional city program.



Peter M. Kimm
Director
Office of Housing

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PREFACE

This report presents the findings of a consultant team from Louis Berger International, Inc., working with the National Housing Authority of Thailand to evaluate and extend its shelter and community development programs for the regional cities of Thailand. The team consisted of Peter Gajewski, a Housing Economist/Team Leader, Stanley E. Jewkes, a Shelter Policy and Programming Specialist, and Cynthia Cook, a Social Infrastructure Specialist. The work was carried out under Work Order No. 6 on Indefinite Quality Contract AID/otr-C-1641, with the Office of Housing, U.S. Agency International Development. The scope of work for this project was as follows:

I. OBJECTIVE

To assist NHA in extending its shelter and community development programs to the regional cities of Thailand, with the particular goals of improving the delivery of urban services to the poor in the regional cities and increasing the capacity of these cities to absorb rural-urban migration.

II. SCOPE OF WORK

Review work already undertaken by the NHA and assist them in completing the following:

1. Background analyses and a survey of shelter and community development in the regional cities, including generation of employment and economic opportunities and delivery of medical/nutritional, educational, and community services;
2. An initial set of guidelines, methodologies, and work plans for the planning and implementation of NHA regional cities projects including city selection; identification of demand, target groups, cost and affordability parameters; physical, financial, and socio-economic planning; administration and coordination of project implementation; and evaluation systems;
3. Identification and review of preliminary planning for initial projects to be included in the NHA regional cities program.

The Consultant team spent three weeks in the field, including work with the National Housing Authority in Bangkok and visits to three regional cities in various stages of project development. These cities included: Chiangmai (Northern Region), Khon Kaen (Northeastern Region), and Songkhla (Southern Region). A detailed schedule of Consultant activities and a list of persons interviewed is presented in Annex A.



The Consultants also met with the AID Mission Director and the responsible Program Officer at the beginning and the end of the field study. Before leaving Thailand, the Consultants prepared and submitted to NHA and AID a Summary Field Report which is presented in Annex B.

The Consultants would like to express their appreciation of the excellent cooperation they received from the staff of the Office of Policy and Planning, National Housing Authority, and its representatives in the field. We feel that the NHA staff assigned to the Regional Cities program is dynamic, committed, and well trained.

The following report is presented in a format corresponding to the Scope of Work. Chapter I gives the background for the development of Thailand's Regional Cities Program and a survey of shelter and community development activities in the regional cities. Chapter II describes the organization of NHA and its existing planning procedures for the Regional Cities program. Chapter III contains the Consultants' recommendations for improving NHA's planning methodologies as they apply to the Regional Cities program. In Chapter IV, detailed project planning is identified and reviewed. Finally, Chapter V discusses some alternative approaches which NHA might consider in expanding its program to serve the urban poor in the regional cities of Thailand.

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CHAPTER I
INTRODUCTION

A. Background to the Regional Cities Program:

1. Population Growth, Migration and Urbanization

The growth rate of Thailand's population, estimated at 45,391,454 in 1975 has declined dramatically from 3.5% per year in the mid-1960's to 2.41% in 1978.^{1/} The growth rate is projected to decline further to 1.88% in 1985. The major reasons for this decline are vigorous population control programs in both the private^{2/} and public sectors coupled with rising incomes and urbanization.

The predominant urbanization trend is characterized by rapid growth in population of Bangkok-Thonburi and the small Eastern Region adjacent to it, at the expense of the remainder of the country. The 1978 population growth rates in these two areas were 4.29% and 3.83% respectively compared to less than 2% for the rest of the country. Projections indicate that these trends will continue: In 1985 with the national growth rate below 2%, Bangkok-Thonburi and the Eastern Region will grow at over 4% while the remainder of the country is expected to register a growth rate under 1.5%.^{3/}

The ten largest cities, their population and growth rates are presented in Table 1. The table clearly demonstrates the dominance of Bangkok as compared to the regional cities, the largest of which, Chiang Mai, is only 2% the size of Bangkok.

Urbanization outside of Bangkok-Thonburi and the Eastern Region is moving ahead at a snail's pace. Although population growth rates of the regional cities as shown in Table 1 have been at or above the national growth rates, the urban share of total population has increased less than one percentage point during the period 1972 to 1976 outside of these two areas. The implication of these trends have a significant impact on the size of future housing demand in the regional cities of Thailand.

¹ Population Planning Sector, NESDB, June 1978.

² Community Based Family Planning Program, which now supplements Ministry of Health programs and operates field units in nearly every changwat.

³ Population Planning Sector, NESDB, June 1978.

TABLE 1
TEN LARGEST CITIES, 1976

City	Region	Population ('000)			Average Annual Growth Rate	
		1960	1973	1976	1960-73	1973-76
Bangkok	Central	1,800.7	3,967.6	4,545.6	6.3%	4.6%
Chiang Mai	North	66.8	96.2	104.5	2.8%	2.8%
Korat	Northeast	42.2	79.7	85.2	5.0%	2.3%
Phitsanulok	North	33.2	72.6	80.7 ^{2/}	6.2%	3.5% ^{2/}
Khon Kaen	Northeast	19.6	64.4	75.3	9.6%	5.4%
Udon Thani	Northeast	30.9	70.5	75.1	6.6%	2.1%
Hat Yai	South	36.2	58.9	65.0	3.8%	3.3%
Songkhla	South	31.5	52.9	60.4	4.1%	4.5%
Nakhon Si Thammarat	South	25.9	50.8 ^{1/}	58.2	5.8% ^{1/}	3.5%
Nakhon Sawan	North	31.4	51.4 ^{1/}	55.2	3.4% ^{1/}	1.8%

^{1/} For these towns the 1972 population reported in the UN source is used due to unavailability of the figure for 1973.

^{2/} Phitsanulok's 1976 population is projected using the 1973-74 growth rate calculated from the Phitsanulok Changwat Data Book because the 1976 population (32,100) reported in the NSO registration data appears to be in error.

Sources: 1960 Population Census, Vol. I, Table 1a (1962); The Population of Thailand, Table V-2 (United Nations, (ICRED, 1974); Changwat Data Books, National Statistical Office.

Thailand is characterized by high rates of migration, both permanent and temporary, resulting from the responsiveness of the labor force to employment opportunities and sensitivity to wage rates. Generally the "extended family" structure of Thai society facilitates labor mobility without movement of entire households.

Net in-migration into the Bangkok-Thonburi area grew at 8.4% during the 1970-1980 period and is estimated to grow at 10.8% during 1975-1980, increasing to 13.4% by 1990. The only region with a significant upward trend in net in-migration is the East, with a 6% current rate increasing to 11.3% by 1990. The rest of the country, with the exception of the North which is in approximate migration equilibrium, shows significant trends of net out-migration.^{5/}

Of particular interest in analyzing housing demand is that 42% of migrants to Bangkok-Thonburi make multiple trips, requiring only temporary housing or living with friends. Temporary migration to urban centers outside of Bangkok is even more important in the overall migration picture; it constitutes 63% of the total.^{6/}

The above population trends show the continuing polarization of economic activity in the Bangkok area. However, low cost housing demand does exist in the regional cities and can be expected to grow. The rate of growth of this demand will depend, however, on the success of the industrial decentralization objectives set up in the Fourth Five-Year Plan. Equity considerations should also be taken into consideration in determining sites for low cost housing. Even though some regional cities have low population and growth, particularly in the northeast, they also have a substantial disadvantaged population in that they lack economic opportunity and social services.

2. Program for Regional City Development

Because of the many problems associated with the primacy of Bangkok, the Fourth National Economic and Social Development Plan for Thailand set forth a strategy to decentralize growth from the Bangkok metropolitan area by developing selected urban centers into medium-sized cities that could serve as regional growth poles. This strategy includes the following elements:

⁵ Population Projections for Thailand: Whole Kingdom and Regions. NESDB, Institute for Population Studies, Chulalongkorn University and the National Statistical Office.

⁶ Migration to Urban Places in Thailand: Interrelations Among Origin, Recency, Frequency and Motivations, by Sidney Goldstein, Pichit Pitaktepsombati and Alice Goldstein.

formulation of a land-use plan for the selected cities, development of urban infrastructure (including public utilities, education, health, and housing), use of fiscal incentives for employment generation and the establishment of industrial estates and export processing zone in the regional cities, and concurrent development of the rural hinterland to serve as a source of raw materials and a market for urban products.

So far this statement of intent has had relatively little effect on the growth pattern of the regional cities, and no measurable effect whatsoever on the growth of Bangkok. Certain government services have begun to be decentralized, creating a new demand for housing in the regional cities for government officers. Municipal budgets, however, have not been sufficient to permit rapid expansion of infrastructure in most cases. The process of industrial estate development in the regional cities has moved slowly.

The World Bank is currently contemplating a Secondary Cities project which would assist the regional cities in the development of physical infrastructure, service delivery, and development of institutional capacity at the local level.^{7/} Should this program be implemented, it could be expected to increase the attractiveness of the regional cities for industrial development, thereby creating jobs which would in turn draw rural-urban migrants into these cities. However, given the relatively slow rate of progress to date and the uncertainties surrounding future programs for the regional cities, the Consultants have chosen to assume that present growth trends will continue in the foreseeable future.

Taking overall guidance from the Fourth National Economic and Social Development Plan, the NHA has tentatively planned programs in the following cities:

1. Chiangmai
2. Nakorn Sawan
3. Khon Kaen
4. Korat
5. Chonburi
6. Chantaburi
7. Phuket
8. Songkhla-Haddyai

⁷ Frederick T. Temple, "Thailand Secondary Cities Project Preidentification Mission: Back-to-Office and Full Report," World Bank, March 9, 1979.

The NHA has either completed or is in the process of conducting a Housing Market Study for each candidate city. With pilot projects already underway in Chiangmai and Songkhla, the NHA has advertized for sites in Nakorn Sawan, Khon Kaen, Chantaburi, Chonburi and Haadyai. NHA also plans to add two more cities with "serious housing problems" to their existing list of eight.

At present, the Regional Cities program has no separate organizational arrangement within NHA. The same NHA divisions that plan and implement the Bangkok area program are also responsible for the Regional Cities.

3. AID Participation in the Regional Cities Program

In recent years, AID has been assisting the National Housing Authority to formulate alternative strategies for serving the shelter needs of lower income groups in urban areas. In 1978 the RTG approved a program emphasizing slum upgrading and core housing projects for the lower income population. This program was later extended to allow for the construction of core housing projects in the regional cities, in line with the objectives of the Fourth National Development Plan. Concurrently, AID has prepared a \$50 million Housing Guaranty Program to support this initiative with loan funds. AID funding will finance up to 50% of the cost of the regional cities program at a total cost of approximately \$11.8 million.

The program includes construction of up to 8,400 core housing units together with land acquisition, land preparation, infrastructure, and community facilities (see Table 2.) Project costs are to be recovered from the residents through a hire-purchase arrangement, excluding only the costs of community facilities and offsite infrastructure. NHA has developed design and cost parameters that are believed to place the core housing within the affordability range of urban households having incomes between Bt 1,500 (\$75) and Bt 6,000 (\$300) per month, by applying a cross subsidy principle (see Table 3).

NHA has divided its target group into four income groups. Two of these groups have income ranges averaging Bt 2,500 (\$125) per month or less, which is less than the median monthly income in Bangkok in 1976. The AID program will finance core unit construction for these two lower income groups.

Although the USAID strategy for Thailand is focused on the rural poor, AID is prepared to support policies and programs designed to deal with the problems of the urban poor. The Country Development Strategy Statement (CDSS) for Thailand states that AID objectives in this area are to:

TABLE 2

NHA PROPOSALS FOR REGIONAL CITIES - DWELLING UNITS⁽¹⁾

<u>CITY</u>	<u>REGIONAL GROWTH CENTER</u>	<u>SUB-REGIONAL GROWTH CENTER</u>	<u>EXISTING NHA PROJECT</u>	<u>NHA PROPOSALS 1979 - 82</u>
CHIENGMAI	x		209	800
NAKORN SAWAN	x		-	500
KHON KAEN	x		-	500
KORAT	x		470	500 ⁽²⁾
CHONBURI	x		353	500
CHANTABURI		x	-	500
PHUKET	x		-	500
HAADYAI		x	224	500
SONGKHLA	x		-	500
UBON	x		-	- ⁽³⁾
UDON THANI	x		-	- ⁽³⁾
TOTALS			<u>1,256</u>	<u>4,800</u>

(1) From NHA briefing on July 5, 1979.

(2) This is to be revised in view of the large number of dwelling units presently available in Korat.

(3) No units presently planned in view of existing excess capacity in housing.

TABLE 3

NHA TARGET GROUP ABILITY TO PAY ANALYSIS

Expense	Income Group/Median Income			
	A 1,500-2,000 (1,750)*	B 2,001-3,000 (2,500)*	C 3,001-4,000 (3,500)*	D 4,001-6,000 (5,000)*
Proportion of Income affordable for housing	20%	20%	22%	22%
	350	500	770	1,100
Estate Management Cost	50	50	80	80
Gross payment affordable for housing costs	300	450	690	1,020
Sum amortizable at 10%	31,087	-	-	-
different interest 11%	-	43,597	-	-
rates over 20 yrs. 12%	-	-	62,665	92,636
Proportion of down payment	5%	10%	15%	20%
	1,554	4,360	9,400	18,527
Total per unit construction cost affordable by tenants	32,641	47,957	72,065	111,163

* Average Income.

1. Encourage the RTG to direct a greater share of its housing investment to slum upgrading and low-cost, expandable core housing approaches that will benefit lower income groups, particularly in Bangkok;
2. Assist the RTG to develop planning and administrative capabilities in regional cities to meet new demands for urban services from an expanding rural population.

The combined result would be an increased capacity of regional cities to serve a rural hinterland and stem the flow of rural migrants to Bangkok, and within Bangkok, to partially alleviate some of the poverty problems of slum areas.^{8/}

In addition to the Housing Guarantee loan, a portion of which is earmarked for the Regional Cities program, AID is planning to provide grant assistance to NHA under its IIPUP program (Integrated Improvement Program for the Urban Poor). In addition to the costs of the present study, this grant will provide \$250,000 in technical assistance, project design services, participant training and related goods and services specifically focused on the implementation of the regional cities program. The RTG will provide no less than \$100,000 in services as a counterpart contribution.

The goals of the IIPUP grant are twofold: (1) to improve the delivery of urban and social services to the poor in the regional cities, and (2) to increase the capacity of those cities to absorb rural-urban migration. Specifically, its purpose is to assist the NHA in developing its institutional capacity to plan and carry out integrated shelter/community development programs for the urban poor in the regional cities. The present study is the first step in this process. It will continue through the use of short term technical assistance and training for NHA staff, and the use of consultants as needed to undertake detailed project design. All design contracts are to include a community development component insuring that needed socio-economic services are provided to the target population.

The present study addresses the first three purposes of the IIPUP grant as given in the Project Description (Annex I):

1. Survey the shelter, social, urban and economic needs of low income families and the current social service delivery systems in 10 regional cities;

⁸ Agency for International Development, Country Development Strategy Statement FY 81: Thailand, p. 55.

2. Develop program and design parameters appropriate to integrated shelter and community development projects in these regional cities;
3. Plan, design and implement integrated shelter/community development projects responding to the shelter, social and economic needs of lower income families.

It is hoped that the Consultants' activities and findings will also contribute to the achievement of the remaining purposes:

4. Develop the NHA institutional capacity to increase programming levels in the regional cities;
5. Develop long range national shelter policies, objectives and strategies as they relate to regional urban development and planning.

B. Survey of Shelter and Community Development in the Regional Cities of Thailand

1. Shelter Programs

Traditionally, every household in Thailand provides for its own shelter needs. The traditional home is constructed of locally available materials, often raised above ground level, with a kitchen area, water supply and sanitary facilities located outside the main structure. Such homes still make up a large part of the housing stock in the regional cities, although they account for a relatively small percentage of new construction. Only high income families can now purchase land for residential construction in the municipal areas, and much of this activity has moved to areas outside the municipality which might be called the suburbs.

Low income families in the traditional sector also construct their own houses, using less expensive (often reused) materials and building to lower standards. Many small homes are expanded over time according to the owner's means and the possibilities of the site. Urban low-income families may have to pay land rent or build on public or private land without security of tenure. In some instances, new settlement concentrated in a specific area may result in crowded and unsanitary conditions. The incidence of "slum" areas in the regional cities of Thailand, however, is still relatively small.

In addition to small construction contractors working for individuals, private land developers have moved into many of the regional cities. These developers construct modern homes on small lots for sale to high or middle income families, shophouse communities in commercial areas, and rental housing. Rental units are

also created when traditional housing is subdivided, expanded, or vacated by the owner. Rents in the regional cities vary considerably depending on the type of unit and its location. Developers have also occasionally provided serviced plots for sale to individuals wishing to construct their own housing.

Private industry sometimes but not always provides housing for its workers. Such housing may be in the form of single family homes, row houses or apartments, and dormitories for temporary workers. Staff quarters are generally provided within high-income residential units, office buildings and factories for domestic workers, maintenance and security staff. Construction workers move from job to job and frequently occupy either temporary shelters or buildings under construction.

Government agencies theoretically provide housing for their staff seconded to the regional cities. Some agencies have succeeded in doing so and they account for a significant share of new construction in the regional cities. Other agencies provide a housing allowance which forces their staff to seek housing in the rental market. Relatively few Government salaries are sufficient to permit officials to buy homes through hire-purchase from a private developer.

A substantial share of urban workers commute either daily or seasonally from homes outside the urbanizing area. Seasonal workers find shelter through their jobs, with friends, or in the rental market. Another major factor is the flow of students to the regional cities. In some cases, they, too, commute, stay with family or friends, or rent rooms within the municipal area.

Public housing projects were originally undertaken as a welfare activity by several agencies, including the Public Housing Bureau and the Department of Public Welfare in the Ministry of the Interior, the Housing Welfare Bank, and the Slum Clearance Office of the Municipality of Bangkok. In 1973 these projects, including 1,100 units in the regional cities, were taken over by the newly formed NHA.⁹ These were apartment units and semi-detached houses located in Chiangmai, Haadyai, Korat, and Chonburi. NHA has continued to manage these rental units but finds that the rents barely cover operating costs for the housing estates.

NHA's Five-Year Plan approved in 1976 included construction of 2,000 new apartment rental units in thirteen regional cities. Though the plan was revised in 1978, this provision was left

⁹ Alfred P. Van Huyck, Review of the Policies, Programs and Strategies of the National Housing Authority of Thailand. PADCO, 1976, p. 29.

intact. The Plan also included hire-purchase housing projects in Chiangmai, Korat and Chonburi. The Supplementary Plan for 1978-82 added 6,600 units of core housing for the regional cities aimed at the lowest income group (less than 2,000 Bt/month) and about 4,000 units for the next group (2,000 - 3,000 Bt/month) out of a total of 14,000 new units planned for the regional cities. These targets were set subject to later revision based on a better understanding of the housing market, housing need and housing demand in the regional cities.

2. Social and Economic Services

The responsibility for service provision in the regional cities of Thailand is fragmented among many agencies. Some, but by no means all, are located within the Ministry of Interior. This includes the Department of Local Administration which is responsible for provincial (Changwat) and municipal government and interagency coordination at the local level. Due to heavily centralized control in this department and extremely limited fiscal resources at the local level, municipal authorities have very little freedom for independent action in shaping the course of change in the regional cities.

Municipalities have certain responsibilities in the areas of education and health, which they discharge to the limits of their resources. In education, municipalities are empowered to provide primary schooling, which now extends through grade seven. Secondary and higher education facilities are provided and operated by the Ministry of Education, which also provides technical supervision and some budgetary support to municipal schools. Outside the municipal area, primary schooling is provided by the local district (amphur) officials of the Ministry of the Interior. In addition, the regional cities frequently contain substantial numbers of private schools, especially secondary schools which are still inadequate to meet demand in the public sector.

Kindergarten and preschool programs are becoming popular; some are operated by the municipalities, although most are private. There is relatively little in the way of formal adult education offered in the regional cities, since many if not most adults are literate, and the urban environment offers constant opportunities to reinforce basic skills. Vocational training opportunities exist, but are difficult of access, often expensive, and sometimes ill-suited to the real employment needs of the urban economy. An IBRD-sponsored program will begin to provide non-formal education and vocational training to the adult population in 24 provinces in 1981.

Health services may be provided by the municipality, including a municipal hospital and neighborhood health centers. The latter focus on educational programs in nutrition, maternal and child health, and family planning, and provide primary and preventive health care. Outside the municipality, similar services are provided by the Ministry of Health, generally operating at the provincial (changwat) level. The Ministry of Health also provides supervision, staff, supplies and budget support to municipal health facilities.

Private health care facilities are also found in the regional cities. These include university hospitals, mission hospitals, doctors, midwives, pharmacists and traditional healers in private practice, and occasionally specialists such as dentists and opticians. Family planning services are freely available in the private sector. Commonly used medicines are dispensed free of charge in the public clinics and are available at relatively low cost on the urban market.

Generally, with regard to education and health, those municipalities selected as growth poles are adequately served in comparison to a national standard, and quite well served in comparison to rural areas. However, there are some variations between cities (see Table 4). These indicate that, by and large, bigger cities are better served than smaller ones and that the cities of the Northeast Region are least adequately served of all. Should a housing program or other economic activity significantly accelerate growth in the smaller regional cities, more resources would have to be mobilized to enable the provision of social infrastructure to keep in pace with population change.

The Department of Social Welfare (also under the Ministry of Interior) is responsible for the care of families which cannot provide for their own subsistence. The program is administered at the changwat level and only a small percentage of cases are found in the municipal area. Welfare cases are evaluated by a social worker who determines eligibility and type and level of assistance to be provided. Under present funding and staffing constraints, only the most extreme cases of need can be handled by this department.

Welfare programs include small loans for business investment, limited cost-of-living assistance to indigent households, distribution of free food, clothing and medicine, a subsidy for educational expenses for poor children, flood and drought disaster relief programs, and land settlement programs for landless rural families. The Department also administers a juvenile probation program, a rehabilitation program for handicapped persons and in at least one case a program to

TABLE 4

COMPARATIVE INDICATORS FOR SOCIAL
SERVICE DELIVERY IN REGIONAL GROWTH CENTERS

City	Population 1977 (000)	Hospital Beds Per 10,000 Pop. (1975)	Doctors Per 100,000 pop. (1975)	Nurses per 10,000 pop. (1975)	Health Expenditures Per Capita (Baht) (1973)	Education Expenditures Per Capita (Baht) (1973)
Chiangmai	105	6.0	18.3	2.9	63.8	134.8
Korat	87	4.7	2.5	2.4	17.1	92.0
Khon Kaen	80	4.5	3.4	3.2	14.7	106.2
Udon Thani	76	2.5	1.3	1.7	10.3	91.5
Phitsanulok	73	7.8	5.0	3.2	20.1	126.5
Songkhla	70	9.2	4.7	4.5	72.4	171.3
Ubon	50	5.4	3.5	1.2	18.4	86.4
Chonburi	49	7.4	3.6	3.4	63.7	159.1
Phuket	43	21.2	6.7	9.4	163.0	223.0

SOURCE: IBRD, "Thailand Secondary Cities Project Preidentification Mission Report,"
Annex 3, "Summary Table, Secondary Cities and Changwats"

to return indigent migrants to their province of origin. With all these activities, the Department of Public Welfare is hard pressed to meet the needs of disadvantaged rural residents and has little to contribute to improving the quality of life of the urban poor in the regional cities.

The Department of Labor (Ministry of Industry) has offices in almost all provinces of the country. Since industrial development is largely located in or near the regional cities (with the exception of some small scale agricultural processing activities), the data collected by the Department of Labor on job vacancies, applicants and placement can be significant in planning to meet the needs of recent urban residents. Some provincial offices are planning to sponsor training courses in areas where the demand for skilled labor appears likely to exceed the supply.

Credit for low-income families is still largely confined to the informal sector, although commercial banking facilities are offered in all the regional cities. Residential construction activity indicates that substantial sums can be mobilized, even by low-income families, for a viable investment opportunity. The economy of the low-income areas is largely dependent on informal credit and exchange of goods and services.

One of the principal activities of private and public welfare agencies is the provision of small sums for investment capital for small businesses. The Krung Thai Bank of Thailand has expressed an interest in providing loans to small businesses in core housing and slum upgrading areas administered by NHA. This program has only begun in Bangkok and the possibility of extending it to the regional cities remains to be explored.

There is an Industrial Services Institute in Chiangmai and another is planned for Songkhla. The work of these institutes has in the past been focused on improvements in local product design and production technologies, particularly for craft products. However, they are now moving in the direction of providing more marketing and management assistance to local industries. The Institutes are well equipped to provide specialized vocational training and could develop mobile training units. The Bangkok and Chiangmai Industrial Services Institutes will be working closely with NHA on the commercial and industrial development planning associated with the Lad Krabang and Chiangmai core housing projects.

Relatively little is now known about the provision of social and economic services by voluntary organizations or other private sector groups in the regional cities. Even less is known about cooperative organization and self-help capabilities among the urban poor. It is probable that various forms of mutual assistance prevail among long-term urban residents, as well as ties

between urban residents and rural communities. Such linkages are likely to be "loosely structured" along lines determined by kinship, neighboring, patron-client relationship, or common origin. In the cities of the South, religion forms a basis for group affiliation; in the North, ethnicity may play a similar role. More work needs to be done on the social structure of the urban poor communities in the regional cities as part of the development of a meaningful program involving beneficiary participation.

3. Community Development

Community development activities in Thailand have been almost exclusively concerned with rural areas. Begun as a Bureau in the Department of Local Administration, in 1962 the Department of Community Development was given separate status within the Ministry of Interior. The original intent of the program was to provide a mechanism for coordinating the activities of many different agencies at the local level and making them more responsive to local needs and priorities.

One of the more successful community development initiatives was its program for women and youth (WAY), which helped to develop vocational opportunities and local leadership capabilities in rural villages, particularly in border areas. Other programs promoted rural public works, health and nutrition in rural areas. Programs were planned and carried out at the provincial (changwat) level, with a substantial amount of local participation in some cases.

The Department of Public Welfare, which played a part in the emergence of the Community Development Department, retained responsibility for programs for disadvantaged sectors of society in urban areas. Here there has been little in the way of community development activity and less in the way of participation by the poor. Urban social welfare has retained its charitable orientation and its top-down, bureaucratic planning structure. If NHA desires to introduce a community development approach in its project areas, it will be breaking new ground as far as municipal administrations are concerned.

This is not to say that such efforts cannot be successful. It will take time to build a sense of community among project residents drawn from diverse groups and different parts of the city, much more to create community structures capable of assisting recent rural migrants to adapt to urban life. NHA has acquired a certain amount of experience in this area, however, and shows a willingness to learn from past mistakes that bodes well for the future success of community development programs in its regional city projects. Such programs might eventually serve

as a model for neighborhood or even city-wide programs that would increase the capacity of municipal governments to identify and respond to basic human needs in the regional urban centers of Thailand.

CHAPTER II

THE NHA APPROACH TO PLANNING FOR REGIONAL CITIES

A. ORGANIZATION OF THE NATIONAL HOUSING AUTHORITY

The National Housing Authority in its approach to the problem of regional cities has a difficult role to perform. On the one hand it is expected to provide some form of social service for the improvement of the quality of life, as evidenced from the following extracts from Chapter 5 of the NHA Policy Document:

"5.2 Produce housing for regional urban centers for low and medium income families.

5.4 Housing projects of the National Housing Authority will be of good environmental standards; with community facilities in accordance to the community's needs and housing types which are appropriate to the incomes of the inhabitants."

and again, from the NHA "Draft Policy and Development Plan, 1978-82": in the guideline for Core Housing Costs,

"Tenants will pay for land and core-house in the form of:

b) monthly payment, not to exceed 20-22% mean income of each target group.....(p. 14)

On the other hand it is expected to be a viable self-financing organization. In order to fulfill both requirements it needs government support, mainly in the form of payment for off-site infrastructure and for community services which are the responsibilities of other agencies.

This situation has placed the NHA in some conflict with other government agencies in the development of its projects in Bangkok and has led to the policy of necessary off-site infrastructure, such as roads, being constructed by the NHA itself thus placing a burden on its own finances. Circumstances have also forced the NHA, which is a very dynamic institution, to act alone without the participation of other agencies, in order to achieve its goals within a reasonable time. In future, and of particular importance to the regional city program, other agencies must become involved at an early stage in project planning.

As a result of its involvement in all aspects of planning, design, supervision of construction, estate management and the handling of its internal administrative and financial matters,

the NHA has grown rapidly into a large, complex organization. Its present structure is shown in Figure A. The Governor is assisted by two Deputy Governors, one for administrative affairs and one for technical affairs. Below the Deputy Governors are five departments:

- Office of Policy and Planning
- Office of the Governor (handling personnel, legal and public relations matters, etc.)
- Research and Construction Department
- Finance Department
- Estate Management Department

A review of the NHA's organization, management and procedures in the major areas of finance, estate management and project planning and implementation was commenced in February, 1979 by Coopers and Lybrand Associates, Ltd. Their Interim Report was written in May, 1979. In this report they stated:

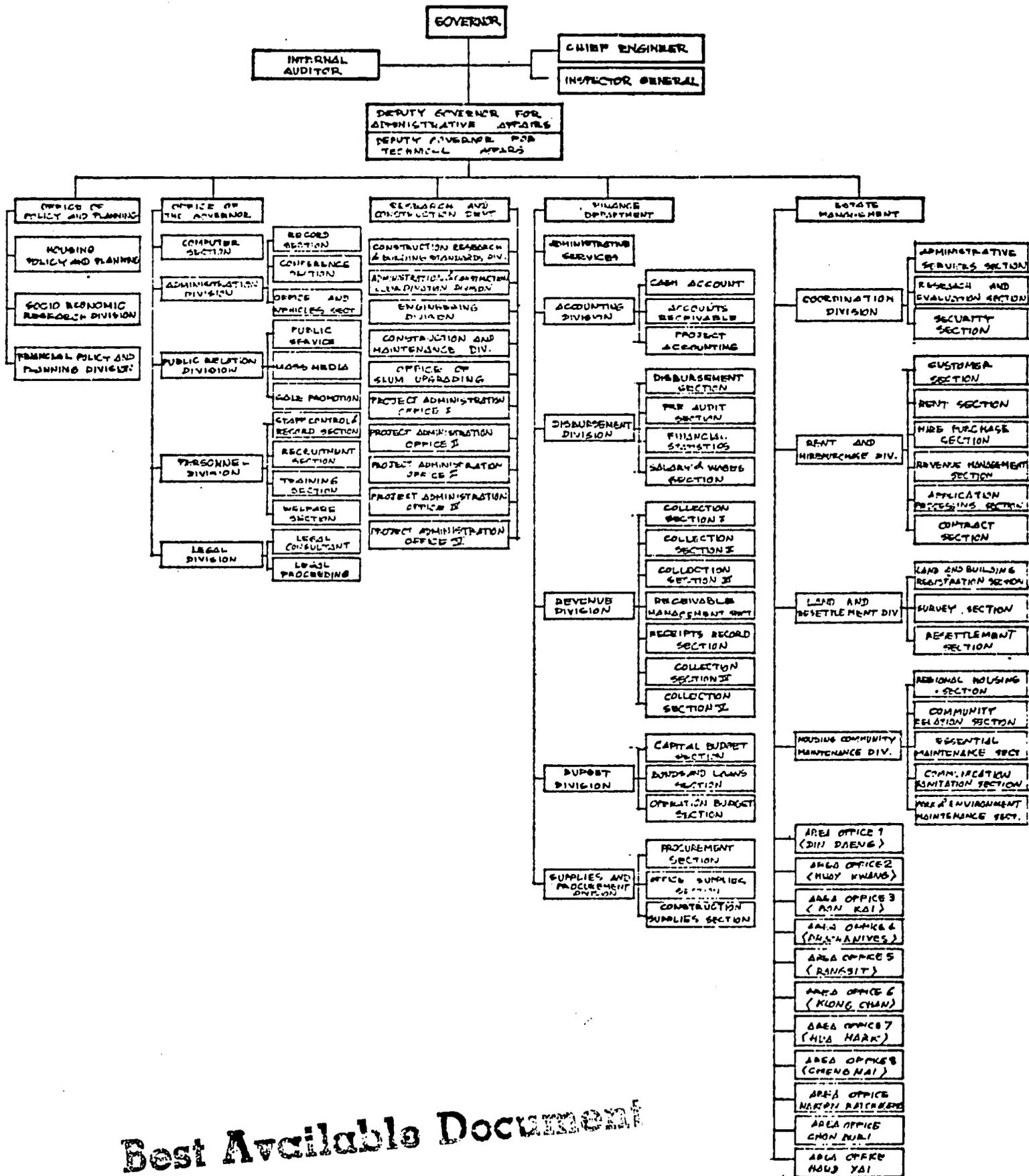
"Pressure to get work done has left little time or opportunity to review procedures. The inter-dependence of departments has been overlooked in many cases and there is widespread ignorance of the needs of each department. In what promises to be a dynamic organization, it is essential that the development of policies and procedures should be coordinated and kept under constant review.

We recommend, therefore, that a coordination group be established, consisting of the Governor and the two Deputy Governors, to be called the Corporate Management Team (CMT). This group should be supported by a new unit to be called the Management Policy and Planning Unit." (pp. 3,4)

In regard to the need for a new Management Policy and Planning Unit, the Interim Report contends that the present Policy and Planning Department deprives other departments of necessary involvement in policy matters and does not undertake the coordinating of departmental procedures. The Interim Report further recommends that there should be a Management Coordination Group (MCG) consisting of the Assistant Directors of each department who will be responsible for departmental policy; and a Departmental Coordination Group (DCG) consisting of the Assistant Director and the Divisional Heads of the department, under the chairmanship of the Director of the department.

FIGURE A

NATIONAL HOUSING AUTHORITY



Best Available Document

In its present review the Consultant has been dealing primarily with the Office of Planning and Policy. This office has three divisions - Housing Policy and Planning, Socio Economic Research and Financial Policy and Planning. The divisions are staffed by physical planners, architects, economists and administrative staff.

The Office of Policy and Planning has assigned several staff members to work on planning for the Regional Cities program. However, this is not the only responsibility of these staff members. In addition, some architects from the Research and Construction Department have been involved in preparing core house designs, site plans and layouts for those regional cities where sites have been selected (Chiangmai and Songkhla). As the projects proceed, it will be necessary to involve personnel from the Finance Department and the Estate Management Department as well. In theory there is an interdepartmental coordinating committee for the Regional Cities program, but in practice it has not begun to function.

B. EXISTING PROCEDURES FOR DEVELOPMENT OF REGIONAL CITY PROGRAMS

The initial research for the development of the NHA programs for the regional cities is executed by the Office of Planning and Policy. The primary guideline used is that the programs will assist in the development of the Regional Growth Centers identified in Fourth National Economic and Social Development Plan (1977-1981). Also, to quote from NHA "Policy and Development Plan, 1978-82":

5.4NHA policy formulating and programme planning for housing construction in regional cities should be consistent with the following guidelines:

- (a) The strategies to develop major urban areas in order to slow down the growth of the Bangkok Metropolis, as stated in the Fourth National Economic and Social Development Plan (1977-81)." (p. 8)

There is, therefore, a dual need for the programs - first to meet the immediate demands for housing and secondly to increase the population absorption capacity of the regional cities so that migrants from rural areas will prefer to go to cities nearer to them rather than to Bangkok.

In addition to the Regional Growth Centers, cities with a growth potential, termed Sub-Regional Growth Centers, and those with serious housing problems are investigated by the NHA. The following is an outline of the procedures which the Office of Planning and Policy have laid down:¹⁰

General Procedures

1. Identification of Regional Cities
2. Housing Market Study
3. Housing Development Policy
4. Housing Project Analysis
5. Housing Project Design
6. Housing Project Scheduling
7. Implementation
8. Evaluation

Housing Market Study

1. General Background
2. Population Characteristics
3. Existing Land Use
4. Housing Conditions and Costs
5. Housing Demand
6. Obstacles to Development of Housing
7. Site Selection

Analysis of Housing Demand

1. Existing Demand

- 1.1 Difference between Supply and Number of Households

¹⁰ Presented at the briefing given to the Consultant on July 5, 1979.

- 1.2 Units of Permanent Renters
- 1.3 Squatter/Slum Dwellers being evicted.
2. Projected Demand
 - 2.1 Population Growth
 - 2.2 Economic Growth

Site Selection Criteria

1. Urban/Town Planning
2. Existing Land Use
3. Topography
4. Public/Community Facilities
5. Public Utilities
6. Transportation
7. Infrastructure
8. Zoning
9. Land Available (Alternatives)¹
10. Land Ownership (Public/Private)¹
11. Land Cost¹

1. Physical Planning

In the NHA Policy Document, Chapter 5: Housing Policy there is the following requirement:

"5.3 Housing programmes must conform to the development plans of the towns and cities."

In this connection the NHA representatives interviewed confirmed that in all the programs being developed for regional cities there was no conflict with the development plans for the cities prepared

(1) These items are major constraints and can lead to site selections which gravely impair the project.

by the Town and Country Planning Board. In other words, project sites are considered only in areas zoned for residential use. These city development plans are not yet ratified and are being critically examined by the local and regional authorities. Many of these plans will bring about an extension of present municipal boundaries.

After the foregoing procedures have been carried out and the analyses completed, the Office of Policy and Planning prepares a Project Brief which is passed to the Research and Construction Department for preparation of designs, construction contract documents and estimates of costs. A typical Project Brief (based on Chiangmai) follows the following pattern:

1. Background

2. Land Use Allocation Guidelines

This gives the percentage of land proposed for each of four income groups, the density per rai, and the requirements for infrastructure, commercial areas and community facilities.

3. Brief Outline of Project

3.1 Project Type

3.2 Project Goals

3.3 Project Size

3.4 Project Development Duration

3.5 Project Composition

3.6 Project Preparation Guidelines

This section discusses financial limitations constraining the designs with details of items to be subsidized by government and cross-subsidies. Down payment requirements, mortgage interest rates and duration are given. Contingency allowances to add to cost estimates are given - in the case of Chiangmai 15%. Information is given on the sources of funding. Costs include building material loans to be made available to residents to enable them to complete their core houses - in the case of Chiangmai 4,000 to 5,000 baht per family.

The Research and Construction Department then executes topographical surveys, determines land preparation requirements, meets with local authorities to ascertain the availability of public infrastructure, and designs the project based on the Project Brief and the constraints contained therein.

2. Social Planning

The NHA Draft Policy and Development Plan for 1978-82 states that NHA will provide infrastructure and community facilities "equitably distributed to the most needy" (pg. 2). Government assistance will provide the following facilities, if required: various levels of education institutions, public health centers, community centers, "and others as necessary." No firm criteria are established to determine if a particular community facility is necessary or required at a particular site.

In their housing market studies of the regional cities, NHA staff have inventoried the number of schools, hospitals and health centers and the number of staff available for these facilities. Data are presented at different levels of aggregation; some statistics are for the municipality, some for the capital district (amphur muang), and some for the province (changwat). Since this section of the housing market studies has not been translated into English, it is impossible to comment in greater detail. However, it appears that no consistent set of data items was collected in each city; rather, whatever information was available from local officials is reproduced in the report. This makes comparison across cities difficult, and hinders the effective use of data in project planning.

Service delivery considerations appear to be of little importance in determining site locations. Once a specific site has been selected, however, NHA has attempted to determine if health and education services are provided within a reasonable distance of the site. In the best example of this type of analysis (Songkhla Sites and Services Project Report), community facilities are mapped together with the site plan and connecting transportation routes. Prior to the Consultant team's visit, however, no work had been undertaken to determine if these facilities were under or over capacity or if they could adequately serve the needs of project area residents.

After the housing market study and site selection has been carried out by NHA's Office of Policy and Planning, a Project Brief is prepared and passed to the Research and Construction Department for final design. The Project Brief contains a list of the community facilities to be provided on-site. It is uncertain how the list of specific facilities is determined for each site, but it bears no clear relation to the inventory

included in the housing market study. Furthermore, it would appear that the list given in the Project Brief is not binding on the Research and Construction Department, and facilities can be added or subtracted at will during the design stage.

In addition to community facilities, other aspects of project design can be seen as serving socioeconomic objectives. These include: transfer of tenure to low-income groups, use of cross-subsidy in charging for on-site infrastructure and overhead costs and in determining interest rates, provision of funds for building loans, and provision of space for small-scale commerce and industry. These programs are aimed at reducing the economic burden of housing costs and providing opportunities for income improvement to the project area population. General principles have been laid down for these activities, but it appears that they may be subject to considerable variation in specific situations.

3. Economic Analysis

The draft "1978-82 Policy and Development Plan" broadly sets out NHA objectives in relation to the Regional Cities program. It states that NHA development programs will be distributed between (1) the Bangkok Metropolis, (2) the regional cities designated in the Fourth National Economic and Social Development Plan as growth centers, and (3) other cities with serious housing problems. These objectives give the NHA considerable range in city selection.

In fact, NHA's tentative plans for projects in the regional cities do not include Phitsanulok, Ubon, and Udorn which are designated by the NESDB as regional growth centers. The NHA has added Nakorn Sawan and Chantaburi to the NESDB list.

There appears to be no formal procedure for selecting the cities in which the NHA will initiate programs. The Housing Market Studies conducted by the NHA do however attempt to approximate the size of market demand to determine if a project is feasible, and the size and composition of demand.

The Housing Market Studies include an analysis of population growth trends, occupations and incomes, existing housing stock, construction activity, existing slums and rental housing, relating to the economic analysis. The studies also include housing policy statements, physical planning data, financial analysis and institutional recommendations.

The different city studies are not interrelated to facilitate city selection procedures. There is a lack of integration between employment and industrial development plans and procedures for determining housing demand.

The housing demand analysis consists of identifying demand in three major areas: (1) from slum dwellers, (2) from low cost rental units, and (3) from normal population growth. Assumptions about employment growth, its location in the city, and its income potential were not spelled out. It was assumed that family formation, based on population growth projections by age group, were sufficient to be used as a proxy for more specific employment data and projections.

The NHA, as any other agency responsible for planning low cost housing in urban areas, is severely restricted in its options because of limited site availability. This makes the determination of whether the target population would or could afford to move to a distant site potentially important.

CHAPTER III

DESIGN PARAMETERS APPROPRIATE TO THE REGIONAL CITIES PROJECTS

The preceding chapter has briefly described NHA's present approach to planning for shelter and community development in the regional cities of Thailand. This chapter presents more detailed information on NHA's planning methodology and gives the Consultants' recommendations on how this methodology can be improved. Some of these recommendations include rather substantial changes in NHA's present procedures, which may require some technical assistance for NHA to implement successfully. Proposed Scopes of Work for future technical assistance are presented in Annex D.

A. CITY SELECTION

City selection for the NHA's Regional Cities low income housing program should be based on the following:

- (1) Size of existing demand for housing for families with incomes under 2,500 Baht per month in all urban centers with a population over 25,000.
- (2) Housing conditions and extent of social services currently available to this target population (equity consideration).
- (3) Size and growth in population and current migration to Bangkok.
- (4) Amount and growth of per capita Gross Provincial Product (GPP).
- (5) Projected growth in non-farm employment in these urban centers over the next five years. This growth in employment will be based on (a) planned factories and establishments by the private sector; (b) planned industrial estates by the IEA; (c) growth of employment in services and trade (including government) associated with growth in overall economic activity in these urban centers.
- (6) The proportion of this employment that will be available to families who have an income of under 2500 Baht per month.
- (7) The portion of low income housing demand that can be filled by the private sector.

Table 5 shows (illustratively) how a ranking of regional city priorities for low cost housing programs could be formulated. This analysis does not include the Bangkok Metropolis since NHA has a mandate to undertake a program in the regional cities.

The critical columns for city selection and ranking in Table 5 are column 7, "Existing housing demand for families with incomes under 2500 Baht per month," and column 20, "Net low cost housing demand resulting from increased employment."

There are two ways that the rankings and quantitative data in Table 5 can be used in ranking the regional cities in order of priority for the NHA housing programs. One way is to evaluate the low cost housing demand data in relation to the other indicators as described below. A second way would be to construct a formula, which is briefly outlined below as well.

Step I of the first method is to extract the "raw" demand data: assuming that the demand in Column 7 would be filled over a five year period, divide Column 7 by 5 years and add the annual components of Column 20 which is made up of annual increments estimated in Column 15A/B/C, 17A/B/C, and 19. The cities would then be ranked in the order reflecting the highest number of low income families requiring low cost housing.

Step II would be to review Columns 1,3,5,9 and 11 to see how the ranking resulting from the data in these columns compares with the Step I ranking. Any differences should reflect either a higher or lower rate of growth of low income employment than the average, or a higher or lower existing demand from low income families than the average. If this seems reasonable, the original ranking should be retained. This step can also serve to verify the reliability of the data used and generated.

Step III is to review existing housing conditions. Compare the number of families in Column 13 "Housing conditions of families with incomes under 2500 Baht per month" with Column 1 "Municipal Population." This ratio will be an indicator of what proportion of each city's population lives in sub-standard housing. The higher the proportion, the more weight should be given, on equity grounds, to increase the priority of that city.

bc

2

TABLE 5 - Low Cost Housing Demand Parameters

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
	Municipal Population	Rank	Growth of Municipal Population	Rank	Migration to Bangkok	Rank	Existing Housing Demand by Families with income under 2500 Baht per month	Rank	Per Capita GPP 1977
<u>CITY</u>									
Chiang Mai									
Korat									
Phitsanulok									
Khon									
Udon Thani									
Maad Yai									
Songkhla									
Nakhon Si Thammarat									
Nakhon Sawan									
Chonburi									
Phuket									
Chantaburi									
etc									
to 25,000 pop.									

DATA SOURCE

Ministry of Interior and Population Census

NESDB/NSO Population Projections

Special Studies NSO/NESDB

NEA

NESDB Gross Provincial Product 2520

^{1/} less those for whom housing will be provided as part of their employment

<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u> ^{1/}	<u>16</u>	<u>17</u>	<u>18</u>					
Rank	Growth in Per Capita GPP 1961	Rank	A	D	Rank	A	B	C	Rank	A	B	C	Rank
Rank	Growth in Per Capita GPP 1961	Rank	Housing Conditions of Families with income under 2500 Baht per month		Rank	Growth in Non-Farm Employment to 1984			Rank	Number of Families in 15 with incomes under 2500 Baht per month			Rank
			Slum Number	Sub-standard Rental Number		Private Industry	IEA	Service		Private Industry	IEA	Service	

NESDB Gross Provincial Product 2520-2524

NMA

NMA NESDB Local Sources

NMA IEA

NMA NESDB Local Sources

NMA

NMA

NMA

NMA

Housing demand will be filled by the Private Sector

Rank

General Housing Conditions

Social Service Indicators

Municipal Services Indicators

19

20
(17 less 19)

21

22

23

24

NSO

Housing Census

Housing Survey

Percentage of houses with toilets	A
Rank	
Percentage of Population Municipality 1974, Water Consumers	B
Rank	
Percentage of Municipal Population with Electricity	C
Rank	

Population per bed 1975

Rank

Population per doctor 1975

Rank

Population per nurse 1975

Rank

Health Expenditures per capita 1973 (Baht)

Rank

Educational Expenditures per capita 1973 (Baht)

Rank

Municipal Capital Expenditures/Cap., 1975

Rank

Municipal Current Expenditures/Cap., 1975

Rank

GPP Per Capita 1977

Rank

World Bank (Source in Thailand unknown)

World Bank (Source in Thailand unknown)

296

296

Step IV is to review the ranking in Columns 22 "General Housing Conditions", 23 "Social Service Indicators" and 24 "Municipal Service Indicators" and to compare these to the ranking in Step I. The differences reflected in this step show deviations between low cost housing demand and overall housing conditions as well as service provision to the population of the municipal area. Wide variations in ranking between Steps I and IV would indicate a variety of conditions; Column 22 could reflect data incompatibility since Column 13 in Step I should correlate with Column 22. Differences in ranking between Step I and Columns 23 and 24 simply indicate that levels of social and municipal services are not in proportion to low cost housing demand. The provision of low cost housing by the NHA would not necessarily alter the rankings in Columns 22 and 23.

There follows a brief account of the data sources for Table 5.

Column 1	stated on table
Column 2	derivative
Column 3	stated in table
Column 4	derivative
Column 5	stated on table
Column 6	derivative
Column 7	from existing NHA Housing Market Studies
Column 9	stated on table
Column 10	derivative
Column 11	stated on table
Column 12	derivative
Column 13	NHA similar to Column 7
Column 14	derivative
Column 15A	see Section IIIC of this report
Column 15B	see Section IIIC of this report
Column 15C	see Section IIIC of this report

Column 16	derivative
Column 17A/B/C	will be estimated by NHA based on material and sources described in Section IIIC of this report
Column 18	derivative
Column 19	in most cases this is zero, if significant information is available it should be used
Column 20	derivative
Column 21	derivative
Column 22	stated on table
Column 23	stated on table
Column 24	stated on table

Regional cities ranking could also be accomplished by constructing a formula assigning coefficients to each of the columns reflecting their importance in the ranking process. This method is not recommended, since it is too inflexible for the parameters involved and would not allow judgmental inputs nor data checks.

B. IDENTIFICATION OF DEMAND, TARGET GROUPS AND AFFORDABILITY PARAMETERS

The primary present target group of the NHA's housing program is a family with an income of under 3,000 baht per month, living in sub-standard housing and not receiving adequate health, education and other public services. The identification of this group is not difficult. The NHA has already done so in some of the regional cities. This is because the cities are small.

One of the key questions is whether this target group will actually move to a NHA housing project. Here the NHA needs to improve its project planning capabilities, to reflect the kind and location of housing demanded by this group. The Consultant recommends the expansion and revision of the NHA questionnaires for "Tenants" as shown in Exhibit 1 and "Slum Dwellers" as shown in Exhibit 2. ¹¹ The original questionnaires were translated from Thai to English and are shown in Annex C. Additions and changes that are recommended are typed in capital letters.

¹¹ Although the translation is accurate, it is not possible to ascertain whether questions 13, 14, and 15 pertain to the existing dwelling or the one desired.

The results of the revised questionnaire could give NHA more insights into site-specific demand. Demand estimates can be altered somewhat if the answers to the added questions indicate a location preference which is not feasible in terms of land acquisition for the NHA.

Planning ahead for the Regional Cities, the target group can grow from three sources: (1) in-migration, (2) new industries, services and trade, and (3) downgrading of resident income groups.

At present, net in-migration to the Regional Cities is small or negative. Although current statistics (which are outdated) still reflect net in-migration to Udon, Ubon and Korat, this phenomenon was due to U.S. and Thai military demands in the early to mid 1970's. Currently, 1979's best estimates indicate net in-migration of minor proportions to Chonburi, Chiangmai and Songkhla-Haadyai. Usually this in-migration is associated with the existence of employment opportunities. Thus so it can be assumed that the major elements of future housing demand in the Regional Cities will come from the generation of employment. This topic is further discussed in Section III-C below.

It is anticipated that subsidies to the target income groups will have to continue. The currently planned NHA program for the Regional Cities is presented in Table 6. Table 7 shows the status of financing the program, showing 220,500,000 Baht of financing from sources not yet identified.

As shown in Table 8, the target population has been divided into income groups of under 2000 baht and 2000-3000 baht. The lower income group's housing will cost 55,500 baht per family of which 40.5% is subsidized. For the higher income group the total cost of the unit will be 65,900 baht of which 27.2% is subsidized. Cross subsidization programs could cover parts of the government contributions.

Income levels must be carefully defined for urban areas to include total household income. Many households include elements of more than one family. At a household income of 2,500 baht per month, expenditures on rent or a mortgage could not exceed 500 baht. Household expenditures survey data indicate that 400 baht per month would be more common.^{12/} However, it is highly probable that household income data for urban households is understated, so for planning purposes, 500 baht is not unrealistic.

¹² National Statistical Office, Household Expenditure Survey, Bangkok, 1978.

Table No. 6

NHA PROGRAMS FOR REGIONAL CITIES

	<u>Income Group Baht/Month</u>	<u>Number of Units</u>	<u>Total Costs 1978 Prices</u> (million Baht)
<u>Priority Program</u>			
Rental housing (1)	under 2,500	2,000	200.00
<u>Supplementary Program</u>			
a) Lowest income	under 2,500	6,300	472.50
b) Mixed income	2,500-6,000	2,100	220.50

Note (1) To be undertaken only in exceptional cases and on direct orders from Government - NHA policy adopted June 1978.

Table No. 7

NHA PROGRAMS FOR REGIONAL CITIES FINANCIAL PLAN

	Approximate Costs (Million Baht) 1978 prices
<u>Supplementary Program</u>	
a) Core housing, 6,300 units	<u>472.50</u>
proposed AID-HG financing 50%	236.00
World Bank, and other financing (1)	236.50
b) Core housing, 2,100 units	<u>220.50</u>
other financing (1)	220.50

Note (1) Financing not yet committed.

Table No. 8

DISTRIBUTION OF COSTS TO DWELLERS
AND GOVERNMENT SUBSIDIES

<u>ITEM</u>	<u>INCOME LEVEL (BAHT PER MONTH)</u>	
	A	B
	<u>Lower 2,000</u>	<u>2,000-3,000</u>
<u>Payment by Dweller</u>	<u>Baht</u>	
Land (20wa ² @ 150 Baht) (1)	3,000	3,000
Infrastructure (2)	-	3,800
Housing	26,000	33,000
Supervision (3)	-	2,000
Interest During Construction (4)	<u>4,000</u>	<u>6,200</u>
Total	<u>33,000</u>	<u>48,000</u>
<u>Government Contribution (6)</u>		
Infrastructure (2)	15,000	11,200
Community Facilities (5)	3,750	3,750
Interest During Construction (4)	2,800	2,200
Supervision	<u>950</u>	<u>750</u>
Total	<u>22,500</u>	<u>17,900</u>

- NOTES: 1. Land cost 150 Baht per wa²
2. Land development cost and infrastructure 750 Baht per wa²
3. Supervision cost - Income level A = 0%
Income level B = 5%
- (This takes into consideration cross subsidy e.g. income level of 3,000 to 4,000 Baht per month is charged 10%)
4. Interest during construction 15%
5. Community Facilities are estimated to cost 3750 Baht per household. Costs listed as Government Subsidy
6. Could be partially covered by cross-subsidies.

EXHIBIT 1

Policy and Planning Department - National Housing Authority

Provincial Housing Project

Questionnaire for Tenants

For Family Head or Spouse only

Address _____ Soi _____ Road _____

1. Number of family members _____

2. Occupation of family head _____ Occupation of spouse _____

3. Family head's earning _____ baht/month
Sum of other family members' earnings (Not including family head's _____ baht/month
Number of family members who have earnings _____

4. Renting rate _____ baht/month

including water supply and electrical power

water supply _____ baht/month

electrical power or lamp fuel _____ baht/month

4.1. Electrical power

available

not available

4.2. Water supply from

Water Works Authority

ponds/klong

rain

4.3. Lavatory

for family members only

share with other family

other _____

12b. IF ANSWER TO 11 IS YES AND CHOICES IN 12a. NOT YET DETERMINED:

HOW FAR FROM YOUR PRESENT LOCATION ARE YOU WILLING TO MOVE?

- LESS THAN $\frac{1}{2}$ KM (FILL IN SPECIFIC PLACE)
 NOT DECIDED ANYWHERE IN TOWN

13. Type of house THAT YOU WANT

- single unit ON GROUND row house twin units hut

 SINGLE UNIT ON STILTS

14. Number of stories IN EXISTING HOUSE YOU NOW OCCUPY.

- 1 1 $\frac{1}{2}$ 2 more than 2

14a. TYPE OF HOUSE THAT YOU NOW OCCUPY

- SINGLE UNIT ON GROUND ROW HOUSE TWIN UNITS
 HUT SINGLE UNIT ON STILTS

15. Construction materials are generally IN HOUSE YOU NOW OCCUPY.

- timber concrete combination of concrete and timber

 used materials

16. House condition in term of strength (TO BE FILLED IN BY INTERVIEWER)

- strong fairly weak
 fairly strong weak

17. Rented area (width x length) _____ square meter.

18. Access to the house, width _____ meter.

19. Type of access

concrete

earth or laterite

paved surface

timber bridge

20. Access condition

dry

flooded by standing water

EXHIBIT 2

Policy & Planning Department - National Housing Authority

Provincial Housing Project

Questionnaire for Slum Inhabitants

For Family Head or Spouse Only _____

Address _____ Soi _____ Road _____

1. Number of family members _____

2. Occupation of family head _____ Occupation of Spouse _____

3. Family head's earning _____ Baht/month

Sum of other family member's earnings (not including family's head) _____ Baht/month

Number of family members who have earnings _____

4. Condition of house ownership:

House of your own free

partly rent wholly rent

Land rent from government rent from private enterprise

intrude government land intrude private land

of your own

5. Living expenses:

house rent _____ Baht/month No charge

land rent _____ Baht/month No charge

water supply _____ Baht/month No charge

electrical power or lamp fuel _____ Baht/month No charge

5.1 Electrical Power

available not available

5.2 Water Supply from

Water Works Authority ponds/klong rain

5.3 Lavatory

for family members only share with other family

others _____

5.4 Garbage Disposal

containers to be collected by Municipality burning

burying anywhere

others _____

6. Are your family members' names included in the official registration list?

every member some none

7. Number of people living in the house (including every family) _____

8. Your family has been living in the house for _____ years.

9. Place of birth of family head

municipal control area Muang district but not under municipal control area

other district in the province Province _____

10. Where did your family live ten years ago?

- Municipal control area Muang district but not
under municipal
control area
- Other district in the Province _____
province

11. Do you want TO OWN a new house?

- Yes No Undecided

12. HOW MUCH CAN YOU PAY IN rent/installment _____
Baht/month

12a. IF ANSWER TO 11 IS YES:

WOULD YOU BE WILLING TO MOVE TO:

- (NHA POTENTIAL LOCATION #1)
- (NHA POTENTIAL LOCATION #2)
- (NHA POTENTIAL LOCATION #3)

12b. IF ANSWER TO 11 IS YES AND CHOICES IN 12a. NOT YET DETERMINED:

HOW FAR FROM YOUR PRESENT LOCATION ARE YOU WILLING TO MOVE?

LESS THAN $\frac{1}{2}$ KM

(FILL IN SPECIFIC PLACE)

NOT DECIDED

ANYWHERE IN TOWN

13. Type of house THAT YOU WANT

single unit ON GROUND row house twin units hut

SINGLE UNIT ON STILTS

14. Number of stories IN EXISTING HOUSE YOU NOW OCCUPY.

1

1 $\frac{1}{2}$

2

more than 2

14a. TYPE OF HOUSE THAT YOU NOW OCCUPY

SINGLE UNIT ON GROUND ROW HOUSE TWIN UNITS

HUT SINGLE UNIT ON STILTS

15. Construction materials are generally IN HOUSE YOU NOW OCCUPY.

timber

concrete

combination of concrete and timber

used materials

16. House condition in term of strength (TO BE FILLED IN BY INTERVIEWER)

strong

fairly weak

fairly strong

weak

17. Rented area (width x length) _____ square meter.

18. Access to the house, width _____ meter.

19. Type of access

concrete

earth or laterite

paved surface

timber bridge

20. Access condition

dry

flooded by standing water

C. GENERATION OF EMPLOYMENT AND ECONOMIC OPPORTUNITIES

Although the generation of employment and the motivation of economic opportunities is not the responsibility of the NHA, the monitoring of national and local programs and plans is essential for effective NHA Regional Cities housing plans. The objective of the current Fourth Five Year Plan (1977-1981), as well as its predecessor was to decentralize industry to the provinces and to decentralize governmental decision making out of Bangkok. Neither of these objectives have met with substantial success.

It is easy to recommend greater coordination between NHA and local and national agencies responsible for employment generation. However, NHA needs to develop an evaluation system of its own to assess what current programs and plans would impact on low cost housing demand in the Regional Cities. No such system currently exists.

Generally, the NHA needs to be able to determine what new employment will be generated in each of the regional cities and what this means in terms of low cost housing demand. (This information is required to fill in Table 5 in Section III-A.) The monitoring of employment generating programs for the Regional Cities must take place at the local and national levels, as well as in both the government and private sectors.

1. Local Level Sources

There is substantial information available at the Changwat level to make an assessment of current employment patterns, unemployment and potential employment generation.

The Consultant made an in-depth investigation with NHA officers of these data sources in Khon Kaen. All information was in the Thai language.

- (a) The Provincial Labor Department has data on all existing business and number of employees (Exhibit 3). This same office also serves to locate new jobs. The statistics contained in Exhibit 4 give data on the number of applicants to the Labor Office, the jobs available, the jobs that were filled and the reason why applicants did not accept or were not accepted for jobs that were not filled. These documents also provide data on unemployment, migration, and labor supply and demand patterns.

From interviews in the area, it appears that wage rates and returns from farming in the Khon Kaen area are lower than wages being offered in the Bangkok Metropolis.

- (b) The Changwat Government issues a report on the "Profile of Khon Kaen" (Exhibit 5) which can be used to monitor employment patterns.
- (c) The Department of Commerce issues marketing data which can be used to trace the growth of trade and commerce (Exhibits 6 and 7).
- (d) The Bank of Thailand-Khon Kaen Branch, among many other statistics, publishes "Commercial Bank Advances by Purpose" (Exhibit 8). This is essential information to further follow up to determine what expansion or new industry is being planned with the money borrowed.
- (e) The Economic-Industrial Development Center, Northeastern Region - Khon Kaen has prepared a volume giving details on all industries in Khon Kaen (Exhibit 9).

The Consultant did not have the time nor the facilities to translate this material to make an in-depth analysis of its contents and how it could be used. However, whatever information may be lacking to determine future employment growth in Khon Kaen can be obtained through the design of an additional questionnaire to be circulated at the local level in both the public and private sectors. The questionnaire can be designed only after a detailed study of available data at the local level.

2. National Level Sources

- (a) NESDB (National Economic and Social Development Board)

So far the interface between NHA and NESDB has not provided effective project planning guidelines to the NHA. This is because the NHA's approach has been to obtain "macro" level planning data and not project data which would be site specific. The NESDB has such information. The NHA should determine from NESDB what projects are scheduled in the Regional Cities zones of influence.

The NESDB also furnishes useful data on provincial income, its composition and projections through 1984. The projections are most useful in ascertaining future employment growth.

- (b) NSO (National Statistical Office)

In addition to the data sources listed below published by the NSO, the NHA should consider requesting the NSO to undertake a special survey to help determine low cost housing demand and employment patterns in the Regional Cities.

- "Socio-Economic Survey 1975-1976 Northeast Region" gives information needed to make affordability analysis as well as dwelling ownership patterns of low income groups.
- "Population and Housing Census"
The 1980 census will provide a wealth of information for planning. The NHA should make its requirements known to NSO so it can incorporate them into the Census questionnaires.
- "Household Expenditure Survey"
Gives information to make affordability analysis.

(c) Board of Investment

NHA should obtain a listing of promoted industries by location, type, employment, and estimated time of construction. This information, along with wage rate estimates, will give site specific employment generation for the promoted industries.

(d) Industrial Estate Authority

Even though the IEA has not been most effective, the NHA should continue its efforts to work with them.

In order to formulate estimates of employment generation for the "service and trade" sectors, NHA should undertake its own analysis of the secondary employment generation which would occur as a result of industrial development. Also, government plans to expand its operations in the regional cities are important. In Khon Kaen, for example, the plan to open a new medical faculty at the university will add significantly to housing demand and will generate secondary employment in the form of service and retail trade establishments for the new residents that will be associated with the university.

The NHA should develop "multipliers" for secondary employment generation. For example, for every 1,000 new jobs in industry a certain number of new jobs will be generated in services and trade. Also NHA needs to obtain government agency plans for staff expansion in the Regional Cities. Multipliers should also be developed for government employment generation.

The formulation of the procedures described in this section will enable NHA to more precisely estimate demand for low cost housing and to prioritize its regional city programs.

1977 (ปฏิทินงบประมาณ ๒๕๐๑)

จังหวัดขอนแก่น มีสถานประกอบการที่มีลูกจ้างตั้งแต่ ๕ คนขึ้นไป อยู่ประมาณ ๔๔๑ แห่ง มีลูกจ้างทำงาน ๑๖,๘๕๐ คน เป็นชาย ๘,๐๘๘ คน และหญิง ๘,๗๖๒ คน ซึ่งอาจแบ่งประเภทกิจการได้ดังนี้

ประเภทกิจการ	จำนวนสถานประกอบการ	ลูกจ้าง		
		รวม	ชาย	หญิง
๑. โรงสี	๔๓	๕๕๓	๘๐๔	๑๓๙
๒. โรงงานมันเส้นและคานมัน	๒๖	๑,๔๗๕	๗๓๖	๗๓๙
๓. โรงงานปั่นปอและทอกระสอบ	๑๖	๑,๓๖๖	๖๔๖	๗๒๐
๔. อู่ซ่อมรถ โรงกลึง โรงหล่อ	๔๖	๕๘๗	๕๔๘	๓๙
๕. โรงแรม ภัตตาคาร ไนต์คลับ	๖๘	๕๙๓	๒๙๐	๓๐๓
๖. โรงเคือบ โรงอบไม้	๑๖	๑,๐๖๖	๗๘๖	๒๘๐
๗. ธนาคาร	๒๔	๙๖๕	๒๘๔	๑๖๐
๘.ขนส่งทางบก	๑๕	๗๖๐	๗๐๘	๕๒
๙. ร้านซื้อไม้ยาสูบ	๑	๑,๖๙๑	๘๐๐	๘๙๑
๑๐. น้ำตาล	๑	๗๗๐	๓๗๐	๔๐๐
๑๑. อื่น ๆ	๑๙๓	๓,๖๐๙	๒,๕๐๖	๑,๐๙๘
รวม	๔๔๑	๑๖,๘๕๐	๘,๐๘๘	๘,๗๖๒

หมายเหตุ กิจการรับซื้อไม้ยาสูบไม่รวมของกระทรวงการคลัง

นางสาวประไพศรี ประจักษ์ (นาง) ๓๖. ๓๖ ๓๖๓๖ ๓๖๓๖
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EXHIBIT 4

สถาบันการแพทย์แผนโบราณในจังหวัดขอนแก่น
ม.ค. - ช.ค. 2527



สารบัญ

EXHIBIT 5

ประวัติจังหวัดขอนแก่น	๑
รายนามผู้ดำรงตำแหน่งผู้ว่าราชการจังหวัดขอนแก่น	๒
แผนที่จังหวัดขอนแก่น	๓
<u>ส่วนที่ ๑ สภาพทางกายภาพ - สังคม - การปกครอง - การเมือง</u>	
<u>และการให้บริการของรัฐ</u>	
- สภาพทางภูมิศาสตร์	๔
- ประชากร	๕
- สภาพสังคม	๘
- การปกครอง	๘
- การเมือง	๑๑
- ความมั่นคงปลอดภัยในชีวิตและทรัพย์สิน	๑๒
- การศึกษา	๑๒
- การสาธารณสุข	๑๓
- การสาธารณูปโภคและสาธารณูปการ	๑๔
- แหล่งน้ำเพื่อการเกษตรและชลประทาน	๑๕
- การคมนาคม	๑๖
<u>ส่วนที่ ๒ สภาพทางเศรษฐกิจของจังหวัด</u>	
- สภาพทางเศรษฐกิจโดยทั่วไป	๑๗
- แนวโน้มการขยายตัวทางเศรษฐกิจ	๑๘
- ภาคเศรษฐกิจสำคัญของจังหวัดขอนแก่น	๑๙
- ภาวะทางเศรษฐกิจและการเงินของจังหวัด	๒๑
- การธนาคารและการพาณิชย์	๒๒
- สถิติการเก็บภาษีรายได้ของจังหวัด	๒๔
- การคลังส่วนท้องถิ่น	๒๔

ผนวก ก. รายชื่อส่วนราชการที่สังกัดส่วนภูมิภาค

ผนวก ข. รายชื่อหน่วยงานราชการส่วนกลางและรัฐวิสาหกิจในจังหวัด



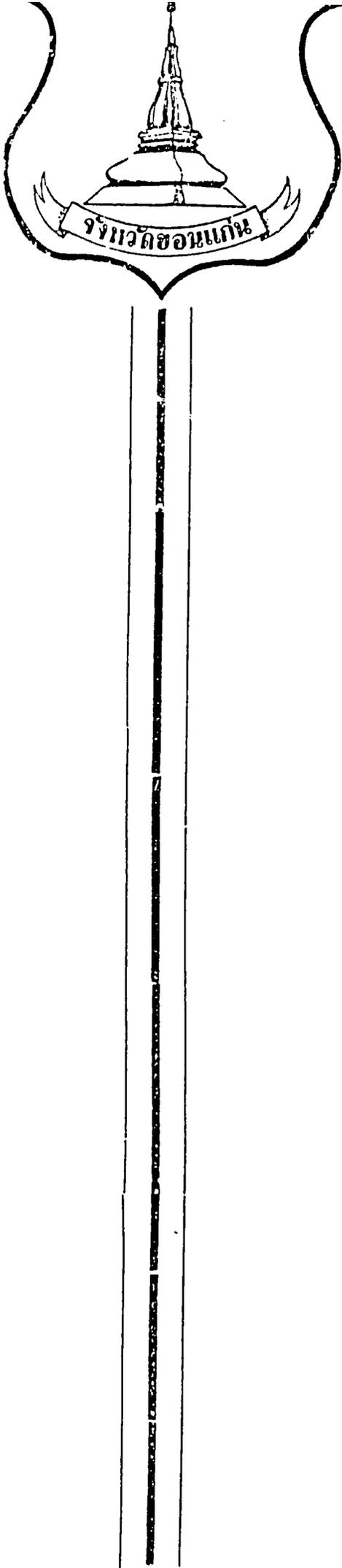
ข้อมูลการตลาด

ประจำปี 2520



สำนักงานพาณิชย์จังหวัดขอนแก่น

โทร. 236571



ข้อมูลการตลาด

ประจำปี ๒๕๒๑



สำนักงานพาณิชย์จังหวัดขอนแก่น

โทร. ๒๓๖๕๗๑

EXHIBIT 8

③ Banking

Commercial Bank Advances by Purpose
in Khenkhem.

: Millions of baht.

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>± %</u> <u>'78/'77</u>
1. Agriculture, Fisheries & Forestry	26.5	53.5	59.2	+ 10.65
1.1. Agriculture	(21.1)	(39.8)	(45.7)	(14.627)
1.2. Livestock	(-)	(9.9)	(13.2)	(133.33)
1.3. Fisheries	(-)	(2.4)	(0.2)	(-01.67)
1.4. Forestry	(-)	(1.4)	(0.1)	(-02.46)
2. Mining and Quarrying	-	-	-	
3. Manufacturing	83.6	195.1	234.3	+ 20.69
4. Contract Construction	34.6	37.2	49.1	+ 31.00
5. Commerce (Wholesale and Retail Trade)	506.4	634.0	830.8	+ 21.62
6. Bank and other Financial Institutions	-	-	4.3	-
7. Real Estate	1.3	5.1	7.5	+ 47.06
8. Public Utilities	1.6	9.4	13.8	+ 46.81
9. Services	32.4	52.3	70.6	+ 34.70
10. Personal Consumption	34.4	49.4	63.1	+ 27.73
Total	720.8	1,036.3	1,332.7	+ 33.41

EXHIBIT 9



ทำเนียบโรงงานอุตสาหกรรมภาคตะวันออกเฉียงเหนือ

ปี 2521

จัดทำโดย

ศูนย์พัฒนาเศรษฐกิจอุตสาหกรรมภาคตะวันออกเฉียงเหนือ

กองเศรษฐกิจอุตสาหกรรม สำนักงานปลัดกระทรวงอุตสาหกรรม

พิมพ์ครั้งที่ 1

กันยายน 2521

สำนักงาน : ถนนมิตรภาพ มอคินแดง
ข้างมหาวิทยาลัยขอนแก่น
อ. เมือง จ. ขอนแก่น
โทร. 236663

D. PLANNING FOR SOCIAL AND ECONOMIC SERVICES

1. General Planning Principles

A first principle in the planning of social and economic services to improve the quality of life for the urban poor is that such planning should be based on an assessment of the specific service needs of the target population, the resources available to meet those needs, and the efficiency and effectiveness of alternate service delivery systems. This implies that at least the following issues will be fully addressed at the planning stage:

- a. The target population should be clearly and realistically defined.
- b. The present status of the target population with respect to service delivery and quality-of-life should be determined.
- c. Goals and objectives for improvement in the quality-of-life for the target population should be established, taking into account the social and economic context of the city.
- d. Needs assessment then consists of measuring the gap between present and planned conditions and determining what services are required to close this gap.
- e. Resource assessment consists of establishing present and projected resources for service delivery, including facilities, staff, equipment, and financial resources. Resource constraints should also be identified, such as budget constraints, competing requirements for staff and facilities, and statutory limits on service delivery. Private sector resources, including those of voluntary organizations, should not be neglected. Finally, the potential resources of the target population and its capacity for self help should be taken into account.
- f. Evaluation of alternative approaches should take into account both efficiency (cost effectiveness) and the productivity (effectiveness) of each approach in relation to the desired goals. Potential side benefits or secondary effects should also be taken into account. Both institutional and technological alternatives should be considered. Preference should be given to approaches which will enhance the capacity of local institutions, community organizations, and/or the target population to identify and meet their own service needs in the future.

A second planning principle which applies to service delivery systems as well as to physical planning is the requirement for participation by the target population in the assessment of service needs, the planning of service delivery programs, and the evaluation of results. Such participation is essential to insure that resources are directed to the areas of greatest need, that facilities are fully utilized, and that the outcomes represent real improvements in the quality-of-life for the target population.

A third planning principle where many agencies are likely to be involved in providing services to a single group of clients is the need for inter-agency coordination. Ideally this coordination should begin at the planning stage, continue through the use of various operational mechanisms during project implementation, and extend to the evaluation stage so that successful models can be replicated on a wider scale. Such coordination can enhance the effective use of resources by eliminating duplication of services, providing channels of communication between agency staff, and insuring that all aspects of each problem situation are covered on a case-by-case basis.

On the other hand, inter-agency coordination can easily degenerate into a formal bureaucratic requirement which accomplishes little and contributes substantially to overhead costs. The choice of a coordination mechanism should be made as carefully as the selection of an approach to service delivery, and using much the same criteria, i.e., economy in the use of resources (especially staff time), effectiveness in improving the quality of service, and development of self-help capabilities among the target population.

2. Recommendations for Improving NHA Planning Practice

The preceding paragraphs describe an ideal approach to planning for social and economic services to improve the quality of life for the urban poor. Of course, the reality of planning practice must necessarily fall far short of the ideal; not least because the responsibility for social planning is often found to be fragmented among a vast array of agencies. Social goals and objectives may be ill-defined, and evaluation of social progress is often difficult to carry out.

In addition, despite decentralization efforts, Thailand still has a highly centralized governmental system, particularly with regard to fiscal resources. Relatively few resources are available at the local level to meet the changing needs of each community. Finally, the government's historic concentration on the needs of the Bangkok area has given way in recent years to a real concern for conditions in the outlying rural areas of the country. Consequently the needs

of the regional cities' low-income populations have been relatively neglected, and there has been little concern for community development in the urbanizing areas of the country.

The National Housing Authority has taken a bold initiative to alleviate conditions in the regional cities caused by a shortage of low-income housing. The regional cities program presently consists of a series of housing projects on specific sites which will provide a mix of shelter options to different income groups, ranging from core housing to complete villas. In addition to providing shelter, the NHA has demonstrated sensitivity to social conditions by providing for land tenure, by allocating space for community facilities and commercial and industrial development, and by taking access constraints into account when selecting sites and planning for physical improvements. The NHA appears to be willing to undertake even greater responsibility for the economic and social development of the communities under its care, should such assistance be required.

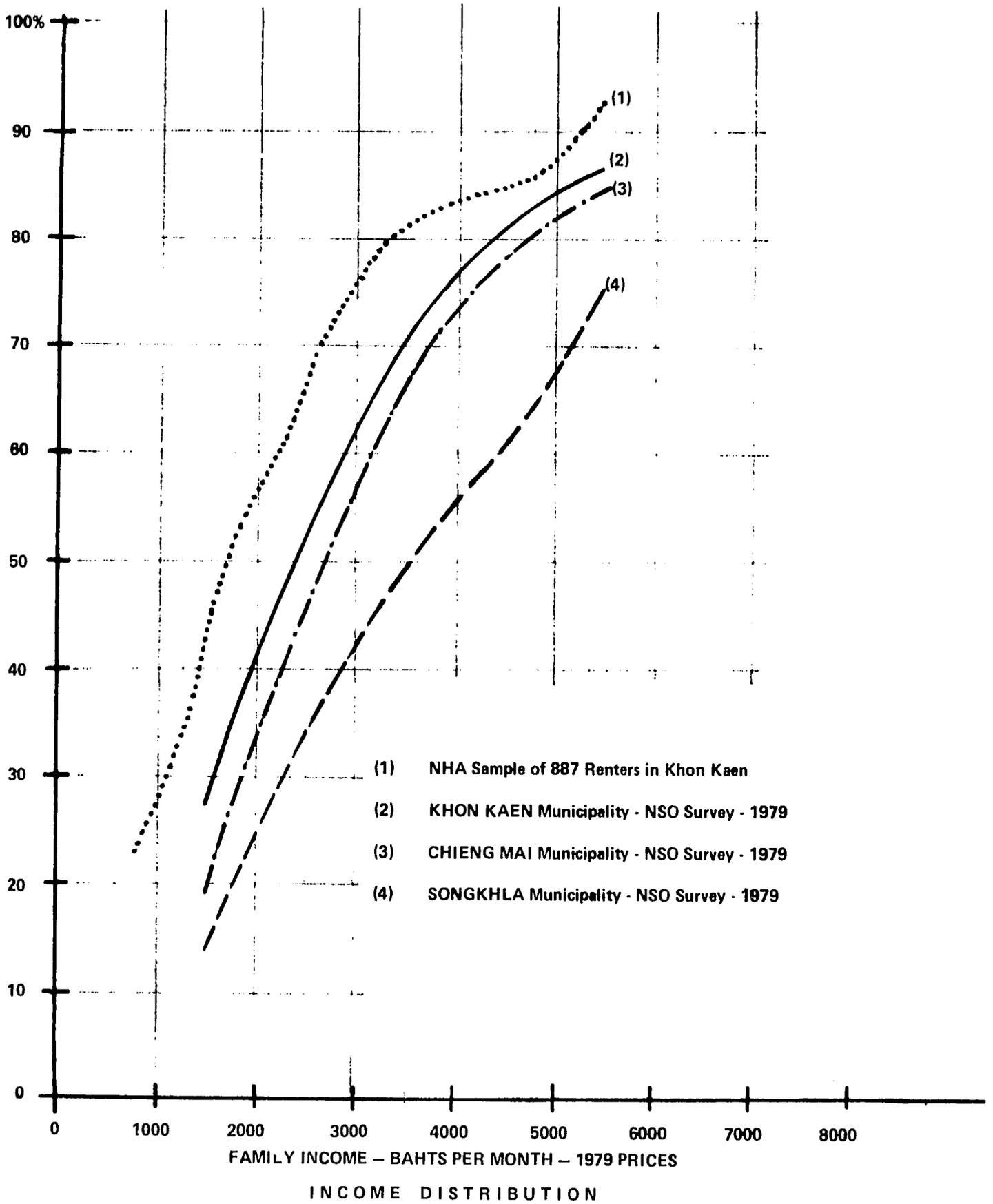
The following sections describe how NHA has undertaken the task of social planning for its projects in the regional cities and offers some suggestions for improvement.

a. Identification of the target population. NHA programs are intended to address the shelter needs of the low and middle income groups in urban areas. NHA has defined four target groups in terms of income as follows:

- Group A: Household incomes of less than 2,000 Baht per month
- Group B: Household incomes between 2,000 and 3,000 Baht per month
- Group C: Household incomes between 3,000 and 4,000 Baht per month
- Group D: Household incomes between 4,000 and 6,000 Baht per month.

These definitions are to be applied nationwide, although there is considerable variation in the income patterns exhibited by the regional cities as compared to Bangkok. Based on available data, we estimate that the median household income in Chiangmai is now 2,700 Baht, in Songkhla 3,500 Baht, and in Khon Kaen 2,350 Baht per month. (See Figure B.) These figures imply that well over half of the total population of these regional cities would be eligible to apply for a house under the NHA program.

FIGURE B



Source: Data provided by NHA.

The low-income projects planned for the regional cities consist of serviced plots with core housing units, combined with a variety of community facilities and commercial and industrial activities. Where possible, land ownership will be transferred to the occupants under a hire-purchase scheme. Where this is not feasible, government land will be made available to tenants on a long-term lease, a not uncommon arrangement in Thailand. A particularly valuable feature of the proposed project is the provision of a building materials loan fund which can also be used to help residents set up small enterprises in their new areas.

A total of 14,000 units of low-income housing were originally planned for the regional cities in the 1978-82 program. ^{13/} These were allocated among income groups as follows: 47% (6,580 units) to Group A; 29% (4,060 units) to Group B; 13% (1,820 units) to Group C; and 11% (1,540 units) to Group D. The basis for this allocation is unclear and it is subject to change based on further study. Cross-subsidy considerations are likely to create pressures to change the proportions allocated to each income group, with more units going to higher income groups and fewer units to the urban poor.

In calculating affordability parameters, it should be noted that NHA considers Group A to be made up of households with incomes between 1,500 and 2,000 Baht per month, that is, averaging 1,750 Baht per month. Such families are expected to be able to pay 20% of their income, or 350 Baht, for housing costs. In addition, they are expected to be able to come up with a down payment of more than 1,500 Baht. The monthly payment includes 50 Baht for estate management costs but does not include the costs of utilities (water, sewer, solid waste disposal, and electricity). Clearly, even the minimum core housing unit will not be affordable by the segment of the urban population with household incomes under 1,000 Baht per month (under 1,500 if land purchase costs are also to be amortized).

Realistic planning for the services to be provided to the core housing project population should be based on the needs of the income groups which will actually live there. In their housing market studies, NHA has identified three principal sources of potential demand for core housing: slum dwellers, renters and new family formation among the urban population. Each of these groups has special characteristics which should be taken into account in planning for service delivery.

NHA has identified "slum" areas in each of the regional cities, with the advice of municipal officials. The criteria for calling an area a slum include: poor physical condition of housing (as

¹³ National Housing Authority, Draft Policy and Development Plan, 1978-82, Bangkok, 1978.

evidenced by use of reused materials, or more simply, by lack of tenure), and crowding or excessively dense conditions. The last is measured by actual count of dwelling units per land area. The results indicate that while some "slum" areas are indeed overcrowded, others are not much more dense than the citywide average. (See Table 9.) Some areas may be classified as slums merely because the occupants are squatting on public land and the authorities would like to find an excuse to move them.

Data on rental housing units were obtained from the municipal house registration lists. There is probably some overlap between this segment of the housing market and the dwelling units in slum areas, although many slum dwellers own their own houses and those which are rented may not always be included in the registration statistics. Wisely, shophouse renters were excluded from the calculation of potential demand for low-income housing; however, NHA would be well advised to conduct a brief survey of shophouse construction, occupancy rates and rental prices before deciding on the number and size of shophouse units to include in the design of its projects.

Data on the income characteristics of slum dwellers and renters were reportedly obtained in face-to-face interviews with a 10% sample in each group. Translated versions of the questionnaires used are given in Annex C. This procedure should yield data of excellent quality and considerable confidence can be placed in the survey results. It is possible that a good deal more about the target population could be learned from further analysis of the survey data, in particular cross-tabulations of occupation vs income and income vs family size, number of wage earners, etc. Some demographic data could also be included in the survey form, such as the age, sex, education and occupation of each household member.

The situation with respect to anticipated population growth is not so bright. No confidence can be placed in data taken by NHA from its initial application forms, since there is no assurance that this sample is representative of the municipal population and household incomes will almost certainly have been understated in order to qualify for housing. The 1976 NSO survey of urban households is probably a more reliable source for the income profiles of regional cities, although its sample size in each city is such that a wide margin of error must be assumed.

Considering that the demand for new housing will partially originate from new family formation, however, it is clear that the income profile of new families will not be the same as for the city at large. Probably a larger proportion of young families will be found in the lower income groups, though many of them may be expected to move out of this category over time.

TABLE 9

COMPARATIVE ANALYSIS OF DWELLING UNIT DENSITY

<u>Chiangmai</u>	<u>Units Per Rai</u>	<u>Nakorn Sawan</u>	<u>Units Per Rai</u>
Municipality	1.2	Municipality	1.9
<u>Slum areas:</u>		<u>Slum areas:</u>	
1. Sport field	14	1. Matulee St	16
2. Mance Noparat St	11	2. Kosi St	20
3. Loy Kroa Soi	5	3. Sawan Vithee St	8
4. Sri Donchai St	22	4. Mekah-Arachun St	20
5. Tipanayet St	29	5. Tham Vithee Visit	13
6. Ancient Wall	24	6. Arthakavee St	16
7. Rakang St	15		
8. Vat Kate Soi 1	14		
9. Ta Sa Toy St	10		
<u>Phuket</u>		<u>Songkhla</u>	
Municipality	1.1	Municipality	0.1
<u>Slum areas:</u>		<u>Slum areas:</u>	
1. Soi Poophol	15	1. Thanon Kao Seng	118
2. Soi Korphai	17	2. Thanon Lean Sai	11
3. Soi Lang Borkorsor	11	3. Thanon Tao It	42
4. Soi Suthai 2	6	4. Thanon	19
5. Soi Ton Pho	5	5. Thanon Sraket	21
		6. Thanon Taleruang	12
NHA Standard	8		
NHA Planning Practice	10 - 12		
NHA Practice for Lowest Income Group	18		

Source: Computed from data provided in the NHA Housing Market Studies.

The situation is complicated by the fact that urban population growth is not accurately reflected by the available statistics. Urban birth rates are almost certainly overstated, since many rural mothers come into the city to have their babies in a hospital. Detailed research on urban and rural fertility in Thailand has shown that in fact urban birth rates are lower than those in rural areas. Thus, a smaller proportion of the observed urban growth is accounted for by natural increase, and a larger proportion is the result of migration. The situation is further complicated by the fact that many migrants (particularly those in low-income categories) may fail to register their change of residence with the municipal authorities.

In fact, the actual rates and compositions of population change in the regional cities are practically unknown. It is apparent that major changes are taking place, particularly in the areas outside the municipal boundaries but within the capital district (amphur muang) of each province. One way to get an idea of the magnitude of population change would be to compare aerial photographs taken of the same area at two different points in time. A more expensive approach, but one which would yield more detailed and reliable data, would be to undertake a sample survey in selected target cities. Much relevant data will be collected during the 1980 census; perhaps NHA could arrange to have access to the results in advance of official publication by helping to prepare a series of reports on the regional cities.

To the extent that population growth is made up of migration, it is important to know where migrants come from, what skills they bring to the city, what special services they may require, and what housing options are open to them in the light of their income levels. Available evidence indicates that migrants are predominantly young, of both sexes, in search of both education and urban jobs, and that if these needs are satisfied they will stay in the city; otherwise, they will move on.

In the regional cities which have been selected as institutional growth centers, many immigrants are government officials, teachers, and other highly skilled personnel. Such growth places pressure on the rental housing market and increases the desirability of home ownership, even if many of the migrants expect to be transferred elsewhere at some future point in their career. This particular migrant stream may be expected to increase if the government succeeds in its plans to decentralize many administrative functions to the regional centers.

Skilled labor is currently in short supply in the regional cities, but can only be expected to go there following changes in the location of major employment opportunities. Unskilled labor and informal sector commerce are the principal options open to a

migrant who has no special training. A small but growing segment of the urban population consists of youths who come to the city to get an education and stay on, hoping to find jobs that will make use of their skills.

Much more needs to be known about the composition of urban population growth, the degree to which it overlaps with the slum dweller and the renter population, and its effect on the income profile of the target population for NHA housing projects in the regional cities. With a better understanding of the characteristics of the households likely to inhabit the project area, a more effective delivery system for socio-economic services can be designed to serve this area. At the same time, the ability of the planned projects to serve the needs of the urban poor can be assessed and alternative approaches can be designed to meet this objective, if required. This issue is discussed in more detail in Chapter V.

b. Needs assessment for the target population. Virtually no work has been done on the degree to which the service needs of the target population are currently being met, either in terms of an absolute standard of service delivery or in terms of the relative position of low-income families in relation to an urban average. In part this reflects the lack of a clear understanding of the characteristics of the target population. This is the area where the greatest amount of work needs to be done in order to plan a program of socio-economic services for the project area population. Some initial suggestions are offered in the following paragraphs.

Education. It is probable that the families moving into the project area will be somewhat younger, on the average, than homeowners in the city. They are highly likely to have school age children and to aspire to a high level of education for them. Adequate primary and secondary schooling opportunities should be provided, preferably in public facilities, for the projected school age population within walking distance (maximum 3 kilometers) of the project site. Where sites are located outside municipal boundaries, this will require advance planning with the amphur education officials to inform them of the expected increase in enrollments.

Kindergarten and day care facilities are desirable but may be perceived as a luxury by the project population, particularly if fees are charged. The need for day care should be determined as a function of present employment patterns of women in the target population, anticipated new employment opportunities, and present patterns of utilization of day care centers and alternative child

care arrangements. Day care presents an excellent opportunity to ameliorate the health and nutrition of young children and to improve family functioning, if such needs are found among the target population. However, costs must be kept to a minimum to make participation possible for low-income families. Probably no more than one professional staff person would be required at each site, with assistance provided by voluntary organizations in the community and/or by project residents through a cooperative arrangement.

It can be expected that most household heads and many wives in the project areas will be literate (graduates of Pratom 4) and will have access to the basic skills required for urban living, such as ability to manage money and credit and to deal with the paperwork requirements of seeking employment, financial assistance, etc. (This expectation should, however, be verified in specific cases.) Generally speaking, then, a program of adult basic education should not be required for project residents.

Probably the greatest educational need will be for vocational training for both school leavers and adults, who will be seeking jobs in the urban areas. The present and future demand for different types of skilled labor in the city should be analyzed and the vocational training program designed accordingly. While it will probably not be feasible to install a vocational training school in or near the project, a training program could be effectively combined with the development of small-scale industries at the project site.

Construction skills should be developed by project residents in the course of building or expanding their core houses. Specialized skill development could be encouraged by allowing project residents to participate in the installation of plumbing and electricity. Management assistance could be provided to groups of residents with construction skills to help them form cooperatives or small contracting enterprises.

Health care. The needs of the project population for access to health care facilities should be determined in relation to the facilities available to the urban population as a whole. Experience in Thailand has shown that low-income families tend to use health care facilities primarily in crisis situations, and that when medical care is required they prefer to go to an outpatient clinic in a hospital where a doctor is available rather than to utilize local health centers. Local centers provide first aid as well as pre-natal and post-natal clinics, midwife services, nutrition education and family planning services. However, these centers are often both understaffed and under-utilized, especially in low-income areas.

The principal health problems of the urban poor in the regional cities of Thailand are upper respiratory infections, gastroenteritis, and malnutrition. Epidemic disease is now quite rare, due to an effective program of vaccinations. It is believed that the persistent health problems of the urban poor are related primarily to the crowded and often unsanitary conditions under which they live, conditions which should be substantially alleviated by the physical planning of the project sites.

The extent of malnutrition among the urban poor in regional cities is not known, but studies of low-income families in Bangkok suggest that apparent good health may mask severe nutritional deficiencies.^{14/} In infants and young children this condition may be in part an artifact of the urbanizing process, as mothers change from breast feeding to processed baby foods and as families are forced to pay cash for commodities such as fruit and vegetables which were formerly freely available. Cultural values, such as pride in children's ability to consume hot foods, may also play a part.

But the principal constraint on adequate nutrition is income, and efforts to alleviate this problem should focus on income generation combined with nutrition education for women and youths. In cases where malnutrition is determined to be a serious problem among the target population, it may also be appropriate to provide plots for cultivation of vegetables and fruits and for a community fish pond. However, an incomes strategy is likely to be more effective in meeting the nutrition needs of households in the income group expected to occupy the project sites.

Employment generation. More information is needed on the occupational patterns of households in the target income groups. A clearer picture would emerge from a cross-tabulation of income vs. employment in the existing NHA survey data on renters and slum dwellers. It would be safe to assume that the income levels associated with different occupations in these groups are also appropriate for the low-income population as a whole.

Furthermore, the criteria for selecting applicants need to be examined to see if they favor specific occupations. For example, it is likely that low-income government officials and employees of established business firms would be preferred over self-employed and day laborers because of the relative security of their incomes and the pressures which can be brought to bear to insure regular payments. Reported incomes of hawkers and vendors as well as day laborers may be subject to significant seasonal fluctuations and may also be highly dependent on transport costs. Therefore, they are both more likely to be viewed as "bad risks" by estate managers and less likely to be willing to assume the substantial financial commitment associated with purchase of core housing.

¹⁴ Susan and David Morell, Six Slums in Bangkok. UNICEF, Bangkok, pp. 45-47.

Special attention should be paid to the household income contributions - in cash and in kind - made by household members other than the household head. For example, unpaid family workers may provide services such as cooking and child care which would have to be paid for if all family members were fully employed. Children, young adults, and housewives may be making substantial contributions to household income through informal sector activities. In other words, there may be an opportunity cost involved in employment generation activities as well as in services such as education and health care.

Interviews with slum residents in Bangkok indicate that the most serious obstacle to employment is lack of capital.^{15/} Lack of skills is not a major obstacle to finding a job, but it may prevent individuals from increasing their income over a subsistence level. Most slum dwellers prefer to work near their place of residence and many, especially women, work in their homes. They are not likely to shift into factory jobs unless the wages are adequate to compensate for increased costs of transport and child care. Many would however, be willing to work in small scale industry or commercial enterprises near their homes, especially if small children could accompany them or find a place in a nearby day care center.

Since it is likely that heads of households accepted for the core housing projects will have permanent jobs, employment generation activities should focus on the needs of women and youths, particularly primary school leavers. A revolving loan fund for working capital would be of great assistance to residents already possessing a skill or a place in the informal service sector, to enable them to cope with the costs of setting up operations in a new environment. Such a fund could be administered by the community itself in a fashion similar to the temple loan funds found in rural villages or the mutual share associations found in urban low-income areas.

Allocation of commercial and industrial space can be made on the basis of employment opportunities provided to project area residents. A sliding scale of space rental charges could be instituted to encourage the installation of locally owned small businesses, though this might negatively affect the profit making function of such space and thus threaten the economic viability of the overall project. Finally, vocational training opportunities should be identified in all employment generation projects, and management expertise may be required to assist residents in marketing their skills to clients outside of the project area.

¹⁵ Morell, *Six Slums*, *op. cit.*, Appendix A, "Activities of the Council on Social Welfare of Thailand."

Youth services. A small but growing segment of the urban population in provincial centers is made up of young people who have come to the city to acquire an education and who stay on to seek an appropriate urban job. Some of these young people are unable to complete the years of education required for entry into formal vocational training programs. Others find their education to be irrelevant to the real needs of the world of work. The problem of unemployed youth is a uniquely urban problem, and one which can be expected to grow in the coming years. It is also the problem of greatest concern to slum dwellers as reported in studies from Bangkok. ^{16/}

So far, relatively little attention has been paid to the needs of youth in planning for social and economic services in urban areas. Such planning has traditionally been handled by the Department of Public Welfare, which has taken more of a custodial approach than a developmental view of its responsibilities toward young people. Programs of the National Youth Promotion Committee have had little success among low-income urban groups. ^{17/} Much of this may be due to the traditional "top-down" approach in social service planning, which fails to articulate the true needs of young people and consequently fails to provide services appropriate to those needs.

Much more work needs to be done in order to determine those specific services which young people will accept and use in order to further their integration into urban life. Some initial suggestions might include: workshop activities and skill training, organized sports, arts and craft activities, social groups such as scouting, cultural activities, and opportunities for public service. For such programs to succeed in getting youth involved in constructive activities, however, they must be planned in accordance with the perceptions and priorities of the target group.

Community Development. Thailand does not have a long tradition of urban community development. In traditional village life, communal activities centered about the wat, and this tradition persists in urban areas. More recent efforts to promote community development in rural areas have not been repeated in urban areas, where traditionally services are provided by the central government. Thus there is a very real question as to the "need" for community development programs in the NHA regional cities projects.

¹⁶ Morell, op. cit., pp. 36-42.

¹⁷ King, Travis A., "A Look at the Thai Youth Movement." USOM, Bangkok, 1970.

One reason why such programs may be appropriate is the fact that most projects will be located in the urbanizing areas surrounding the cities. These are transition zones in which people are presently making an adjustment between urban and rural ways of life. The projects themselves will gather together people from disparate social groups, and it will be necessary for project residents, in a sense, to create their own community.

The most important factor in planning for community development in the NHA project sites will be the interest and initiatives of the community residents. This implies that relatively little planning can be done in advance of project occupancy. About all that can be done is to allocate space, facilities and/or funds for project residents to use as they choose to promote their own group activities.

The model of community organization used in the Rangsit core housing project in Bangkok may be equally applicable in the regional cities. In this model, one representative is elected from each block of 20 dwelling units to attend monthly meetings of a community committee. The committee plans social and cultural activities for the community and takes the initiative with regard to income improvement programs. This approach ensures that services provided are those desired and used by project residents and that community development activities are responsive to their needs and priorities.

c. Resource Assessment. NHA has confined its social and planning activities for the regional cities program largely to the area of resource assessment. The number of schools, hospitals and health centers, etc., in the regional cities is inventoried and in some cases mapped. Available information concerning staffing, equipment and budgetary resources is collected from local officials. It is not clear, however, how this information is linked to the determination of space and facility requirements for NHA regional city projects.

The data collection process on resources for service provision needs to be made more systematic and comprehensive. Facilities should always be characterized by the administrative agency which has operating responsibility: the municipality, the amphur muang, the changwat, or the private sector. In all cases the location of present and planned facilities should be mapped prior to selection of the project site.

The inventory of facilities, staff, etc. should be extended to include day care/kindergarten facilities (private and public), youth services, formal and nonformal adult education programs and vocational training programs, and potential sources of credit and technical assistance to small businesses. More attention

should be paid to statutory constraints on service delivery, such as requirements for house registration and limits on the extension of services beyond municipal boundaries. Finally, budget constraints on service delivery to new areas should be more carefully examined.

Persons responsible for social planning should be careful to distinguish, in the data collected from municipal officials, between statements of theoretical standards (e.g., pupil-teacher ratios) and the actual situation in the community. It is important to obtain systematic measures of capacity and utilization for service facilities, as these reveal which facilities are inadequate to meet demand and which are underutilized. Further probing of these issues often reveals much useful information about community attitudes and behavior regarding services.

Private sector resources should be more fully explored, particularly those of voluntary groups in the community. Such groups are often willing to staff a facility on a part-time basis, working under the supervision of one or more full-time professionals. Contacts with such groups should be initiated early in the planning process, and they should be given an opportunity to participate in the design of facilities to accord with local needs and preferences.

Finally, the potential resources of community residents themselves should not be ignored. While it is difficult to get the residents of a new community to work together, the experience of the Community Relations section of NHA's Estate Management Division shows that it is not impossible. This experience should be carried over to the regional cities program.

d. Determination of facilities and programs to be provided at the project site. Given the financial constraints faced by NHA, and its desire to serve the needs of low-income people, a program of social and economic services for project residents must be carefully planned to make the most efficient and effective use of available resources. This means that there must be continuing coordination with local officials, agencies and organizations to insure that plans for the project site are carried out in the context of overall planning for community development in the regional cities. A good start in this direction has been made in the meetings attended by the Consultant in the two cities where project planning is farthest advanced, Chiangmai and Songkhla.

It is evident that meaningful collaboration with local officials can only begin after a project site has been selected and the size and composition of the target population is approximately known. Based on an analysis of the demographic structure of the new community, for example, the number of pupil places needed to serve the community at a level comparable to municipal standards

can be determined with some precision. Places available within a reasonable distance from the site can be determined from the data on capacity and utilization of schools, projected to the time when people are expected to move into the new community. A comparison of these two items will reveal the unfilled need.

A number of alternative approaches can be developed to meet this need, including, for example: (1) transportation to underutilized schools far from the project site; (2) coordination with local officials to insure that additional classroom space, teachers, equipment and materials are budgeted to be in place when the project opens; (3) provision of a site within the project area for construction of a new school; (4) actual construction of a school building for operation by local officials; (5) construction and operation of a school by project staff and/or community residents. The approach selected should be the one which appears most likely to satisfy the unmet need with the least expenditure of project resources, including both funds and staff time, and which places the least financial burden on community residents.

Certain community facility requirements may be determined on an ad hoc basis, such as post offices, police kiosks, and NHA offices. Others may be left to the initiative of project residents; for example, the allocation of space to different uses in a multi-purpose meeting hall. But planning for basic services such as education, health, employment and economic opportunities should be undertaken as part of a larger effort to promote the attractiveness of the regional cities as a whole. It should also provide an opportunity for feedback to local officials, thereby strengthening the institutional capacity of the local administration.

E. ADMINISTRATION AND COORDINATION FOR PROJECT IMPLEMENTATION

1. Internal Coordination Within NHA

In order to implement the recommendations given above, NHA will need to give a higher priority to the Regional Cities program in its overall planning effort. At least one staff member from the Office of Policy and Planning should be assigned full-time to the Regional Cities program. This person would be responsible for establishing priorities among the regional cities and for determining the appropriate size of projects in each city, as well as preparing the overall financial program and dealing with donor missions in a counterpart capacity. He or she should be assisted by other members of the Office of Policy and Planning staff as needed to prepare the detailed projects for each regional city.

A project team made up of one representative from each of the three divisions of the Office of Policy and Planning should be formed to prepare the housing program for each regional city. The physical planner would be responsible for evaluating existing housing stock, land use plans, physical infrastructure, and alternative sites for NHA projects. The socio-economic planner would be responsible for identifying the characteristics of the target population, assessing service needs and resources, and planning for community facilities. The financial planner would be responsible for preparing cost estimates and affordability parameters, identifying economic opportunities for the target population, and preparing a detailed proposal for funding. All three should participate in the process of selection among alternative sites.

Work already done by the Research and Construction Department on project designs for Chiangmai and Songkhla indicate that good working relations have been set up between departments on an informal basis for the regional cities projects. The program should now be called to the attention of the Interdepartmental Coordinating Committee as soon as the Office of Policy and Planning has reached some basic decisions on city priorities and program size. The Research and Construction Finance and Estate Management Departments will need to be increasingly involved as project implementation planning proceeds.

2. Coordination with Local Agencies

The choice of agencies with which to coordinate at the local level depends largely on the location of the project site - inside or outside municipal boundaries. The situation is complicated by the fact that, in many of the regional cities, an extension of the municipal boundaries is currently under consideration. In this case, it may be necessary to coordinate with both municipal and amphur muang officials. Changwat officials should, of course, be kept informed of developments in project planning; but they need not be directly involved in the planning process, as their main responsibility concerns service provision and community development for the rural areas.

NHA has initiated contacts with local officials at the data collection stage for the housing market studies. Contacts were made with municipal, amphur and changwat officials of the Ministries of Education, Health, Industry, and Interior. However, such contacts were not always systematic and did not always include all the relevant authorities.

These contacts were expanded and reinforced during the Consultants' visits to Chiangmai, Khon Kaen, and Songkhla. A similar process should take place at an appropriate stage in the planning for other

regional city projects, i.e., just prior to site selection. The contacts serve the dual purpose of providing local authorities with information concerning project size, general design characteristics, potential sites, and the size and composition of the target population; and providing project planners with up-to-date information on the services available near the alternative project sites. This information in no way commits NHA to purchase land at any particular site.

A second round of contacts should take place after the project site has been selected and acquired. The purpose of this exercise would be to initiate forward planning to meet service needs identified at the site. Project planners should be able to specify the amount of space allocated and the types of community facilities envisaged for the site (as is done in the Project Brief), as well as their expectations regarding service provision by local authorities. These meetings will also provide an opportunity to verify and update the projections for existing and planned facilities to take account of any sudden shifts in service utilization.

In the overall perspective of strengthening the capacity of the regional cities to cope with the growth anticipated as a result of the strategy to divert rural-urban migration away from Bangkok, it would be desirable to focus the responsibility for coordinating services to project area residents within the municipality or the amphur muang. However, this idea appears to be unfeasible in practice because of the relatively weak position of the local authorities, their very limited budgetary resources, and the demands which will be placed on them by concurrent programs of urban upgrading such as the World Bank's Urban Sector Project. It appears that to insure that coordination will occur, it will be necessary for NHA to take the initiative.

This suggests that NHA should place a full-time administrator in each regional city to assume responsibility for interagency coordination, perhaps a year prior to completion of the project. This position would most logically belong in the Community Relations Department of the Estate Management Division. During the first year, the project administrator would develop working relationships with local officials, agencies and organizations; would assist in the processing of applications to purchase homes and analyze data from the application forms to develop a detailed profile of the actual project population; would explore opportunities for economic assistance and employment generation; and would, if possible, conduct interviews or group meetings with future project residents to determine their perceptions and priorities with regard to service programs.

After the project opens, the administrator should stay on for at least two years to assist residents in identifying their service needs and securing assistance from outside agencies, to insure that planned services are provided in a timely and appropriate manner, and to assist in developing community spirit and self-help capacity. The administrator could also manage the building materials loan fund and/or small enterprise credit program, and supervise the use of the multipurpose community hall. The job of this administrator should be clearly distinguished from that of the estate manager, who will be responsible for making collections and providing security and maintenance services to the project site.

During the early years of project operation, the administrator should seek to develop a capacity within the community to take over his or her functions. Gradually, the responsibility for managing community programs should be shifted to project residents. Within a period of two to three years the community should be able to function effectively without the administrator's guidance. The last assignment of the administrator could be to conduct an evaluation, through interviews with project residents and use of data from local agencies, concerning the success of the project planning process in identifying and meeting the needs of the new community.

3. Coordination with National Agencies

As suggested above and in the Summary Field Report, NHA should closely monitor the impact of national level programs aimed at decentralizing economic activity to the regional cities. In addition, NHA should circulate its detailed draft plans for regional city shelter and community development projects to the appropriate agencies for comments and corrections. Better working relations between agencies would enhance the flow of data needed for planning and make NHA projects more responsive to the concerns of other agencies with regard to strengthening institutional capacity at the local level.

There is little need for further formal structures for interagency coordination at the national level. What is needed is to find ways of revitalizing existing structures so that they serve as a catalyst rather than a constraint to community development. This will require an effort on the part of all concerned to put aside stereotypes drawn from past experience and to approach in a creative and collaborative spirit the task of planning for regional city development.

F. PHYSICAL PLANNING

The procedural steps taken by the NHA leading to the development of the final physical plans, described in Chapter II, are considered to be good. The NHA has some competent physical planners and their concept of the requirements for mixed-class housing and associate commercial areas, markets and open spaces, as revealed in the three alternative plans prepared for Songkhla, is generally good. The graphics employed in the presentation of two proposals are also lucid and well done, particularly in respect to the relationship of the NHA developments to existing land use of the city. It would be desirable to relate the proposed developments to the city master plans prepared by the Town and Country Planning Board, even though these are still under discussion with local authorities and have not yet been ratified. This would enable the projects to be viewed in the light of the main trends for the city as envisaged by the planners.

Site Selection

Wherever possible, sites should be chosen adjacent to existing or proposed employment centers such as industrial estates, concentrations of light or heavy industries or locations easily accessible by bus to existing commercial centers. These requirements should be weighed against land costs when choosing sites and the cheapest available land should not necessarily be the deciding factor. If the target groups are to be assisted properly, the expense of transportation to places of employment must be evaluated as a factor in the final assessment of cost.

In the three cities examined, the locations of the sites already selected or under consideration do not present any serious problems. In the case of Bangkok some of the NHA developments have had to be located far from the work places of the dwellers due to the difficulty of acquiring land within or near to the city. An example of this is the Rangsit development, where many of the houses are vacant or are occupied by groups of higher income than was originally intended, due to the high cost of transport which cannot be afforded by the lower income groups.^{18/}

However, this is not the case with the regional cities examined; due to small size of the cities, it has been possible to locate suitable sites within or adjacent to the city boundaries. At Khon Kaen the site under consideration is within the city boundaries and available at a price (60,000 baht per rai) considered acceptable. In Chiangmai and Songkhla the sites which have already been acquired are adjacent to the city boundary. The sites are good, but all will require filling (up to 1 meter) due to periodic flooding.

¹⁸ National Housing Authority, Rangsit Project Monitoring Report, Bangkok, 1978, and Consultant interviews with Rangsit project residents.

In none of the sites examined does transportation generally present a problem, due to the proximity of the sites to the commercial areas of the city, to places of existing employment and to schools. Mini buses are available in profusion in all the cities and these will provide a cheap means of transport. However, it is anticipated that site location may present a more serious problem in the regional cities in those cases where sites have not yet been acquired.

The NHA regional cities program is directed at cities selected by the national government to function as regional growth poles. As part of this national policy, many administrative and institutional functions are being decentralized to these cities. As a result, the cities and the surrounding capital districts are generally well equipped to provide social services to the present local population. Access and infrastructure are developed and will be expanded in the near future. Thus there is no serious service delivery constraint affecting the location of project sites within an urbanizing area.

Some consideration should be given to the implications of locating a site inside or outside of municipal boundaries. Different authorities may be responsible for service provision in each case. Discussions should be held with municipal officials, amphur officials, and/or changwat officials at the stage of selection among alternate sites, to see which sites may be most readily served by existing facilities. If on-site facilities are required, these discussions should determine the capabilities of the agencies which will be responsible for providing staff and budget resources in each case.

Site Plans and Layout

Every project with 500 or more dwelling units (this is the minimum number presently proposed for any Regional City) should have provisional spaces for schools, health clinics and community buildings if these public facilities are not available nearby with the capacity to provide the necessary services to the new community.

There should be one or more commercial areas with provision for an adequate number of shophouses permitting store-front light industries to be carried on. (It is suggested that 3 to 5 percent of the land area of the project be allocated for this purpose.) There should also be a market with an adequate infrastructure and, if enclosed, provided with good ventilation and centrally located.

The road system should provide for mini-bus routes and all properties should have direct access to a vehicular road. The NHA should develop a set of minimum standards for right-of-way widths and pavement strength for roads.

Layouts should not be too geometric and some curvilinear streets should be introduced into plans. Roadside curbs should be recessed in places in order to permit on-street parking or to provide for mini-bus stations without blocking streets. It is recommended that there should be grass strips, planted with trees or shrubs, between sidewalks and carriageways.

There should be walkways of 3 to 4 meters between each group of 6 houses in order to provide easements for utilities, places for children to play off-street and to avoid too great a density which can lead to unsanitary conditions. There should also be provision for parks and playgrounds covering at least one percent of the site.

The densities of 8 to 10 units per rai and 60 percent of land to be used for lots, generally being used as design criteria for the Regional City projects, are considered reasonable. It should be noted, however, that present project planning includes densities of 10 to 12 units per rai on the average, and that units destined for low-income families will be built at densities up to 18 units per rai in order to reduce land charges. At these densities, the core housing units may not present an attractive alternative to slum housing. It is possible that the proposed grouping of the lowest cost housing could lead to unsanitary conditions.

Utilities

In the three regional cities examined, water would be provided from existing municipal sources. In the case of Khon Kaen, where it is proposed to increase the existing supply to the city, there would be no problems. However, in the case of Chiangmai and Songkhla, where there are already appreciable reductions in pressure during hours of peak draw-off, it may be necessary to install high level storage tanks to take advantage of night flows, or relief may be obtained by using on-site booster pumps if the supply is adequate. The regional water authorities have unofficially agreed in all cases to make the necessary connections.

In all three cities there is an adequate service for the collection of garbage and for vacuum-pumping of septic tanks or cesspits. The authorities concerned have unofficially agreed to extend these services to the new NHA developments even if the developments remain outside the city boundaries. Properly designed two-chamber septic tanks should be used, with a 48 hour retention period. Alternatively, aqua-privies may be used designed with access for cleaning from outside the building.

Electricity presents no problems since the supplies in all cases will come from the nationwide EGCAAT grid. The Regional Electricity Authorities interviewed agreed to install the necessary transformers and distribution lines and provide the power required.

An acceptable standard of streets should be specified so that the local highway authorities would accept them for maintenance. It is considered that pavements should be of flexible asphaltic concrete rather than of Portland cement concrete. Wide roads, of the type shown in the Chiangmai Phase I development, are considered to be too expensive.

The policy of individually metering dwelling units for water and electricity is good and should be continued. In regard to water supplies, ring mains should be provided to all sites, with an adequate number of valves permitting the isolation of short sections of main in order to make repairs or new connections without disrupting the supply to a large number of consumers. In some cases, and particularly for the Chiangmai and Songkhla projects where severe reductions of pressure are likely, it may be desirable to install elevated storage or balance tanks near the site in order to take advantage of night-time flow and to maintain pressure during periods of peak draw-off.

Housing Types

The traditional method of building houses for the lower income groups in regional cities is for the building to be raised on posts above ground level. There are several reasons for the development of this type of house in the humid tropics and areas of heavy rainfall:

- the living area is above flood level;
- the sleeping area is above the layer of super-saturated night-time mist which generally hugs the ground to a depth of 1-2 meters;
- there is an area available below the house suitable for storage and where children can play when it is raining.

It is questionable whether the core-type houses, now being built for the lower income groups in Bangkok, will be successful in the regional cities. The slum dwellers generally own their present buildings although they may not own or rent the land. Their houses are built in the traditional Thai manner on stilts. Similarly, the low-income renters also live in traditional houses on stilts. It is possible that this target group will not move to core houses built directly on the ground. An effort should be made by the NHA architects to design a core-type house on stilts.

The existing core-type houses examined have a reinforced concrete frame with concrete block infill. It should be possible to raise this frame on columns. The block infill walls could be omitted, allowing the occupant to construct timber cladding to the concrete frame and to provide a timber floor and front and back walls. The sanitary facilities could be constructed by NHA at ground level using concrete block. The entrance stair of timber could also be provided by NHA. Head clearance to the underside of the reinforced concrete beams of the framing should be 2.10 meters. The ground floor under the building should be compacted laterite or other select fill material. Such a house would be attractive to the present slum dwellers and to lower income renters. The space below the house can be used to fulfill many purposes. The amount of loans available to the tenants should be made sufficiently large to enable them to complete their houses.

Employment Opportunities

Normally no provision would be made for industries within the housing projects other than small-scale store-front activities of the type traditionally found in Thailand. However, an integrated community development project could be defined in which both housing and industrial development would be significant elements. If provision is made for larger industries, the industries should be such that they do not use excessive amounts of water and do not create pollution problems. Site planning and infrastructure design will also have to take these multiple uses into account.

The NHA can perform a passive role in the promotion of employment opportunities by locating sites in the vicinity of existing and proposed commercial and industrial centers and by encouraging the establishment of vocational training schools in order to upgrade the skills of the lowest income groups occupying NHA houses. If special budgetary provision is made and administrative approval given, the NHA might be made responsible for promoting small industries for specific NHA development projects with the provision that their efforts should not be in conflict with the programs or policies of other government agencies.

G. PROJECT EVALUATION

As the Regional Cities program gets underway, it will be necessary for NHA to establish goals and objectives for each city project and for the program as a whole. These goals and objectives should then be expressed in terms of objectively verifiable indicators of progress. Baseline data and periodic project monitoring reports will be required in order to establish project progress toward the achievement of program goals. An example of this type of analysis is given in the AID Project Paper, Annex A, "Logical Framework."

NHA has already implemented project and program evaluation systems in connection with some of its Bangkok area projects. The concepts and techniques of evaluation are reasonably well understood by NHA, and its importance as an input to future project design is well established within the Office of Policy and Planning. However, so far little thought has been given to the design of an evaluation program for the Regional Cities project. Such an evaluation program should measure the success of each individual project in meeting NHA cost criteria and construction standards, delivering affordable housing to the intended target groups, and improving the quality of life for the urban poor.

1. Cost Criteria and Construction Standards

The NHA publication "Draft Policy and Development Plan 1978-82", dated February, 1978 and adopted by the NHA Board of Directors in June, 1979, sets forth the guidelines for Regional City Core Housing costs (for four levels of income) split into (1) Land and Infrastructure (2) Core Housing and, (3) Total Cost including NHA overheads and interest. These guidelines are given in Table 10. The same policy paper sets forth the percentage of the six cost component items to be borne by the tenants in each of the four income-level groups and by the Government. These are given in Table 11.

The policy paper further states that the monthly payment shall not exceed 20-22% of the mean income of the target group. In order to make this feasible for the two lowest income groups (A = 1500 to 2000 Baht/month and B = 2001 to 3000 Baht/month), the higher income groups (C = 3001 to 4000 Baht/month and D = 4001 to 6000 Baht/month) cross subsidize the lower groups by paying a greater share of land costs and infrastructure, overhead charges and loan charges.

It will be noted from Table 10 that the total cost guidelines for the two lower income groups, covering the range of 1500 to 2000 Baht/month and 2001 to 3000 Baht/month, are 60,000 Baht and 69,000 Baht respectively. These cost criteria are consistent with the affordability criteria set forth for the respective income groups.

No experience is available on the cost of construction of core housing in regional cities. Estimates have been prepared by the Research and Construction Department for Songkhla which give a mean construction cost per unit of about 23,000 Baht excluding the cost of infrastructure and land. For the on-site infrastructure and land development the estimated cost is about 26,000 Baht per unit. If these estimates prove realistic, there should be no problem in meeting the NHA Guidelines for the two lower income groups. It appears that these estimated construction costs can be met, since the construction costs of core houses at the Tung Song Hong project range from 16,165 Baht to 20,946 Baht for floor areas from 19.44 M² 36.72 M².

TABLE 10

NHA GUIDELINES FOR CORE HOUSING COSTS (BAHT) ⁽¹⁾
EXCLUDING COMMUNITY FACILITIES

<u>NHA INCOME CATEGORY (BAHT/MONTH)</u>	<u>LAND AND INFRASTRUCTURE</u>	<u>CORE HOUSING</u>	<u>TOTAL (2) INCLUDING NHA O/HDS AND INTEREST</u>
A 1500-2000	25,000	23,000	60,000
B 2001-3000	25,000	30,000	69,000
C 3001-4000	31,250	39,000	90,000
D 4001-6000	31,250	57,500	114,000

NOTE: Tenants will pay for land and core-house in the form of:

- a) down payment;
- b) monthly payment, not to exceed 20-22% of the mean income of the target group
- c) amortization of loan;
- d) mortgage interest at rates which NHA can mobilize loans; where group A pays 10%, group B pays 11% and groups C and D pays 12%;
- e) maintenance cost, at the rate of 50 to 80 Baht/month.

(1) From "Draft Policy and Development Plan 1978-82" - dated February, 1978.

(2) A portion of these costs are borne by the government in the form of subsidy.

TABLE 11

TARGET INCOME GROUPS AND RESPONSIBILITIES FOR PAYMENT
REGIONAL CITIES

RECIPIENT OF COSTS	COST ITEMS	MONTHLY HOUSEHOLD INCOME (BAHT)			
		A 2000	B 2001 - 3000	C 3001 - 4000	D 4001 - 6000
		NOS. OF HOUSEHOLDS			
		6580 47%	4060 29%	1820 13%	1540 11%
Tenants Percentage of Responsibilities ⁽³⁾ for Payment	1. Land	100	100	100	100
	2. Public Utilities	0	25	50	100
	3. House Construction	100	100	100	100
	4. Overhead Cost (1)	0	100	200 ⁽²⁾	200 ⁽²⁾
	5. Interest Charge during Construc- tion	100	100	100	100
Government's Percentage of Responsibilities for Payment	6. Public Utilities	100	75	50	0
	7. Public and Commu- nity Facilities				
	8. Interest Charge during Con- struction	100	100	100	100
	9. Overhead Cost	100	100	100	100

- NOTES: (1) Overhead charge of NHA estimated to be 5% of project cost.
- (2) Overhead charges of NHA are not uniformly charged to all target groups, C and D bear more of costs or a cross-subsidy to lower income groups.
- (3) Monthly payment not to exceed 20-22% of the mean income of each target group.

The construction standards of NHA core houses examined in Bangkok area are generally adequate in regard to design, floor area, materials and workmanship. In the case of the core houses in the Rangsit development, outside Bangkok, it would be possible to simplify or reduce the reinforced concrete framing to the side walls. The lean-to type of roof used for the Rangsit core houses also increases the area of wall and requires the use of a valley gutter which can cause problems in very heavy rains or if the gutter becomes blocked with debris. Prototype designs A.1 and A.2.1 of the Tung Song Hong project are good. Each project should have a series of different types of core house available within each target income group in order to break the monotony of large numbers of houses all of the same design.

2. Delivery of Affordable Housing to Low-Income Groups

Assuming that construction cost criteria and standards are met successfully, it will then be necessary to determine if NHA's low-cost housing actually passes into the hands of low-income households. A further issue of interest in view of the overall objectives of the regional cities program is the proportion of project residents who are recent migrants from rural areas. The evaluation of project success along this dimension will depend on detailed information regarding household incomes before and after the project, shelter costs incurred in addition to NHA charges, and changes in the composition of the project area population over time.

Such information can be collected from the original purchasers of NHA core housing units at the time they apply for the project. Income data for the applicant pool can be compared to the data derived from the NHA renter and slum dweller surveys, to see how accurate the demand projection methodology has been. Income data should take into account the contribution of all household members, with the income of the household head separated out for comparison with previous surveys.

It will be important for NHA to determine the size of the household planning to occupy each dwelling unit. Each applicant's previous address and tenancy status (landowner, renter, or squatter) can also be determined at this time. More detailed information can be obtained on past employment and migration patterns.

The NHA Estate Management Office can keep records of hire-purchase contracts completed and families moved in. It should also be in a position to monitor turnover in ownership of core housing units. An annual project monitoring report should be completed, detailing

the number of units completed, owned and occupied in each income category. This report should also describe any physical problems encountered in estate management and the extent to which project residents have undertaken to expand their dwelling units. The Rangsit Project Monitoring Report provides an example of the type of report envisaged.

Periodically, NHA should plan to evaluate the success of the regional cities program in delivering affordable housing to low-income groups. This effort would require a survey of project residents to determine current employment patterns and income levels for all household members. Changes in household composition should be noted, as well as changes in the proportion of residents who are recent rural migrants. The survey could also be used to determine the demographic and income characteristics of those households which are not among the original purchasers.

A project evaluation focusing on this issue should be carried out at each regional city project site, approximately two years after construction is completed. The results will provide valuable feedback to NHA planners and policy makers, other agencies of the Royal Thai Government, and donor agencies, concerning the characteristics of regional city projects which make them attractive to low income urban groups and/or recent rural migrants. If NHA does not have the in-house capability to conduct such a survey, it could be contracted out to a local agency or institution. NHA should make its application files and financial records available to the survey staff in order to facilitate their analysis of change over time.

3. Improvement of the Quality of Life for Low-income Groups

Apart from the question of whether or not low-income families actually occupy the NHA core housing projects in the regional cities, one must consider whether or not these projects constitute an improvement in the quality of life for the target population. To evaluate success along this dimension, it will be necessary to establish specific goals and objectives for these projects in the areas of social and economic service provision and community development. It will also be necessary to establish baseline data concerning the quality of life of the target population before moving into the project. Finally, a systematic project monitoring procedure needs to be established which will develop data at regular intervals on progress in these areas and provide feedback for the planning of future regional city projects.

Goals and Objectives

Specific goals and objectives should be established by NHA in accordance with its perceptions of needs and resources in the regional cities. The Consultant suggests the following ideas as

a starting point for thinking about possible NHA objectives in these areas.

Education

Goal: All project residents shall have access to equal educational opportunities.

Objectives:

1. All children under the age of 7 whose parents desire day care/kindergarten services shall be enrolled in such a program.
2. All children aged 7 to 14 shall be enrolled in primary school.
3. The proportion of children completing grade 4 shall not be less than the provincial average.
4. The proportion of children completing primary school (grade 9) shall not be less than the provincial average.
5. The proportion of children aged 15 to 25 enrolled in secondary and higher education (including vocational and technical schools) shall not be less than the provincial average.
6. The proportion of literate adults shall be not less than 90%.

Health

Goal: All project residents should enjoy reasonably good health.

Objectives:

1. The incidence of gastroenteritic diseases shall be reduced by 50%.
2. The incidence of upper respiratory infections shall be reduced by 20%.
3. The incidence of infant malnutrition shall be reduced by 30%.
4. All project residents shall receive basic preventive health care.

5. All project residents shall receive family planning services.

6. Birth rates and infant mortality rates shall be reduced by 10%.

Employment and Income

Goal: All families should be able to meet their shelter costs without sacrificing other priority expenses.

Objectives:

1. For all households, monthly payment to NHA shall be less than 20% of total income.

2. Costs for water, electricity, garbage collection and other municipal services shall be not more than 5% of total income.

3. Transportation expenditures shall be not more than 10% of total income.

4. Every household desiring to improve its core housing shall be financially able to do so.

5. Every project resident requiring a job shall find one within six months.

6. At least 10% of project households shall significantly increase their incomes after moving to the project site.

Community Development

Goal: Project residents should work together to identify and solve their own problems.

Objectives:

1. A community council shall be created consisting of an elected representative for every 20 or 25 families.

2. The Council shall assume responsibility for managing the community hall, parks and playgrounds, and other community facilities.

3. The Council shall conduct public meetings to determine community needs and priorities, specifically with regard to day care, youth services, social and cultural activities, and vocational training programs.

4. The community shall create and administer a revolving loan fund for building materials and/or for small enterprises run by project residents.

5. More than 75% of project residents shall remain in the community for at least five years.

Other target areas, goals and objectives may be added and the ones suggested above may be altered in any way. This list is intended merely as an example of the type of outcomes in which NHA may be interested, and is indicative of the types of socio-economic services which may need to be provided.

Baseline Data

In order to plan for services in NHA projects, it is necessary for the planners to know how much of these objectives may already be achieved by the target population. In future surveys of renters and slum dwellers, some idea could be obtained by adding a page of demographic data (age, sex, level of schooling, employment, income, etc.) for all household members to the survey form. However, this would still only give a statistical picture of the target population and would not permit a detailed analysis of the needs of the actual project residents.

An alternate suggestion is to collect the data as part of the application form for the NHA projects. At a minimum, the names, ages, and sex of all household members should be recorded on this form. Educational level, employment, and income should also be included for all household members. Two or three questions could be used to establish health status. Information on present shelter expenditures could also be included, in a format similar to that used in the renter and slum dweller surveys (Annex C).

Analysis of data from the applicant pool or the selected applicants would point out very quickly what problem areas will require special attention in the planning of socio-economic services and which ones are not important in the context of a particular city. The NHA social worker or community relations representative can then work out a detailed program of services suited to the needs of the specific community.

Project Monitoring and Feedback

The social worker should be able to maintain detailed files on each family, beginning with the application forms, that will show changes in education, health, and employment status over time and will identify any major problems calling for outside intervention.

Ideally, each family should be visited at least once a year. With a project size of 500 to 800 units, however, this task alone would keep one social worker busy all the time. In practice, there will be many other demands on the social worker's time and he or she will probably have to concentrate on a smaller number of "problem" families.

Once a year the social worker should prepare a progress report on the social and economic objectives set up for the project. This report would identify major problem areas, describe progress to date, and formulate the program for the following year. Such progress reports should be circulated among the staff of the regional cities program, particularly those located in other cities. They can also provide a useful tool in bringing pressure to bear for improved cooperation by local and regional authorities.

End-of-Project Evaluation

Many of the objectives suggested above cannot be achieved in a short time. It is therefore, suggested that a period of five years be allowed from the time the project opens to determine if it has been successful in improving the quality of life for the project residents.

The end-of-project evaluation should, insofar as possible, replicate the baseline data collected on the application forms. In addition, it should address changes taking place over the project period, particularly in the area of community development. Residents should be given an opportunity to express their satisfaction or dissatisfaction with various aspects of the project planning and execution. Much can be learned from this type of evaluation that will be helpful in the design of future projects for the regional cities.

The Rangsit Project Monitoring Report is a fairly good first effort in this direction. It concentrates on the physical planning and affordability aspects of the project, but it could easily be extended to include social and economic services and community development activities. It demonstrates that NHA is responsive to community concerns and that it is prepared to learn from its mistakes. The Rangsit project should continue to be closely monitored as a prototype for the core housing projects to be developed in the regional cities.

CHAPTER IV

STATUS OF REGIONAL CITY PROJECTS

A. BRIEF REVIEW OF HOUSING MARKET STUDIES

This review applies only to the four housing market studies which were available in English at the time of the Consultants' visit. These include: Chiangmai, Nakorn Sawan, Phuket, and Songkhla. Studies have also been completed for Chonburi, Chantaburi, and Khon Kaen, but translations of these studies were not available. The cities of Korat (Nakhon Ratchasima), Haadyai, Udon Thani and Ubon Ratchathani form part of the NHA regional cities program, but housing market studies for these cities have not yet been completed. The four available housing market studies are reviewed below.

1. Chiangmai

With a population of 106,000 in the municipal area and 171,000 in the amphur muang, Chiangmai is the second largest city in Thailand. However, its gross rate of population growth as reflected by registration data is only 2.2% per year. Even allowing for a certain amount of in-migration not reflected in registration data, Chiangmai is not really growing very fast. Population growth in the municipality is projected for ten years, using high, medium, and low growth rate assumptions of 3.3%, 2.6% and 2.2% respectively. This leads to the conclusion that even in 1987, Chiangmai will still be a relatively small city of under 150,000.

Income data are presented showing that in 1974 the median household income was less than 1,500 Baht per month. However, these data are completely unreliable as they are based on self-reported incomes of candidates for low-income housing. Comparative data from the NSO survey of household incomes and expenditures are not presented in this report.

The physical description covers topography, soils, water supply, electricity, drainage, sewage, and transportation. Water supply and public transit routes are mapped. No estimate is made of charges for public utilities, although data are given for one form of public transport.

The analysis of housing conditions is based on house registration data. Density figures are given which enable comparison of so-called "slum" areas with the municipality and the urbanizing area of the amphur muang. Data are presented to illustrate changes in housing construction materials. It appears that the growth of housing construction has remained steady at less than 400 new units per year, or 3% of the existing housing stock.

The housing market is described as consisting of individually built homes, units constructed by developers for rent or hire-purchase, government housing (NHA and other), rental housing and slum housing. Slums are identified as substandard housing without adequate sanitary facilities. Rental housing is divided into houses and shophouses. There is no indication of current occupancy rates.

The target population for NHA's project in Chiangmai is made up of three groups; slum dwellers about to be evicted from government or private land, house renters within NHA's target income group (less than 4,000 baht/month), and new family formation, measured by incremental numbers of males aged 30-49 over the five years of the program.

Nine slum areas are identified, amounting to nearly 1,700 households. Most are small scale vendors or unskilled laborers earning less than 3,000 baht per month. About 750 slum households may be evicted from government land and another 500 from privately owned land. House renters in the target income group number about 475 families, while new family formation is estimated at between 400 and 450 households per year for a total of about 2,175 new households in five years. This analysis leads to the conclusion that the target population in Chiangmai numbers between 3,400 and 3,900 households.

The NHA program was originally designed for 2,520 units or between 65% and 75% of projected demand. At a projected density of 8 units per rai, it was estimated that another 100 rai of land would have to be acquired in the vicinity of Chiangmai. Subsequently the size of the Chiangmai project was reduced to 800 units to be constructed on land presently owned by NHA.

The document also presents a Financial Plan, showing estimated costs per unit to be paid by the purchaser and through government subsidy, and total investment costs (including land purchase), amounting to 147,124,000 baht or about \$7.35 million. It also includes a "Co-operation Plan with the Local Government." According to this plan, community officials would participate in site selection, land acquisition, target group identification, and client selection, and would be solely responsible for providing local information, offsite infrastructure, slum clearance, and project maintenance.

2. Nakorn Sawan

The study states that Nakorn Sawan is the designated development center for the lower North Region, although the Fourth National Plan actually designates Phitsanulok (p. 227). The municipality of Nakorn Sawan contains some 56,000 persons

while there are about 195,000 in the amphur muang; the municipal boundaries will be extended in 1979, approximately tripling the urban area. Population growth is less than the rate of natural increase due to a steady net out-migration flow.

Population projections are made in this study both for the municipal area and the area outside the municipality. These lead to an estimated population of approximately 60,000 in the municipality in 1983 and 170,000 in the surrounding area, or a total of 230,000 in the amphur muang. Income data from the NHA survey indicates that in 1976 the median income for Nakorn Sawan was less than 2,000 baht per month. No data from the NSO survey are presented for comparison.

The analysis of physical characteristics and constraints on urban growth is similar to that for Chiangmai. Average per capita water consumption is compared to the NHA design standard and found to be much higher, leading to the conclusion that there is an ample water supply for future residents. It would also be possible to conclude that the NHA design standard is too low.

Most rental housing is found within the municipality. In a survey of an approximately 2% sample (n=45) of renters, NHA found that about half are employees of government or private firms and half are general laborers and self-employed individuals. About 87%, or over 2,000 households, fall into NHA's target group (income less than 4,000 baht per month).

Seven slum areas are identified comprising 863 households. About one-third of slum dwellers own the land they are living on, and most of the rest are paying rent. In a spot survey of slum dwellers, NHA determined that 98%, or about 850 households, fall into the target income group. Almost 90% are general laborers and self-employed. Maximum monthly household expenditure for shelter is 300 baht, including rents, water and electricity.

NHA's estimate of low-income housing demand is restricted to the municipality. Despite an observed oversupply of existing housing, NHA concludes that demand will be generated by the same groups as those considered for Chiangmai. New family formation is projected in this case by taking the absolute forecast population increase and dividing by the number of persons per family. This leads to an estimate of about 550 new households in NHA's target income group over five years.

Demand from slum dwellers includes only those squatters and land renters which are to be evicted, or 164 households. The Nakorn Sawan government has stated a policy of slum upgrading for five areas comprising about 700 households. In estimating demand from

renters, NHA considered only those renters in continuous occupancy for more than five years. This is less than 10% of all renters or about 600 households in NHA's target income group. The total size of NHA's target group is, therefore, something over 1,400 households.

NHA's initial projection was to construct 1,300 new hire-purchase units over five years. (This target figure was later reduced to 500 units.) At a density of 8 units per rai, the new land requirement would be 165 rai. The total investment program would amount to 78.5 million baht or about U.S. \$3,925,000.

A plan for cooperation with the City of Nawan Sakorn is presented. It is similar to that proposed for Chiangmai except that NHA and the city are also expected to cooperate in slum dweller resettlement and in preparing a slum upgrading program. The financial costs of the slum upgrading program will be borne by the municipality, and NHA will only provide technical assistance.

3. Phuket

Phuket is a rapidly growing center for industrial development, mining, fishing, and tourism. A number of future investment projects for the area are listed in the housing market study, including a deep water port at Makham Bay, tourism projects, roads, bridges, power generation and water supply. The population in the municipality of Phuket is given as 42,867 in 1977 and projected at 2.8% per year to be 56,600 in 1987.

Much of the underdeveloped land in the municipality is being held for future investment by both government and private sector firms, and is therefore unavailable for residential construction. Thus, settlement is spreading along the southern coastal plain outside the municipal area. Lack of urban infrastructure is a major constraint on future development.

A comparison of house and population registration data indicates that there is no housing shortage in Phuket. This finding could be due to housing rented by nonregistered families or to a variation in the average family size. However, NHA concludes that there is a need to upgrade the standards of existing housing and to provide some form of tenure to permanent residents.

Five slum areas with a total of about 200 households are identified, in addition to another 200 households estimated to live in sub-standard units scattered throughout the city. Slum dwellers are assumed to be low-income families engaged in general labor (no slum dweller survey was done in Phuket). There are about 1,200 units of

rental housing priced at less than 300 baht per month, assumed to be occupied by low-income families.

The demand generated by new family formation is estimated at between 150 and 165 households per year or 800 over five years. This calculation is based on projected population increase, an assumed family size of six, and an assumed income distribution pattern in which 2,000 baht per month would be the median income and 80% of families would fall into NHA's target group. The total new housing demand (not shown) would, therefore, amount to 2,400 households.

The proposed housing program would consist of 1,850 units, requiring 245 rai of land to be acquired through purchase or long-term lease from the provincial government. (This target was later reduced to 500 units for the first phase of the program.) The estimated investment (not including land purchase) amounts to 109 million baht or about U.S. \$5,450,000. A plan for cooperation with the local government is presented, similar to the one proposed for Chiangmai.

4. Songkhla

Songkhla is a city of approximately 70,000 in the municipality and 132,000 in the amphur muang. It forms one end of the Songkhla-Haadyai axis which is planned to be the focus of intensive industrial development in the near future. Haadyai was slightly larger than Songkhla ten years ago but has grown at a less rapid rate, so that by 1977 it was slightly smaller (about 67,000 population). However, the population figure given for Haadyai in 1978 (88,600) shows a 32% increase over one year. If this figure indicates a new trend, Haadyai could be very much larger than Songkhla within a few years. Population projections for Songkhla and Haadyai indicate that both cities will reach approximately 115,000 by 1987.

An NHA survey taken in 1975 and said to be based on 10% sampling in the municipal area of Songkhla indicates that the median income of the city in that year was under 1,500 baht per month. However, data from the NSO survey of households in 1975-76 are also presented showing that the median income for the city was 3,500 baht. The NSO data are selected as the basis for establishing target groups.

The discussion of physical characteristics includes topography, drainage, water supply, electricity, and transport. Both water supply and electricity must be expanded to accommodate urban growth, but this expansion is expected to occur because of the planned industrial development in the area.

Eight slum areas are identified, containing about 1,600 households. A spot survey of slum dwellers indicates that 94% of slum households are in NHA's target income group. 40% have fishing as their main occupation, 25% are general laborers and 12% are vendors. About half of all slum dwellers pay land rent. Charges for water and electricity are less than 100 baht per month.

Approximately a 1% sample of renters were interviewed in both Songkhla and Haadyai. About 71% of renters in Songkhla and 73% in Haadyai fall into NHA's target income group. In Songkhla, 26% of renters were government employees, 31% were self-employed (vendors), 11% were private employees, and 14% were engaged in fishing. In contrast, in Haadyai, 40% were self-employed, 22% were private firm employees, 22% were general laborers, and only 5% were government employees.

A comparison of house registration and population figures for the municipality of Songkhla shows that a housing shortage exists at present, amounting to nearly 1,000 households. Demand generated by population growth is calculated (using the average family size of 7.9 persons) at from 450 to 550 households per year or 2,500 households over five years. Slum dwellers squatting on public land are also considered part of the demand, amounting to about 750 households. Finally, permanent renters in NHA's target income group are estimated at about 750 households. The total anticipated demand is therefore approximately 5,000 families, of which 3,900 are estimated to fall within NHA's target group.

The English version of the Songkhla housing market study does not include the final sections shown in the other reports, presenting the housing policy and development program for the city, a financial plan and a plan for cooperation with the local government. In the Thai version, the corresponding section appears to analyze the suitability of a site already acquired by NHA for a project of approximately 800 units. No cost estimates are given for this proposal.

5. Summary of Housing Market Studies

The Consultant's review of work accomplished by the NHA has been severely limited by the lack of materials available in English. At least three more studies could have been reviewed had they been available to the team in translation. In addition, much background material presented in the Thai reports has been omitted in the process of translation. This is particularly true of data collected on socio-economic services in the regional cities. It would be unfair to pass judgment on the adequacy of these initial studies without having access to the complete record of work accomplished.

Our review has shown that NHA's market assessment methodology, while fixed in its broad outlines, has undergone a gradual evolution over time. More recent reports may reflect this evolution still further advanced. In view of the very substantial changes in this methodology recommended by the Consultant, it may be desirable for NHA to reappraise the housing market in the cities where studies have been completed and to adjust their project and program planning accordingly.

In summary, the housing market studies present general data on the growth patterns of the target cities, characteristics of housing stock and tenure patterns, and studies of special groups defined as the NHA target population. Based on this analysis, NHA develops a program to meet a portion of the estimated housing need for low-income families, including cross-subsidy from higher-income families. This analysis has been completed for seven of the regional cities identified as part of NHA's program, and it is still underway for two more.

The following section presents the Consultants' findings concerning the further development of project planning for Chiangmai and Songkhla, as well as findings derived from a field trip to Khon Kaen, one of the target cities in the Northeast region of the country.

B. DETAILED REVIEW OF PROJECT PLANNING

1. Chiangmai

Background

The Office of Policy and Planning completed its Market Study for the proposed NHA development program (1978-82) for Chiangmai in August 1978. Following the completion of the Study a Project Brief entitled "Chiangmai (Phase II)" was passed to the Research and Construction Department for project design. The latter department is presently engaged on the preparation of several alternative layouts for the project. The World Bank, which is interested in financing 50% of the total cost of the project, has requested that a feasibility study be completed by October, 1979. During July, 1979, a World Bank technical mission together with the Consultants reviewed preliminary layout proposals, examined the site and interviewed local authorities in Chiangmai.

Site Location & Existing NHA Phase I Project

The site for the project lies immediately outside the present Southern municipal boundary of Chiangmai. A proposal to extend the Chiangmai municipal boundary is being considered by

the Ministry of the Interior. If the proposal is approved, the site will lie within the new municipal limits. Due to these circumstances the Consultants interviewed officials of both the Municipality and the Amphur Muang concerning their possible involvement in the project.

The Phase II Project will cover 70 rais out of a total of 266.51 rais purchased by the NHA from the Government Housing Bank for 60,000 Baht per rai. The value of adjacent land is estimated to be 200,000 Baht per rai. It is proposed to construct 800 core-house type dwelling units for this Phase. The area of land selected is low lying, with some swampy areas, which were dry at the time of the Consultant's visit. The whole area is subject to annual short-duration flooding when the adjacent river Ping overflows its banks. There is also extensive flooding in other parts of Chiangmai for the same reason. A flood-relief dam is to be constructed upstream of Chiangmai which will alleviate the problem. Due to periodic flooding the whole site will need approximately one meter depth of fill which is estimated to cost 60,000 Baht per rai.

The NHA Phase I project has already been completed on an area of 45 rais within the 266.51 rai site. The area has been filled to a depth of one meter. Phase I consists of 209 dwelling units; some are two-story detached houses and some are single story duplex. The houses are of good design and good quality construction. All have been sold, primarily to middle income groups. The detached houses sold for 280,000 Baht each, and the semi-detached (duplex) houses for 160,000 Baht each. The dwelling units already constructed in Phase I are provided with individually metered water and electricity supplies.

Layout Plan

No detailed layout plans have been prepared for the Phase II project but alternative conceptual layouts have been developed which show a commercial spine running North-South between the Phase I project and the Phase II project. This North-South direction of the main boulevard and its central location is considered suitable since it can accommodate the main drainage system for the site, where the natural flow is from North to South towards the Chiangmai Southern ring road.

Water Supply

The Consultant discussed the water supply to the NHA Phase II project with the Municipal Engineer and with the Superintendent of the Chiangmai Waterworks Authority, both of whom confirmed that there would be no problems in providing an adequate water supply to the project.

The present water supply for Chiangmai city, also presently serving the Phase I project, is under the control of the Chiangmai Waterworks Authority, a division of the Provincial Water Authority. The supply comes from the Ping river and the Matang dam. It is treated by rapid sand filtration and chlorination. The total capacity of the supply will be increased to 38,800 M³ per day in 1981, the present consumption being 26,000 M³ per day with an average per capita per day consumption of 250 liters. It is proposed to expand the distribution network, as some areas of lower income within the city are presently supplied from shallow wells, and areas outside the municipal limits are to be supplied with piped water.

There is a pressure drop during hours of peak draw-off on the existing 6-inch diameter main supplying the Phase I project. It may be necessary to supply water to the Phase II project from a new 8-inch diameter main located approximately one kilometer distant from the site. It may also be necessary to install a booster pump or an elevated storage and balance tank in order to maintain a good pressure at all times. An elevated storage and balance tank would be preferred, as this can take advantage of night time flows.

Each dwelling would be metered. Present water charges are controlled by government and are subsidized. They are to be increased soon in order to reduce the amount of the subsidy. Existing charges are as follows:

Flat Rate: 2 Baht per cubic meter

	<u>Size of Connection</u>	<u>Charge (Baht)</u>
Minimum Charges per month	1/2 inch	3
	3/4 "	5
	1 "	5
	1 1/2 "	5
	2 "	10

Sewage Disposal

The dwelling units already constructed in Phase I are provided with an individual cess-pit type septic tank. This consists of a concrete pipe approximately 75 cms. in diameter sunk into the ground with the top approximately 25 cms below

ground level. The cess-pit is located very close to the house and sewage enters it at the top through a pipe from the WC. The ground is heavy clay and very little percolation can take place, which results in the cess-pit performing ineffectively. One such cess-pit was opened up during the Consultant's site visit.

A better solution to the problem of sewage disposal for the Phase II project would be to construct two-chamber septic tanks for groups of houses, providing for 48 hours detention time on the basis of 100 liters per capita per day. The effluent would be discharged into a leaching field of perforated pipe laid in sand-filled trenches. Another satisfactory solution would be to provide a large Imhoff tank near the irrigation channel located at the Eastern edge of the site. The effluent, which would be innocuous, could be discharged into the irrigation channel, with or without chlorination.

The problem of periodic cleaning of septic tanks, cesspits and aqua privies was discussed with the Municipal Engineer and with the Chief of the Sanitary Section of the Amphur Muang. Both agreed that they could arrange for the cleaning to be performed on a similar basis to that prevailing for the Municipality or the Amphur Muang, depending on whether the city limits would be extended to embrace the Phase II project site. The city lets out an annual contract for cleaning septic tanks. The private contractor uses a vacuum truck and charges 50 baht per cubic meter for cleaning. The solid material removed is placed in a pit for maturation and is then sold to farmers for fertilizer.

The Amphur Muang does not have an annual contract for septic tank cleaning, but the same contractor as that serving the Municipality performs this service in the Amphur Muang. Collections within a designated Sanitary District can only be made at night and are charged at the rate of 60 baht per cubic meter. Outside a Sanitary District the collection charge is 50 baht per cubic meter.

Solid Waste Disposal

The Municipality has a sanitary department responsible for solid waste disposal. The department has 73 collection trucks, two of which are compactors. Collections are made daily from houses, and more frequently from the market. The normal charge is 4 to 6 baht per month, but if the amount of solid waste exceeds one cubic meter per day the charge is 40 baht per month. If the Municipal limits are extended to embrace the NHA Phase II project, the Municipality will service the houses for solid waste disposal. After collection, solid waste is taken to a sanitary landfill site 11 kilometers southwest of the city.

The Chief of the Sanitary Section of the Amphur Muang informed the Consultant that, in the event the Municipal boundary should not be extended, consideration would be given by the Amphur Muang authorities to declare the NHA project site part of a Sanitary District so that solid waste could be collected by the Amphur Muang sanitary authority. At the present time the authority possesses 4 trucks serving 2 Sanitary Districts comprising 3,702 dwelling units. Collections from dwellings are made daily for a monthly charge of 5 baht. For the market collections are made 3 times per day with a charge of 600 baht per month. Solid waste is taken to the same sanitary landfill as that for the Municipality. The authority has an annual budget for the increase of its truck fleet. There appears to be no problem regarding the collection and disposal of solid waste.

Electricity

The Consultant discussed the supply of electricity to the Phase II project with the Manager, Regional Electric Works, Regional Administration Area (Northern), and with the Regional Engineer. The electricity supply will come from the EGCAT grid with the Phumipole dam as the nearest generating source. There will be no problem in the provision of electrical power. At present there is an 11 KV line with a 20 meter right-of-way passing through the site.

The Regional Electrical Authority will install the main distribution system within the project site, the cost being passed to the tenant. The connection from the houses to the street distribution lines will be the responsibility of the NHA. All dwelling units will be metered.

Rates are fixed by the Electrical Power Economic Division of the Provincial Electricity Authority at its headquarters in Bangkok. The rates differ between residential houses, commercial and industrial facilities. The charges for small businesses are 80 baht for 60 Kwh, which is the minimum charge, and then a sliding scale from 1.1 baht per unit to 0.90 baht per unit depending on consumption, providing a bonus for the larger consumer. On the other hand there is a penalty against the large consumer in residential buildings. The charge for the first 400 Kwh is at the rate of 0.70 baht per Kwh with a minimum charge of 5 baht. This charge rises to 1.00 baht per Kwh for consumption in excess of 400 units.

Street Lighting

In discussions with the Manager, Regional Electric Works, the Consultant was informed that the present principles regarding street lighting for the municipality would apply to the NHA project.

Under this scheme, 15 percent of the street lighting, up to a maximum subsidy of 150 units, would be provided free and the remainder would be charged at 0.70 baht per Kwh.

Roads and Drainage

There is no set standard for the design of roads within the project area. The guideline generally used by the Research and Construction Department is to use the most economical width of road and pavement design commensurate with functional needs and performance requirements. However, in the case of some of the NHA projects already executed in Bangkok, the roads provided are of higher standard than normally required by the Bangkok Municipal Authority for roads in residential areas.

The roads already constructed for the Phase I development in Chiangmai are of a very high standard both in respect to right-of-way and to pavement design. These standards are considered to be too high and unnecessarily expensive for the Phase II project. The Research and Construction Division should set a minimum standard for roads and access streets within the regional city projects and should endeavor to adhere closely to those standards except where circumstances dictate that they should be modified. The Municipality or the Amphur Muang, as appropriate, would consider taking over the roads for maintenance if they are transferred officially in writing.

There are two main drainage channels serving the site, flowing from North to South. The channel at the Eastern boundary is an irrigation canal and flows under the Southern Ring Road through a bridge. The other channel, which was a dry ditch at the time of the Consultants' visit, is located within the site, and near the Western boundary. There is only a small catchment area upstream of the site. There may be flash flooding resulting from heavy precipitation due to the fact that the Western channel has only a small pipe culvert to flow through under the Southern Ring Road. It may be necessary to replace this with a larger culvert. The infrastructure advisor on the World Bank team is examining this aspect of the project design.

Employment

There is at present a total labor force of 460,000 in Chiangmai. Other than agriculture, the principal sources of employment are as follows:

- Manufacturing industries (other than handicrafts), - 23,000
- Handicrafts such as textiles, ceramics, woodcarving, etc., - 6,000

- Tobacco industry - 13,000
- Mining and Quarrying - 4,000
- Service industries, of which a substantial portion is tourism oriented - 16,000.

For the handicrafts there are an average of 20 workers or less per factory. Many are store-front enterprises or are located in a shed at the back of a shophouse. They are generally family businesses and do not provide much opportunity for employment outside the family. There is a pattern of similar trades being established in a common area.

Tourism is the most rapidly growing sector, providing both permanent and seasonal employment to skilled and unskilled workers. Future growth of the city depends largely on the expansion and stabilization of the tourist trade. Unless major new initiatives are undertaken, it appears unlikely that industrial growth in Chiangmai will be adequate to attract the significant numbers of rural residents into the urbanizing area.

Social Planning

The Project Brief for Chiangmai lists the following community facilities: day care center, kindergarten, primary school, playgrounds, park, health center, post office, and community center. Facilities are to be scaled to serve the population of the Phase I project as well. 15% of the total remaining area or 30.5 rai are allocated for these facilities, including all open spaces. Another 5% or about 10 rai are allocated for commercial development and small scale industry.

Residents of Phase I have only recently moved in, so it is too soon to tell how they will make use of adjacent services. All the units have been sold and about half are already occupied. At present, there are no plans to install a social worker at this project. It would be useful, however, for one or two members of the NHA staff to conduct a brief survey of the Phase I residents to see what services they are using and what they think are the most important service needs for the area.

Although the site is currently outside municipal boundaries, students from the project would be accepted in municipal schools, as there is currently excess capacity in the public school system due to the rapidly falling birth rate and the preference of parents to send their children to private schools if possible. The nearest

city-run primary school is located about 3 km. from the project site and has space for an additional enrollment of up to 400 students.

Two primary schools operated by the Amphur Muang are available outside the municipal boundaries near the project site. The nearest, Wat Muang Sart, is only 1 km away. It, too, has excess capacity but is planning to expand to accommodate rapidly growing demand in the area. When the expansion is completed, it will have space for about 300 more students than are currently enrolled. Wat Sao Hin school is about 1.5 km from the project site (along a heavily trafficked highway) and has space for up to 200 additional students. There is also a secondary school run by the Ministry of Education not far from the project site.

Chiangmai is relatively well equipped with hospitals and health centers. There is a health center located 1 km from the project site along the road into town. It is presently staffed by two assistant nurses but efforts are being made to upgrade the qualifications of the personnel. The municipality will construct additional health centers if the municipal boundaries are extended on the basis of one health center for every 1,000 households. Thus, another health center would probably be located near the Nong Hoi area.

A provincial public health center and Ministry of Health medical research unit is located directly across the street from the project site. The research unit conducts nutrition research and trains rural public health officers in nutrition, maternal and child health, and family planning. This center serves the entire Northern Region. The provincial public health office operates a general clinic and a dental clinic, as well as engaging in educational activities concerning nutrition and family planning.

The research unit operates a day care center as a demonstration program for child nutrition. With 4 teachers and 60 students, this center is filled to capacity. Parents are responsible for transport and some of the children come from quite far away. The cost of the program is 60 Baht per month or about 3 Baht per day, including lunch. According to officials of this program, there are many private day care centers in the city of Chiangmai. These cost around 45 Baht per month and the child must bring his own lunch.

Given the adequacy of existing facilities, it seems unnecessary to construct additional facilities on the project site. A multi-purpose community hall with ready access to park and playground facilities could house a day care center if this is desired by community residents. It could also provide a space to store sports equipment and a meeting place for social and cultural

events. A post office and police kiosk, if desired, could be included in the design of an expanded commercial area.

The World Bank team has initiated contacts with the Krung Thai Bank in Chiangmai and the Industrial Services Institute there to see if they would be willing to participate in a small business loan program and to provide vocational training to project residents. Both institutions have agreed in principle to cooperate. These contacts should be followed up during future project planning and implementation. In particular, it should be ascertained if space is required for vocational training programs to be offered on-site, and what additional construction and/or equipment might be required. The possibility of supplementing or replacing the social worker with a small business advisor should be considered for the implementation stage.

2. Songkhla

Background

Songkhla has been designated a regional growth center in the Fourth National Economic and Social Development Plan. Together with Haadyai and Phuket it forms the Southern growth pole for Thailand. Although the city of Songkhla lies on a flat coastal strip bounded on the West by Lake Songkhla and on the East by the China Sea, the remainder of the province of Songkhla is mountainous, with forests. The province has tin mines and rubber plantations and, in this respect, is different from Northern Thailand and the Bangkok region. There is an existing NHA housing project in Haadyai, some 26 kms distant, where there are 224 units of rental flats for low-income residents. A further 144 units are under construction.

The Office of Policy and Planning completed a Market Study for the proposed NHA development program (1978-82) in February, 1979 and a Project Brief has been passed to the Research and Construction Department. The latter department has prepared a detailed report, "The Songkhla Sites and Services Project". This report gives three alternative layout plans for mixed low and middle income housing, commercial area, market, community facilities and parks and open spaces.

The World Bank is interested in financing 50% of the total cost of the project and has requested that a feasibility study be completed by October, 1979. The terms of the World Bank loan would be 7.5% interest rate, 20 year term with a 5-year grace period. During July, 1979, a World Bank technical mission together with the Consultants reviewed preliminary layout proposals, examined the site and interviewed local authorities in Songkhla.

Site Location

An area of 50.89 rais has been leased for 30 years from the Royal Estate. The terms of the lease are 1,200 baht per rai per year and there is an option to renew the lease after 30 years. The site lies just outside the present municipal limits at approximately 3 kms from the town center, and is 1 km from the main road linking Songkhla and Haadyai. The land is of low-lying mangrove type with organic silty clay soil and is subject to annual flooding caused by exceptional high tides associated with storms. It is bounded on three sides by private land and on the fourth by Klong Sumrong, a heavily polluted tidal creek flowing into Lake Songkhla.

The site will require an average of 0.75 meters of fill to bring it above flood level. This fill is estimated to cost 55 baht per cubic meter if compacted. An access bridge of approximately 30 meter span will be required to cross the Klong Sumrong. The bridge would be linked to an existing road by a 70 m long stretch of new road connecting to Raj Utit Road.

There is at present an unhygienic solid waste landfill immediately adjacent to the site, but plans are completed to move this dump several kilometers south, towards Haadyai. House construction of good quality is proceeding on adjacent land to the South. This land is valued at 400,000 Baht per rai. There are a few squatters, living in poor quality wooden houses on stilts, near the site.

The site appears to be well-located relative to the city and to places of employment. It also should provide reasonable foundations if piles are used, as is the tradition in this type of ground.

It would be advisable for some form of control to be exercised over the building construction presently taking place on adjacent land. It would be advantageous for the proposed new bridge over the Klong Sumrong to be designed to serve the whole NHA area and adjacent areas and for the cost to be partially met from betterment charges levied on the adjacent properties benefitting from the new bridge and access roads.

Layout Plans

The alternative layout plans reveal a good grasp of the requirements for mixed-class housing and the relationship of the residential areas to commercial areas, markets, open spaces and main circulation arteries. However, it is considered that the grouping of the lowest-income housing is too congested and could

lead to the creation of unsanitary conditions. It would be desirable to provide walkways, about 3 to 4 meters wide, between each group of six houses or so. These could be planted with trees, could provide easements for utilities and a place for children to play rather than on the streets. It would also tend to break up the monotony of the closely spaced houses and would improve the quality of life. An attempt should also be made to bring some variety into the layouts by introducing some curvilinear streets or by recessing roadside curbs in certain places to permit on-street parking without causing congestion.

Water Supply

The headworks for the present water supply of Songkhla are located near Haadyai. From there, a 300 mm diameter asbestos cement main, 30 kms long, supplies water to a pumping station located outside the Songkhla city boundary on the main road between Haadyai and Songkhla and approximately one and a half kilometers from the project site. From the pumping station water is led into the city through two asbestos cement mains of 300 mm and 200 mm diameter, respectively, laid along the Thanon Saiburi Road and passing within 500 meters of the project site.

The water is treated at the headworks by rapid sand filtration and chlorination. At present, the daily consumption in the Amphur Muang embracing Songkhla city is 8,000 cubic meters per day, for a population of 70,000 averaging 114 liters per capita per day. Haadyai has first call on the water supply and there are reductions of pressure at the Songkhla pumping station during periods of peak draw-off. At present the pumps only work for 20 hours in each 24-hour period. There are plans to increase the pumping capacity.

The Provincial Water Authority has agreed to provide water to the NHA project. This would be accomplished by tapping into one of the large asbestos cement mains along the Thanon Saiburi Road. As with all water supplies, the rates charged for water are decided by the central authority in Bangkok. At present there is a flat charge in Songkhla of 2 baht per cubic meter.

It would be desirable to size the pipe supplying water to the NHA project so that it is adequate to provide water to the areas adjacent to the site, where building is taking place at present or is projected in the future. This would help to defray costs of the government off-site infrastructure subsidy attributable to the NHA project.

Solid Waste Disposal

The municipality of Songkhla has its own garbage collection system. It owns eight trucks and is planning to purchase two more. The municipal authorities have agreed to service the NHA project. Collection is on a daily basis from houses, shops and the market. The existing charges of 4 baht per month per house will soon be increased to a rate of from 6 to 10 baht.

Sewage Disposal

At present houses in the municipality of Songkhla have individual septic tanks or cesspits. The sludge is cleaned out periodically by a vacuum truck, which is the property of the Municipality. There is a minimum charge of 150 baht for the first three cubic meters with 100 baht per cubic meter beyond three cubic meters. The sludge is spread over the ground near the existing garbage dump adjacent to the NHA project site. After drying it is disposed of as fertilizer to farmers.

The World Bank experts reviewing the plans for the Songkhla project are, at present, undecided as to what type of sewage treatment should be installed. Based on experience in constructing buildings on similar silty clay ex-mangrove soils, with overlying new fill, it is considered that two-chamber septic tanks, servicing each group of six houses, would be suitable. The tanks should provide a 48-hour retention period to ensure complete anaerobic digestion, and the capacity should be based on 100 liters per capita per day.

Leaching fields of perforated pipe, laid in sand and gravel trenches, should be provided for the effluent, or alternatively the effluent pipes from each septic tank could be connected to a common outfall discharging into the lake or ultimately into the sewage system presently planned for the municipality. The alternative of providing aqua-privies to each house might be suitable if the retention period is at least 48 hours and the privies are located and designed to facilitate periodic desludging. The alternative of providing a sewage lagoon or oxidation ponds at the Northwest corner of the site, also under consideration, is not favored because of its close proximity to the houses. If this last method is used, adequate measures should be adopted for mosquito control, the ponds should be fenced in and there should be a screen of trees and shrubs planted around the area.

Roads, Transportation and Drainage

The proposed circulation systems within each of the three alternative plans examined are good. As stated in the review of

the Chiangmai project, the NHA should not construct roads to a standard which is too high but should set some minimum standards relating to right-of-way widths and pavement strengths. Above these minimum standards some flexibility in design could be used depending on aesthetic treatment and function, providing financial criteria are met.

Transportation should present no problems as the project site is close to the commercial center of the city and to existing places of employment. There are large numbers of mini-buses plying from the city to the areas around the site, charging fares of about 2 Baht per trip. There are also two main bus services plying along the Thanon Saiburi Road within 500 meters of the site. One of these services travels between Haadyai and Songkhla and would be available to serve workers travelling from the NHA project site to the proposed new Export Processing Zone to be located between Songkhla and Haadyai.

The proposed drainage of the site through local open drains laid alongside roads and foot paths leading into a main drainage grid and thence discharging to an outfall into the Klong Sumrong will be suitable.

Electricity and Street Lighting

Electricity can be supplied easily by the Provincial Electricity Authority (PEA) from its 6,600 KVA line running along the Raj Utit Road, 70 meters from the site. The PEA will take over and maintain the distribution system within the site. Individual buildings will be metered and the PEA will be responsible for collecting charges. The PEA will fund 70% of the cost of installing the distribution system and the NHA 30%. EGCAT, the central electricity authority of Thailand, through its Electric Power Economic Division fixes the rates charged to consumers and these are in line with those for Chiangmai.

The municipality is required to pay 0.6 Baht per unit (kwh) to EGCAT for street lighting. This charge is passed on to the community which has the lighting after a 10 percent subsidy, given by the municipality, is deducted. Similar terms would apply to the NHA housing project.

Social Planning

The Project Brief for Songkhla envisages the following community facilities: a community building, a day care center/ kindergarten, a food market with space for hawker stalls, a health center, a shophouse area, an area reserved for small scale business, an administrative office, and parks and open space. The

commercial and business areas are considered as salable land which will cross-subsidize low income residential areas. In fact, as the proposed project site is Crown land, it will not be possible to sell land outright but it is expected that long-term leases (30 years renewable) can be negotiated. Project funds are also allocated to provide loans for the purchase of building materials to project residents.

The preliminary land use distribution shown in the Project Brief allocates about 5% of the site area (less than half a hectare) to commercial and industrial uses. A similar amount is allocated for parks and playgrounds. The proposed health center, NHA office, police kiosk and post office are grouped and allocated approximately 800 m² of space. No allowance is included for the community hall, but on the other hand, 1.6 rai or about one-fourth of a hectare is allocated for construction of a sewage treatment plant.

Existing public educational facilities near the project site are overloaded as a result of recent population movements in the city of Songkhla. The nearest school has expanded to the limit of the land available and is already overcrowded, with 33 classrooms, 40 teachers, and 1,113 students currently enrolled in grades 1-9. It will be unable to accept students from outside the present municipal boundaries.

Provincial planning for education includes future construction of a primary school to serve the rapidly urbanizing area south of the city proper. However, no site has been obtained. It may be necessary to provide space for a primary school on the project site, possibly on land previously allocated to the sewage treatment plant. Agreement should be reached with amphur education officials on how this school will be staffed and operated.

Ample secondary and higher education facilities exist in Songkhla to serve the needs of project residents. The project is within a reasonable transport distance to these facilities. However, transport costs plus the cost of secondary education (largely private) may be a deterrent to use of these facilities by low-income project residents.

Local health authorities have indicated their willingness to extend services to the project site. There is a health center located outside the municipal boundaries about 1 km from the site, presently staffed by a midwife and a health worker. This center offers nutrition education, family planning and preventive care. It is currently underutilized, as area residents generally prefer to use hospitals for primary health care. The staff of the health center will be increased as increasing numbers of

residents settle in the area, and services could be provided to the project site if transport is made available. It is unrealistic to think of building a separate health center on the site since land would also be required to provide staff housing.

There is currently a high demand for kindergarten and day care services in Songkhla, most of which are privately operated. This suggests that day care facilities would be desired and used in the project area. Attempts should be made to explore the possibility of cooperation from local voluntary organizations in running a day care center on the project site.

It is recommended that a multi-purpose community center be constructed on the site, adjacent to park and playground areas and away from major traffic areas. This building should be designed to accommodate a day care/kindergarten facility, youth activities and sports equipment, and social and cultural activities for the whole community. It could also provide a place to hold health clinics during visits of a mobile team from the nearby health center. It would be desirable to locate NHA offices, police and communication services in the commercial (shophouse) area.

Employment

The main sources of employment in the Songkhla area are:

- o The rubber industry, which will expand due to the replacement of old trees with new high yielding cloned trees, and the rising cost of synthetic rubber.
- o The fishing industry; there are five fish meal factories in Songkhla and six between Songkhla and Haadyai, and a new factory is being completed within one kilometer of the NHA project site.
- o Service industries and commercial activities.

It is likely that the character of employment will change significantly in the future. The Royal Irrigation Department and the Fisheries Department are studying the possibility of closing off Lake Songkhla from the sea with a barrage. This would change the lake into a fresh-water lake and the water could be used for irrigation and for fresh-water fish aquaculture. Studies are also being made for the construction of a deep-water port at Songkhla, on a site adjacent to the NHA project. This port would serve the Phuket-Haadyai-Songkhla growth pole for Southern Thailand. Funds have already been set aside to purchase and develop 1,000 rai of land for an Export Processing Zone between Songkhla and Haadyai.

The present and prospective patterns of employment of project residents should be analyzed and an appropriate program of skill training set up. With the growth of the Songkhla-Haadyai axis as an export processing zone, and of lakeshore maritime activities associated with the deep water port, there should be ample opportunities for skilled and unskilled laborers to find jobs close to the project site. Associated craft and service industries may also be expected to grow. In order for project residents to take advantage of these opportunities, it would be desirable to establish a revolving credit fund for working capital and perhaps to provide small business management assistance.

A number of new opportunities for vocational training will become available in the near future. The Provincial Labor Office is seeking a grant from the German Government to establish a training program. A new Industrial Services Institute, which can provide product research, skill training, market research and management assistance to small businesses, is scheduled to open soon in Songkhla. In addition, the World Bank's current Education Sector program will provide a center for basic education and vocational training in the Songkhla area. Project planners should keep track of these developments and make appropriate contacts to determine if such services will be available to project residents. Vocational training can also be incorporated in the planning and operation of a small enterprise center on the site.

Due to the desirability of the project site and its location in relation to industrial employment opportunities, the project is most likely to serve upwardly mobile families and those with at least one source of steady income. It is not likely to serve the needs of poorer slum dwellers, many of whom depend on traditional fishing for their livelihood. Consequently, the feasibility of a slum upgrading program should also be considered for those areas in which crowded and unsanitary conditions present a serious problem.

3. Khon Kaen

At the time of this review there was no English translation of the Housing Marketing Study available for the Consultant to review, site selection was still in progress and no Project Brief had been prepared. However, the Thai version of the Khon Kaen Housing Marketing Study was discussed with Khum Chawalit, the Team Leader for the Regional Cities Program at NHA. In addition, the proposed alternative sites for the housing project

were examined and government officials were interviewed at the Municipality, Changwat and Regional levels. The Governor also spent some time with the Consultants and convened a general meeting at which his senior staff members were able to learn the purpose of the Consultant's visit and to pose questions.

Khon Kaen is a pleasant city of 80,000 population. It has been designated in the Fourth Plan as the Regional Growth Center for the Northeastern Region. The city is on flat land, surrounded by padi fields, and has two large lakes within the municipal boundary at the Southern end. These lakes constrain contiguous growth of the city to the South and Southeast. The University campus constrains expansion to the Northwest. General expansion of the city is likely to be towards the North or to the West or East.

The NHA survey revealed only three relatively small slums with a total of 83 slum households. At present, there are few major industries and the city provides mainly service industries in support of the large agricultural region, the University and the administrative center. Unless industries can be encouraged to locate in Khon Kaen, it is likely that it will continue to develop as an administrative center and university city serving the Northeastern Region. The University is planning to increase the number of its faculties from 7 to 16, with a concurrent increase in the student population from 3,300 to 15,000.

A summary of the NHA survey of the slum populations is given in Table 13. Further information includes:

- No slum dwellers own the land occupied by their dwellings.
- 58% occupy public land and 42% occupy private land for which they do not pay rent.
- 91% own the houses that they occupy.
- 9% rent houses, of whom 1/3 pay 50 baht, 1/3 pay 100 baht and 1/3 pay 200 baht per month.

The main thrust of the NHA proposals for Khon Kaen is to provide houses for the middle and lower-middle income group who have proved their credit reliability by renting houses for five years or more. These groups would, by cross subsidy, assist in financing core houses for the lowest income group. The NHA survey revealed that there are 887 households renting, of whom 244 were considered permanent renters who had paid rent for five years or more.

TABLE 13
SAMPLE SURVEY OF 33 SLUM DWELLERS

<u>Income Level</u>	<u>No. of Households</u>	<u>%</u>
<u>Baht/Month</u>		
1000	21	64
1001-2000	6	18
2001-3000	4	12
3001-4000	1	3
4001-5000	<u>1</u>	<u>3</u>
	33	100
<u>Head of Household</u>		
<u>Occupation</u>	<u>No.</u>	<u>%</u>
Unskilled	12	36
Mini Cab Driver	7	21
Vendor	6	19
Temporary Day Labor	4	12
Government Employee	1	3
Private Employee	1	3
Unemployed	<u>2</u>	<u>6</u>
	33	100

A sample survey of 69 renting households was conducted by NHA. Details of their income levels are given in Table 14. Details of the NSO income levels for the municipal area are given in Table 15.

A number of industrial facilities have already been established in Khon Kaen, the largest being a jute (kenaf) mill employing 1,500 workers. Other industries, established mainly during the

TABLE 14
SAMPLE SURVEY OF 69 RENTING HOUSEHOLDS

<u>Income Baht/Month</u>	<u>Number of Households</u>	<u>%</u>
501-1000	14	20
1001-1500	10	15
1501-2000	12	18
2001-2500	6	9
2501-3000	8	12
3001-3500	5	7
3501-4000	-	-
4001-4500	3	4
4501-5000	1	1
5001-5500	3	4
5501-6000	5	7
Above 6000	<u>2</u>	<u>3</u>
	69	100

TABLE 15
INCOME DISTRIBUTION IN MUNICIPAL AREA (NSO)

<u>Household Income Baht/Month</u>	<u>%</u>
Less than 2000	27.5
2001-3000	25.0
3001-4000	18.5
4001-5000	10.2
5001-6000	5.5
Above 6000	<u>13.3</u>
	100.0

last ten years, are a fish net factory, match factory, tapioca flour mill and pharmaceutical factory. An auto-repair factory, scheduled to employ from 50 to 100 persons, is also being established. Many of the industrial facilities provide dormitory accommodation for their workers.

The NHA proposes to purchase 50 to 100 rai of land for housing, with a mix of core housing and middle and lower-middle income housing. The core housing and lower-middle income housing will be at a density of 8 to 10 dwellings per rai. The actual mix will be determined when the NHA Policy and Planning Department prepares its brief for the Research and Construction Department.

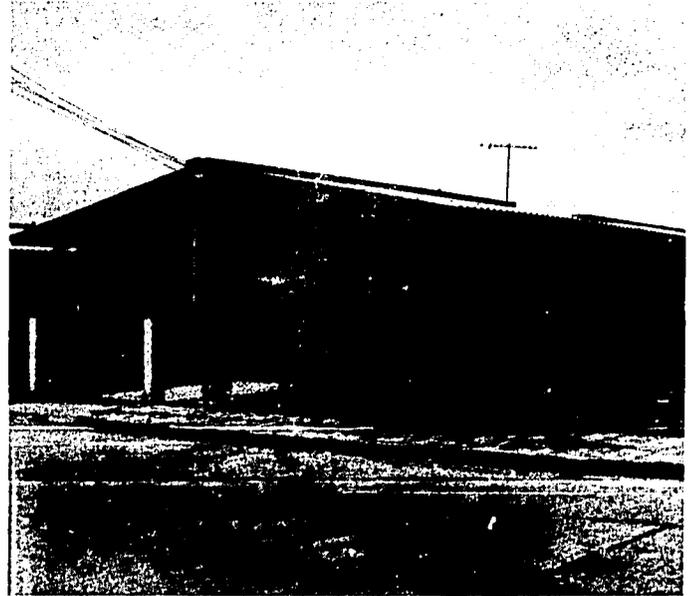
A parcel of land being favorably considered by the NHA is some 60 rai in area, within the city boundary, immediately to the west of the large lake of the southeastern end of the city. It is mainly padi land and may require some filling to prevent periodic flooding. The site is in an attractive area and well placed relative to the city's activities. It can easily be connected to the city water supply, for which there is a program of expansion and laying of new mains.

The city authorities interviewed, who are responsible for collection and disposal of solid waste and cleaning of septic tanks and cesspits, have agreed that these services can be provided to the NHA development. The cost of the land would be 60,000 bahts per rai. Electricity will be provided by the Regional Electricity Department with the supply coming from the EGAT nationwide grid.

Another possible site lying to the east of the large lake and near the water supply headworks is padi land, of unlimited area and would cost about 30,000 bahts per rai. The site would require filling. Its main disadvantage is its distance from the city center.

Social planning for Khon Kaen has not progressed beyond the initial inventory stage. Further contacts with local service providers would probably not be fruitful until a specific site can be discussed. The available data indicate that Khon Kaen is quite well served in comparison to other "growth pole" cities, due to its development as an administrative and institutional center for the Northeast Region of Thailand.

Duplex Houses in Phase I
Sale Price 160,000 Bahts (US\$8000)

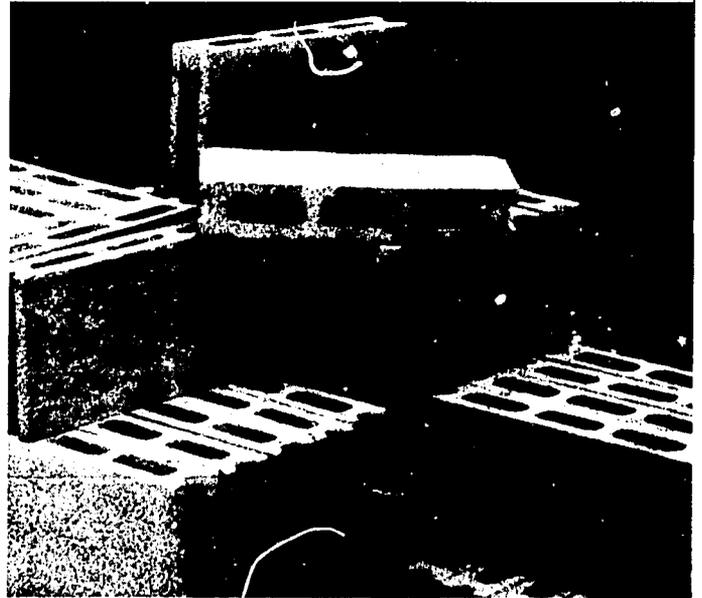


Two-story Houses in Phase I
Sale Price 280,000 Bahts (US\$14,000)

Typical Cesspit to Phase I House



**Pre-cast Concrete Wall Blocks Available to
Phase I Tenants at 2 Bahts (US\$0.10) each**



**Site for Phase II Development Looking from
Concrete Road Serving Phase I.**

Shopping Area Near Northwest Corner of NHA Site



CHIENG MAI

1126

**Rental House in Khon Kaen
2 Bedrooms + Kitchen + Family Room
Rental 600 Bahts Per Month Including Utilities**



**Northern End of Possible Housing Site on
Western Side of Lake**

Expected Cost 60,000 Bahts Per Rai

Southern End of Site at Western Side of Lake

KHON KAEN



11/2/20

Squatters House on NHA Site



Houses in Fishing Village Near Northern End of NHA Site

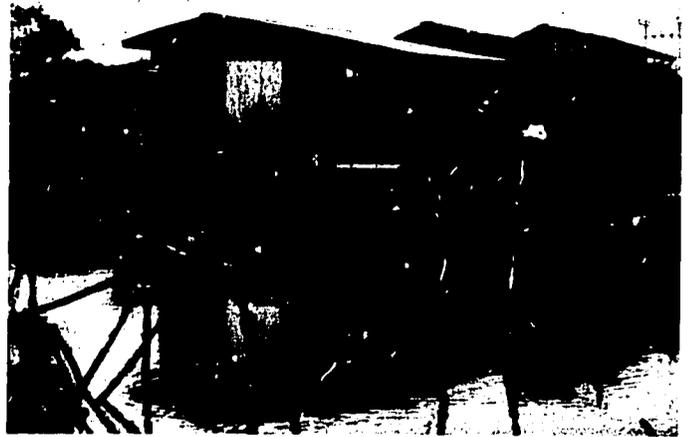
School in Wat Compound Near NHA Site



SONGKHLA

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Klong Sumrong and Houses Adjacent to NHA Site



**Northern End of NHA Site Showing Nippah Palms
Typical of Silty Clay Mangrove Soils**

**Southern End of NHA Site Showing Construction
Now Taking Place on Adjacent Land**



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CHAPTER V
ALTERNATIVE APPROACHES TO PLANNING FOR THE
URBAN POOR IN REGIONAL CITIES

The present NHA program designed to serve the needs of low-income families in the regional cities is based exclusively upon core housing projects. Such projects require land acquisition and preparation as well as the purchase of substantial amounts of labor and construction materials, all at the eventual expense of low-income family. The minimum standard core house is designed to be affordable by families with incomes in the range of 1,500-2,000 Baht per month. Although such families are definitely below the median income level in the regional cities, they are not the poorest of the poor.

It is also possible that only a small number of families in the lower income brackets will actually apply for core housing. Many of these may be denied credit because of the uncertainty or irregularity of their incomes. Low-income families may find it difficult to mobilize resources for further investment in home improvements. All of these factors, taken together, make it unlikely that the core housing projects will meet the shelter needs of the entire urban poor population in the regional cities.

The Consultants feel that in addition to core housing, NHA should consider some alternative approaches to the problem of providing shelter and associated socio-economic services to the urban poor in the regional cities. NHA has already undertaken similar programs in Bangkok with a fair degree of success. Although NHA's capacity to implement such programs may be overtaxed at the present time, NHA's forward planning should look to the time when these programs will be extended to the regional cities and should determine personnel and training needs accordingly.

Two alternative approaches are proposed by the Consultant for NHA's consideration. One is the provision of straight-forward sites and services, without core housing; the other is slum upgrading.

A. SITES AND SERVICES

NHA has experimented with offering raw plots for sale in Chiangmai, with relatively little success. As far as the Consultant could determine, NHA has not offered serviced plots for sale. Private developers in Chiangmai successfully sell serviced plots averaging 240 m² for a price of about 100,000 Baht (\$5,000). This price (approximately \$20/m²) compares

favorably with NHA's estimated charge for land plus land development and infrastructure in Chiangmai (20,000 Baht for an 80 m² plot, or \$12.50/m²).

If NHA were to offer serviced plots for sale, with a 10% down payment and 20 years to pay at 12% interest, the monthly payment required would be on the order of 150 Baht. Even adding 50 Baht per month for estate management charges, this price would be affordable by families with incomes of at least 1,000 Baht per month. Those with a little more would be able to invest additional amounts in home construction and improvement.

The advantage of this arrangement is that it permits low-income families to make use of their own resources to meet shelter needs, rather than purchasing inputs with scarce cash income. The principal contribution would be in the form of labor, but reused construction materials from former homes might also be significant in lowering costs. Such a program should provide incentives for traditional crafts such as the weaving of bamboo panels and construction of thatched roofs. It would also directly stimulate employment of both skilled and unskilled labor among the target population.

NHA's principal concern with such a program is the difficulty of establishing and enforcing construction standards. Certain minimum standards will be required in order to ensure that the area does not revert to undesirable slum conditions. These relate to the minimum amount of floor space per person and the density of dwelling units, the correct installation of sanitary facilities, water and electrical connections, and the strength of reused construction materials. NHA would be required to field a construction supervisor who could provide technical assistance to homeowners and small contractors, as well as performing periodic inspections and certifying dwelling units as complete for house registration purposes. Clearly, there would be a need for close cooperation with the local authorities responsible for controlling residential construction and for providing water, sewer, and electrical services.

In all other respects, a true sites and services program for low income families in the regional cities would look much like NHA's present core housing program. NHA would still be responsible for plot layout, streets and open spaces, development of commercial and industrial areas, and on-site infrastructure. NHA would continue to mobilize local support for off-site infrastructure and community facilities; failing that support, it could undertake such programs on a subsidized basis.

One factor that could inhibit the success of the sites and services project would be the speculative purchase of plots

by individuals who have no intention of building on them but are waiting to capture the rise in land value associated with the overall development. This tendency could be curbed by incorporating a buy-back provision in the purchase contract, whereby if home construction was not started within six months (or some other reasonable period), NHA could refund the initial payments and regain possession of the lot. It is important for the growth of a sense of community that most of the lots be developed at approximately the same time. This approach is also efficient in terms of the use of NHA's staff resources, the provision of physical infrastructure, and the planning of community services and facilities.

B. SLUM UPGRADING

NHA has already acquired substantial experience with slum upgrading in Bangkok. Slums were originally identified using aerial photography, and 108 priority slum areas were surveyed on the ground. The results of this survey can be compared to NHA's housing market surveys of slum dwellers in the regional cities to give an idea of the relative magnitude of slum problems in each case.

The Bangkok survey covered approximately 27,000 households living in 19,000 houses, for an average of 1.4 families per structure. The average household size was between five and six and the average number of occupants per house was eight. Housing densities ranged from less than two households per rai to a maximum of approximately 50 households per rai.

This study showed that in Bangkok, almost all slum dwellers have access to electricity; over 75% have direct, metered connections, and the rest tap off their neighbors' lines for a fee. Slightly over half have direct, metered water connections, about a third purchase water from their neighbors, and the rest used other sources. The main physical problems identified in the survey were poor drainage, inadequate access, and unsanitary conditions. About 80% of all slum houses were classified as of durable, permanent construction.

The study found that approximately 15% of all slum dwellings also serve as a place of business, and that these households tended to have higher incomes than the rest. The average monthly income in 1975 was 1,700 Baht. Less than two-thirds of children under age 15 were found to be attending school regularly, and about 20% of all slum dwellers were classified as not being in good health.

Lack of secure tenure is believed to be a major factor inhibiting investment in shelter by slum households. Less than 5% of all slum dwellers owned the land they were living on, and less than half had any form of lease. The Bangkok survey does not report results on how many slum dwellers pay land rent, how

many own their own houses and how many pay house rent. However, results from the regional cities indicate that most slum dwellers own their own houses and many do not pay rent to the landowners, either public or private.

Based on this survey, ten slum areas in Bangkok were selected for priority upgrading. Areas were initially selected on a "worst-first" basis, but giving priority to Government-owned land that could be transferred to tenants on long-term lease (20 years). The World Bank agreed to support NHA activities in five slum areas, and improvement programs have started in at least two areas. Recently NHA secured passage of legislation that provides it with powers of eminent domain for the purpose of acquiring privately held slum land and turning it over to tenants.

The improvement program consists of physical infrastructure improvements, socio-economic services, and a land tenure program. Many of the planned activities depend on community cooperation and self-help. An important component of the program is a campaign to register houses and families with the Bangkok Metropolitan Authority so that they will be eligible for municipal services.

The physical improvement program includes construction of streets or walkways, drainage improvements including landfill where needed, extension of water and electricity networks, and technical assistance to households and to the community to improve waste disposal, fire and flood protection. Costs of the physical improvement program were originally targeted at 5,500 Baht per family, which could be paid off under NHA's standard terms at about 55 Baht per month.

In its initial efforts, NHA has experienced substantially higher construction costs than originally anticipated due to overdesign. NHA has made attempts to correct this problem but has run into difficulties with the Bangkok Metropolitan Authority, whose design standards significantly exceed those that can be afforded by slum residents. The World Bank states that "The principle apparently has been established that the MWWA (Municipal Water Works Authority) should bear the additional cost resulting from complying with its standards."¹⁹ However, MWWA has not yet established a budget allocation for this purpose.

¹⁹ IBRD, "National Housing Authority Project Review and Preparation Mission Aide Memoire," February 1979, p. 5.

The socio-economic program consists of promoting household registration and school attendance, organizing a self-help security system, arranging for periodic visits from public health officers, providing vocational training and space for small businesses, and developing recreational facilities on open land. Family services are also proposed in the areas of delinquency, drug abuse, health education, and legal and financial advice. The costs of this program should be subsidized by the community at large. Therefore, NHA has provided no budget for these activities and NHA social workers are totally dependent on the co-operation of other agencies for their successful implementation. As a result, the program has gotten off to a slow start. However, a vocational training program for women that has begun in the King Petch area seems to be quite remarkably successful.

The Krung Thai Bank has agreed to participate in a program to make credit available to slum dwellers in upgrading areas for the purpose of starting or maintaining a small business. The maximum loan amount is 10,000 Baht (\$500), to be repaid over three years at 12% interest (monthly payment about 350 Baht). Candidates have to be recommended by the NHA social workers and must also find two guarantors to co-sign the loan, one living in the slum area and one living outside it. So far these conditions have proved difficult for slum dwellers to meet. Approximately 15 applications are pending and only a few of these are near to being approved. A total of 6 million Baht (\$300,000) has been set aside for this program by the Bank, including not only loans to slum dwellers but also to residents of the Tung Song Hong core housing project, who may apply for loans of up to 200,000 Baht.

The land tenure program has been somewhat successful in that NHA has been able to negotiate with other Government agencies, and to some extent with private landowners, to provide land to slum dwellers on long-term lease. It has also been successful in securing legislation to acquire privately held land by eminent domain. It remains to be seen, however, how well this legislation will work in practice. NHA's budget is believed to be inadequate for land acquisition at present prices.^{20/} An 80 m² plot in Bangkok would cost 40,000 to 50,000 Baht, corresponding to a monthly payment of between 400 and 500 Baht on NHA's standard terms. Adding on the infrastructure and land development cost, the total monthly payment would be anywhere from 450 to 850 Baht, affordable only by families with incomes at or above the median.

²⁰ PADCO, Review of the Policies Program and Strategies of the National Housing Authority of Thailand, 1978, p. 16

In contrast, land rents are relatively low (60 Baht/month for an 80 m² plot). Even if rates are raised to reflect increases in land value brought about by NHA's upgrading program, total payments are not likely to exceed 150 Baht per month per family. This expenditure is affordable even by the very poor family with an income of 750 Baht per month, particularly as the cost of water and electricity should be reduced by making direct, metered connections rather than paying a flat fee to neighbors.

To implement the slum upgrading program in Bangkok, NHA has a special group which has been detached from the Office of Policy and Planning and assigned to the Research and Construction Department. The group includes engineers, architects, economists, technicians, draftsmen, surveyors, social workers, lawyers, and support staff. Additional staff will have to be recruited as the program expands from the present 10 slums to include 20 additional slum areas in the next year. Still more staff would be required if the slum upgrading program were to be extended to the regional cities.

The two major problem areas for the slum upgrading program have been (1) coordination with other agencies, and (2) cost recovery. The Slum Upgrading Office must work closely with the Bangkok Metropolitan Authority in order to coordinate both physical improvements and socio-economic programs. Significant delays have been experienced when funds fail to be provided in the budgets of the cooperating agencies for the slum programs. This may indicate that coordination is taking place too late in the planning process. These problems are gradually being worked out as the various agencies involved become more familiar with the requirements of the slum upgrading program. The transfer of land from other government agencies to NHA seems to have worked reasonably well so far.

Cost recovery has been a problem in those areas which have begun to see some improvements. These are mainly World Bank-sponsored areas, and the Bank is insisting on full cost recovery from residents. This seems unfair to slum dwellers, who can readily observe that infrastructure improvements are provided at no apparent change to more affluent areas of the city. Slum dwellers are willing to pay for security of tenure, but given a choice, they would generally prefer to do without the infrastructure improvements and spend their scarce resources on something else.

The World Bank has made efforts to improve NHA's cost recovery in all of the upgrading areas. NHA, on the other hand, is prepared to subsidize additional improvements in the non-Bank-sponsored slums in the interest of the general welfare. The Consultant recommends that AID's position on this issue be flexible,

in the interest of making improvements in the quality of life accessible to even the poorest urban households.

The World Bank also recommends that NHA undertake a more extensive program of community involvement prior to making a final determination on components of the improvement program in a particular slum. The Consultant strongly supports this recommendation, and specifically suggests that this approach should be applied in planning for slum upgrading in the regional cities.

The magnitude of slum problems in the regional cities, as revealed by the housing market studies, is nowhere near as great as the problem in Bangkok. In each city, a small number of slum areas can be identified. Some of these might not be considered problem areas in Bangkok's terms. Some may be too small to permit cost-effective infrastructure improvements.

However, it is worth noting that greater success is being achieved in smaller slums in Bangkok, as these are more likely to have developed a community spirit and less likely to be isolated from the surrounding city.

Many of the slum areas in the regional cities have drainage and waste disposal problems. Some, though not many, are dense and/or crowded. Some contain housing made of "temporary" materials, although many are strong and solid structures. Almost all lack piped water and electricity. It is probable that many slum dwellings are not registered and that as a result, families are not presently eligible to receive municipal services.

As in Bangkok the components of a slum upgrading program would have to be developed on-site in the regional cities. The health, education and employment needs of these communities should be evaluated, using techniques and instruments similar to those already developed for Bangkok. Community participation should be invited in selecting the program components in each slum area, and the full cost implications should be made clear to the residents.

Close coordination with municipal agencies will be required in the regional cities in order to implement a slum upgrading program. This activity can build on contacts already established in planning for the core housing projects. Some of the more severe problems of the Bangkok slums, such as delinquency and drug abuse, are not so likely to be found in the regional cities.

On the other hand, income and employment opportunities may present a more serious problem than in Bangkok.

Because of the registration problems, it is not known what share of urban slum dwellers are recent migrants from rural areas. Analysis of data from the slum dweller surveys might give a better indication of change over a ten-year period. More detailed information could be obtained through the same survey approach as that used to evaluate the need for services.

In planning for a slum upgrading program, it would be possible to analyze the specific functions of urban slums as transition zones for rural migrants, and the supportive social systems which they may develop. These structures, if they exist, play an important role in creating the municipality's capacity to absorb rural-urban migration. Such structures need to be strengthened, not destroyed.

The sense of community in an urban slum can only be enhanced by a program which would provide land tenure, physical improvements and social and economic services to residents. These things are the visible symbols of acceptance into the wider society which are so important to the basically upwardly mobile population of the slums in the regional cities. The cost of such a program is relatively small and is largely recoverable from the residents. The slum upgrading approach should therefore be seriously considered as one alternative in planning to improve the quality of life for the urban poor in the regional cities of Thailand.

ANNEX A

FIELD WORK SCHEDULE AND
LIST OF PERSONS INTERVIEWED

The Consultant team worked in Thailand from Thursday, July 5, to Wednesday July 25. Following is a detailed schedule of the team's activities.

Thursday, July 5	Orientation meeting with RHUDO representative in Bangkok.
	Briefing on the Regional Cities Program, NHA, Bangkok.
Friday, July 6	Briefing on Chiangmai and Songkhla projects, NHA, Bangkok.
	Meeting with USAID Director and Program Officer, USOM, Bangkok.
Saturday, July 7	Review of Housing Market studies and other documents in the Consultant's offices, Bangkok.
Sunday, July 8	Reivew of Housing Market studies with NHA Regional Program staff, Consultant's offices, Bangkok.
	Unofficial visit to Rangsit core housing project near Bangkok.
Monday, July 9	Research at NESDB, NSO, USOM; initial analysis of planning studies.
Tuesday, July 10 - Wednesday, July 11	Site visit and interviews in Chiangmai.
Thursday, July 12 - Sunday, July 15	Interviews and project analysis in Khon Kaen.
Monday, July 16 - Tuesday, July 17	Site visit and interviews in Songkhla.
Wednesday, July 18 - Thursday, July 19	Research in Bangkok and preparation of outline for aide-memoire.

Friday, July 20	Presentation of initial findings and outline of aide-memoire, NHA, Bangkok.
Saturday, July 21	Preparation of aide-memoire and review of outline with RHUDO.
Sunday, July 22	Revision of aide-memoire outline and preparation of summary field report.
Monday, July 23	Presentation and discussion of summary field report with USAID Mission Director and Program Officer.
Tuesday, July 24	Prese:ntation and discussion of summary field report with NHA.

LIST OF PERSONS INTERVIEWED

National Housing Authority

Mr. Charu Srichalam	Deputy Governor
Mr. Pree Buranasiri	Director, Research and Construction Department
Mr. Sidhijai Tanphiphat	Chief, Office of Policy and Planning
Mr. Chawalit Rodrungruang	Office of Policy and Planning
Ms. Rusamee Cherngchalad	Office of Policy and Planning
Mr. Sumit	Office of Policy and Planning
Ms. Chantana Chamond	Office of Policy and Planning
Mr. Prasert Trakulwong	Office of Policy and Planning
Ms. Sukuman Satitanun	Research and Construction Department, Slum Upgrading Office
Mr. Phanphong Ubolphong	Estate Management Department, Community Relations Section
Ms. Chadsri Bunnag	Chief, Personnel Division
Ms. Nuntira Bunnag	Estate Management Department
Ms. Kritika	Financial Department

USOM

Mr. Donald Cohen	Mission Director
Mr. Robert Cahn	Program Officer

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USOM (cont'd)

Mr. Jesse Wright	Economist
Mr. Terry Grandstaff	Anthropologist
Dr. Vernon R. Scott	Health Officer
Mr. Prakorb Juangbameh	Deputy Secretary General, NESDB
Mr. Kameha Iamsuri	National Policy Advisor for Industry
Mr. Prabhas Chakkaphak	Director, Department of Industrial Promotion, Ministry of Industry

CHIENG MAI

Mr. Vichai Kunaratskul	Municipal Engineer
Mr. Kanung	Chief, Northern Region Planning Office, NESDB
Mr. Decha Na Lampang	Provincial Electrical Authority, Chiang Mai
Mr. Boon Yiam	Regional Engineer, Regional Electricity Authority, Chiang Mai
Mr. Viroon	Superintendent, Chiangmai Waterworks Division, Provincial Water Authority
Mr. Uthai	Chief of Sanitary Section, Amphur Muang
	Public Health Officer, Chiang Mai Municipality
	Staff of Nutrition Research Center, Chiang Mai Province
	Staff of Demonstration Day Care Center, Chiang Mai Province

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CHIENG MAI (cont'd)

Municipal Education Officer
District Education Officer
Provincial Education Officer

KHON KAEN

Mr. Chamnarn Potchana	Governor
Mr. Tawee Powand	Northeast Region Operations Officer, NESDB
Mr. Mongkol	Provincial Officer of Policy and Planning
Mr. Pahnnwit Suphatamakij	Chief, Business Division Bank of Thailand, Khon Kaen
Mr. Wichit Sinpai	Business Division Bank of Thailand, Khon Kaen
Mr. Montri Ramana	Chief, Economic Research Section Bank of Thailand, Khon Kaen
Mr. Samrarn Suwanthada	Provincial Water Works Authority
Mr. Pachon Kamwan	Khon Kaen Sanitary Officer
Mr. Chawalit	Councillor, Khon Kaen Municipality
Mr. Sangkom Kochamnong	Provincial Education Department
Professor Chinda Podimuang	Faculty of Humanities and Social Science, Khon Kaen University
Miss Kusol Nsarmkhaew	Research Associate, Khon Kaen University
Mr. Thongchai Songvathana	Chief, Industrial and Economic Development Center
	Provincial Department of Commerce
	Provincial Department of Labor
	Provincial Department of Social Welfare

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SONGKHLA

Lord Mayor of Songkhla

Mr. Jaruey Patcharat	Southern Region Planning Office, NESDB
Mr. Surin Pattamacom	District Officer
Mr. Suthee Supnithasnaporn	Provincial Industrial Officer
Mr. Winai Sunthidecha	Provincial Health Officer
Mr. Vibom Paoviseth	Municipal Education Officer
Mr. Sanit Satyaynt	District Education Officer
	Regional Water Works Authority
	Regional Electricity Authority
	Municipal Sanitary Engineer
	Department of Lands

ANNEX B

THAILAND - NATIONAL HOUSING AUTHORITY

REGIONAL CITIES PROGRAM

Summary Field Report of the Louis Berger International, Inc.
Consulting Team, under USAID Contract AID-otr-C-1641

The Consulting Team worked in Thailand from July 5, 1979, through July 25, 1979, with the National Housing Authority. Following this Field Report, a complete draft final report and recommendations will be submitted to USAID in Washington, D.C. in early August. An outline for this draft final report is attached. A Final Report will be prepared following USAID and NHA review and comments on the draft report.

I. Executive Summary

The Consultants have reviewed the NHA's 1978-1984 Regional Cities Program plans and project planning for the cities of Chiangmai, Songkhla, and Khon Kaen. Although no formal planning procedures have been established for the determination of priorities among regional cities, the selection of Chiangmai and Songkhla for the first two pilot projects will meet the stated NHA objectives for the program.

The NHA's planning procedures should be strengthened. The Consultants recommend the following considerations to be incorporated into the NHA planning procedures. These recommendations will be detailed in the Consultants' final report.

1. Expand analytical parameters for target population identification to include employment opportunity assessment and projections, and refine planning methodology to show more clearly the social and economic characteristics of the target population. With this information in hand, the determination of city priorities and size of NHA's shelter programs as well as appropriate social and economic service programs for project residents will be facilitated.

2. Although site selection is severely restricted by land availability, location of specific employment opportunities and social services delivery capacity for the low income target population should be identified in determining the suitability of a site. It is also recommended that the site selection methodology should relate more closely to city master plans prepared by the Town and Country Planning Board, even though

these plans are still under discussion with local authorities and have not yet been ratified. This is particularly important in respect to proposed industrial estates, new commercial areas, and new transport links.

3. Although plans and programs of the NESDB, BOI, IEA, and others are presently used as guidelines in NHA's planning, the Consultant recommend that if the NHA adopts the Consultants' recommended planning procedures, the NHA's detailed draft plans for its regional cities projects should be circulated to appropriate agencies to concur or correct assumptions underlying its program proposals.

4. In order to reinforce the role of the Policy and Planning Department within NHA, there should be established a Management Coordinating Group which would assure that plans and policies formulated by the Policy and Planning Department reflect the consensus of NHA management and are in fact adhered to. The desirability of establishing a department within NHA for the Regional Cities Program is still under consideration.

II. General Observations

General observations which may be of interest at this stage, include:

1. Migration in Thailand is primarily directed towards the Bangkok area, with the minor exceptions of Chiangmai, Haddyai and Chonburi. Employment opportunities exist in the Northeast, for example, but remuneration rates for labor in both agriculture and industry are lower than in Bangkok. Thus, due to the high population mobility in Thailand, seasonal and permanent migration has taken place from the Northeast to Bangkok. Therefore some excess productive capacity in both agriculture and industry now exists in some regions outside of Bangkok. National programs aimed at decentralizing economic activity should be further strengthened and NHA should monitor these efforts very closely.

2. The core housing projects proposed for the regional cities, while meeting a significant need for lower income housing, cannot effectively meet the needs of the poorest of the urban poor. Slum upgrading projects may serve this purpose as required in the regional cities. An excellent foundation has been laid for this activity by NHA's current slum upgrading programs in Bangkok.

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3. Housing types currently under consideration by the NHA for the regional cities program do not include traditional elevated (on stilts) structures. In some regional cities projects, these housing types may be more appropriate than the presently proposed designs.

III. Chiengmai, Songkhla, and Khon Kaen

In the three cities examined, the location of sites already selected or under consideration do not present any serious problems from the physical planning point of view.

The Chiengmai project will be adequately served by existing facilities for education and health care. In Songkhla, however, existing public education facilities near the project area are overloaded. It may be necessary, therefore, to provide space for a primary school on the project site. Since in Khon Kaen the project site has not yet been selected, the planning for service facilities should proceed in association with project site selection. In all cities, there should be further investigation of community resources available to provide day care, youth programs, vocational training and support to small business enterprises on the project site.

Although no site-specific employment opportunity assessment has been made in Chiengmai and Songkhla, the Consultants feel that the lack of employment opportunities immediately adjacent to the project sites will not present a constraint to the utilization of these sites, since there are adequate employment opportunities within a reasonable transport cost and distance from the sites.

In Khon Kaen, although the Consultant has not reached a definite conclusion at this time, it appears that the demand for NHA-funded housing for lower income groups may be lower than preliminary NHA estimates indicate.

IV. Conclusion

In conclusion, the Consultants have observed that the NHA staff assigned to the regional cities program is dynamic, committed and well trained, and that the NHA has successfully introduced a comprehensive, integrated approach to its planning tasks.

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PROPOSED OUTLINE OF FINAL REPORT

USAID CONSULTANT TEAM

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ANNEX C

NHA RENTER AND SLUM DWELLER
SURVEY FORMS

POLICY & PLANNING DEPARTMENT - NATIONAL HOUSING AUTHORITY

PROVINCIAL HOUSING PROJECT

QUESTIONNAIRE FOR RENTERS

For Family Head or Spouse only

Address _____ Soi _____ Road _____

1. Number of family members _____

2. Occupation of family head _____ Occupation of spouse _____

3. Family head's earning _____ Baht/month

Sum of other family members' earnings (not including family head's)
_____ Baht/month

Number of family members who have earnings _____

4. Renting rate _____ Baht/month

including water supply and electrical power

water supply _____ Baht/month

electrical power or lamp fuel _____ Baht/month

4.1 Electrical power

available not available

4.2 Water supply from

Water Works Authority ponds/klong rain

4.3 Lavatory

for family members only share with other family

4.4 Garbage Disposal

containers to be collected by Municipality burning

burying anywhere

others _____

5. Renting Condition
 whole unit partly
6. Are your family members' names included in the official registration list?
 every member some none
7. Number of people living in the house (including every family) _____
8. Your family has been living in this house for _____ years
9. Place of birth of family head
 municipal area capital district excluding municipal area
 other district in this province Other Province _____
10. Where did your family live ten years ago?
 municipal area capital Muang district excluding municipal area
 other district in this province other Province _____
11. Do you want a new house for your own?
 Yes No Undecided
12. Capability of paying in rent/installment _____ Baht/month
13. Type of house
 single unit row house semi-detached shack
14. Number of stories
 1 1½ 2 more than 2
15. Construction materials are generally
 timber concrete combination of concrete and timber
 used materials

ANNEX C

POLICY & PLANNING DEPARTMENT - NATIONAL HOUSING AUTHORITY

PROVINCIAL HOUSING PROJECT

QUESTIONNAIRE FOR SLUM DWELLERS

For Family Head or Spouse only

Address _____ Soi _____ Road _____

1. Number of family members _____

2. Occupation of family head _____ Occupation of spouse _____

3. Family head's earning _____ Baht/month

Sum of other family members' earnings (not including family head's)
_____ Baht/month

Number of family members who have earnings _____

4. House ownership:

- House of your own free
 partly rent wholly rent
- Land rent from government rent from private enterprise
 squat on government land squat on private land
 of your own

5. Living expenses

- house rent _____ Baht/month No charge
 land rent _____ Baht/month No charge
 water supply _____ Baht/month No charge
 electrical power _____ Baht/month No charge
 or lamp fuel

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5.1 Electrical Power

available not available

5.2 Water Supply from

Water Works Authority pond/klong rain

5.3 Lavatory

for family members only share with other family

others _ _ _ _ _

5.4 Garbage Disposal

containers to be collected by Municipality burning

burying anywhere

others _ _ _ _ _

6. Are your family members' names included in the official registration list?

every member some none

7. Number of people living in the house (including every family) _ _ _ _ _

8. Your family has been living in this house for _ _ _ _ _ years

9. Place of birth of family head

municipal area capital district excluding municipal area

other district in this province other province _ _ _ _ _

10. Where did your family live ten years ago?

Municipal area capital district excluding municipal area

other district in this province other province _ _ _ _ _

11. Do you want a new house for you own?

Yes No Undecided

12. Capability of paying in rent/installment _ _ _ _ _ Baht/month
13. Type of house
 single unit row house semi-detached shack
14. Number of stories
 1 1½ 2 more than 2
15. Construction materials are generally
 timber concrete combination of concrete and timber
 used materials
16. House condition in terms of strength
 strong fairly weak
 fairly strong weak
17. Area (width x length) _ _ _ _ _ square meter
18. Access to the house, width _ _ _ _ _ meter
19. Type of access
 concrete earth or laterite
 paved surface timber bridge
20. Access condition
 dry flooded by standing water

ANNEX D

PROPOSED SCOPES OF WORK FOR FUTURE TECHNICAL ASSISTANCE

The Consultants have identified three areas in which the National Housing Authority can make use of technical assistance to improve the delivery of urban and social services to the poor in the regional cities and to increase the capacity of those cities to absorb rural-urban migration. These three areas include:

1. Expansion of planning methodology
2. Implementation of coordination mechanisms
3. Project and program evaluation

Technical assistance for the implementation of recommendations made in Chapter III will be most useful in the following fields: housing economics, survey design, and use of statistical techniques to interpret survey findings. It is proposed that technical assistance for the expansion of NHA's planning methodology be made available over a period of one year for up to 18 person months, to accomplish the following tasks:

1. Assist NHA in the process of analyzing and prioritizing candidate cities for housing projects including all cities in Thailand of over 25,000 population (3 person months)
2. Assist NHA in designing and carrying out surveys and other data collection and data processing activities in the high priority regional cities, in order to identify the demographic and socio-economic characteristics of the low-income population and to identify service needs and resources (3 person-months)
3. Assist NHA in designing and constructing a prototype core house on stilts (1 person month)
4. Assist NHA with specific site planning for socio-economic services and small business development at up to 5 project sites (5 person-months)
5. Assist NHA in planning to extend sites and services and/or slum upgrading programs to the regional cities (6 person-months)

Technical assistance can also be helpful in facilitating cooperation and coordination between agencies at the local, regional, and national levels. It is expected that cooperation at the national level will be included in the first and second tasks listed above, while cooperation at the regional and local levels are implied in the fourth and fifth tasks. The proposed technical assistance should therefore not be limited to improving the planning capabilities of NHA, but should also include strengthening interagency linkages and channels of communication and developing institutional capacity at the local level.

Technical assistance in the area of survey design and statistics can also be turned to the task of project and program evaluation, particularly where this activity can make use of data already collected by NHA in the course of its normal activities. This includes the design of baseline surveys, application forms, and case records to be kept by estate managers and community workers, and the establishment of periodic reporting requirements. Follow-up surveys could be contracted out to local institutions in many cases; AID mission funds may be made available for this purpose.

Technical assistance for the design of a project and program evaluation system would require the services of an economist, a sociologist, and a physical planner for approximately two months each, or a total of six person-months. This task could be effectively combined with tasks 2,3, and 4 above.

In order for the proposed technical assistance to be effective, it will be necessary for NHA to name counterpart staff and to insure that needed materials are available in English when the consultants arrive. NHA has an excellent record of cooperation with consultants and these requirements should not present a problem. It is to be expected that both the consultants and their counterparts will spend most of their time in the field, particularly for tasks 4 and 5 above. Provision should therefore be made for travel and housing in the regional cities.

ANNEX E

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