A Place to Live
More Effective Low-Cost Housing in Asia
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A PLACE TO LIVE: More Effective Low-Cost Housing in Asia

Editor: Y.M. Yeung
Résumé

Dans un climat d'urbanisation rapide et de pauvreté générale, le problème du logement des populations pauvres constitue un défi pour la plupart des gouvernements de l'Asie. Cet ouvrage passe en revue les principaux programmes d'habitations à loyer modéré qui existaient à la fin des années 1970 dans six pays asiatiques.

A Hong Kong et à Singapour, les programmes de logements sociaux ont contribué considérablement à répondre aux besoins d'une grande portion de la population. Cet ouvrage examine l'expérience récemment acquise dans l'aménagement de nouvelles villes et la construction subséquente de logements sociaux. Dans les deux villes-états, on a tenté de mettre l'accent sur la gestion du logement en l'adaptant plus étroitement aux besoins, nouveaux et réels, de la population.

En Thaïlande, aux Philippines, en Malaisie et en Indonésie, des programmes semblables, mais adaptés aux pays, ont été mis sur pied afin d'améliorer les conditions d'habitation de la population pauvre. La plupart de ces programmes visent plus particulièrement les bidonvilles et les taudis des grandes villes, mais certains portent sur les besoins d'habitation de la population rurale. Ces pays ont lancé beaucoup de projets d'aménagement des sites et des services et d'amélioration des services existants. Leurs gouvernements accordent de plus en plus d'attention au problème du logement, et ce changement d'attitude a été renforcé par l'aide financière internationale qu'ils reçoivent depuis quelques années. Des projets innovateurs entrepris par la population même, qui a dans une certaine mesure réussi à satisfaire ses propres besoins d'habitation, viennent s'ajouter en complément des programmes subventionnés par des organismes nationaux et internationaux.

Resumen

Frente a la acelerada urbanización y expandida pobreza, la vivienda para los grupos menos favorecidos se ha convertido en un reto para la mayoría de los gobiernos Asiáticos. Este volumen reseña los principales programas de vivienda de bajo costo realizados a finales de los setentas en seis países Asiáticos.

En Hong Kong y Singapur, el progreso de los programas de vivienda popular para hacer frente a las necesidades de grandes sectores de la población ha sido considerable. Se resume la experiencia reciente en desarrollo de nuevas poblaciones y la provisión de vivienda popular. En ambas ciudades-estados ha habido un intento por colocar mayor énfasis en la administración de la vivienda, haciéndola más receptiva a las necesidades nuevas y reales.

En Tailandia, Filipinas, Malasia e Indonesia, han surgido programas similares, específicos de cada país, para mejorar las condiciones de vivienda de los pobres. La mayor parte de estos se centran en los tugurios y barrios marginales de las grandes ciudades, aunque algunos están dirigidos a las necesidades de vivienda de la población rural. Entre los proyectos destacados en estos países están los de lotes con servicios y los de mejora comunal. Los gobiernos respectivos dedican cada vez más atención a la vivienda para lo cual han contado con el respaldo de la asistencia internacional en los últimos años. Complementando estos programas apoyados nacional e internacionalmente están también los empeños innovadores de la misma gente, los cuales han alcanzado un cierto grado de éxito en la provisión de la vivienda propia.
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Urban Growth, Housing, and Slum-Upgrading Programs in Bangkok

Pree Buranasiri

In 1980, Thailand had an estimated population of 46.96 million. During the past two decades, the population has been increasing at approximately 3%/year. It was observed that the population increased sharply during the period after 1950 due mainly to the decrease in the average mortality rate.

Since 1950, the urban population has been growing at a rate of 5%/year and, as a proportion of total population, increased to 17% by 1976. These figures reflect all the 118 municipalities, which include cities with 30 000 or more inhabitants and a minimum density of 2000 persons/km². Bangkok, with a total population of 5.1 million in 1980, representing 63% of all urban population, dominates the urban hierarchy. It is estimated that Bangkok, according to the 1980 census data, is 45 times larger than the next largest city, Chiangmai.

In 1977, a World Bank study revealed that although urban households account for less than one-fifth of the total households in Thailand, they account for a great deal more in terms of contribution to productivity, measured in the Gross Domestic Product (GDP). The average income per capita of urban households is much higher than that in the rural areas. Bangkok alone, with only about 10% of the total population of Thailand, contributed about 27% of GDP. Infrastructure is normally better provided in the urban than in the rural areas. Bangkok enjoys the highest level of public services, with 70% of its residents having access to piped water, and 90% access to electricity. Bangkok is similarly better provided in education and health.

However, as a result of Bangkok’s rapid population growth and the limited private and public supply of conventional housing, slum settlements have proliferated. About one-quarter of the city’s population lives in slums scattered throughout the city.

Housing in Bangkok

It is recognized that chronic housing shortages have characterized Bangkok for some time. Between 1974 and 1980, several estimates of housing needs were made by the National Housing Authority (NHA) for the purpose of assisting housing policy and planning. From 1976 to 1980, 2400 units per year were planned. The private sector including self-built housing was estimated to provide another 100 000 units by 1980. After 4 years of planned implementation, the NHA was able to complete 40 000 units of housing.
Table 1. The housing targets in Bangkok (1981).

<table>
<thead>
<tr>
<th>Projects</th>
<th>Location</th>
<th>Number of units</th>
</tr>
</thead>
<tbody>
<tr>
<td>New housing community (sites and services)</td>
<td>Bangkok Metropolis</td>
<td>70,000</td>
</tr>
<tr>
<td>Slum upgrading</td>
<td>Regional cities</td>
<td>14,000</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>111,000</td>
</tr>
<tr>
<td>Special welfare-housing project</td>
<td>Bangkok Metropolis</td>
<td>7,966</td>
</tr>
<tr>
<td>Shopping centre projects (in housing community)</td>
<td>Regional cities</td>
<td>800</td>
</tr>
<tr>
<td></td>
<td></td>
<td>64</td>
</tr>
</tbody>
</table>

The type of houses built for the low-income population in this program were one-room walk-up flats, 35 to 40 m²/unit built with concrete blocks and a concrete frame. These units were generally for hire-purchase. Emphasis was given the provision of a good environment, community facilities, and infrastructure.

Because the 5-year program applied high standards, heavy subsidies (about B13,466 (US$673) million) were required over the life of the program. The government agreed to finance it whenever the NHA borrowed development funds from a government-approved source. The government repays the loan, principal, and interest in excess of 7% in equal installments over 10 years, and, in this way, supports NHA’s revolving fund. Due primarily to the large and escalating subsidies, the cabinet ordered a halt to the program in December 1977, and reviewed the subsidy issue with the view of reducing government expenditure. In the meantime, the NHA had begun drafting a series of proposed policy changes based on an analysis and evaluation of the ongoing program. A new policy and development plan called “Priority Plan 1979–1982” was approved by the cabinet. The plan called for the application of sites and services and slum-upgrading approaches to provide housing at lower levels of subsidy. The target of the priority plan is summarized in Table 1.

**Slum Problems**

Resulting from the dramatic increase in population of greater Bangkok, many problems have emerged that threaten the survival of the city. Among the more important of these problems are slum housing and squatter settlements. Like most other large urban centres, Bangkok’s slum settlements have been regarded as low-income residential areas resulting from inadequate housing for the poorest sectors of the population.

Through the NHA, the government has attempted to come to grips with slum problems by focusing on improving the quality of life for the urban poor. Generally, Bangkok slum areas have maintained an economically and socially sound housing stock, the conditions of which may become acceptable with improvement. Since 1977, when the slum-upgrading program became part of the national housing policy, more needed to be learned of slum areas.

**Slum Formation**

Urbanization and migration studies have shown that the influx of population from rural areas to Bangkok in the period between 1947 and
1956 greatly changed the city. Some 532,400 persons moved to Bangkok, four times the number that moved to rural areas (Litchfield et al. 1964). The rate of immigration over this period was almost double the present rate. Although there was no study of these migrants in relation to their new settlements, it was found that they tended to cluster in the less-expensive areas (such as the Crown Property Department land for which they could pay low rent), the existing congested housing areas, or on unused government land, where they squatted close to job opportunities (Chancharonsook 1979).

Many factors have been conducive to creating slums. Firstly, land in Bangkok's inner city area is normally negotiated at a very high price. Although competition for land in prime locations is keen, numerous pieces of government-owned lands have not been economically and properly used. For example, on the once-vacant piece of land of about 100 ha that belongs to the Port Authority of Thailand, encroachment began as early as the 1950s, slowly at first, and later turned the whole area into a crowded, and eventually overcrowded, squatter settlement. The number of squatter families grew from a mere 100 plus families to more than 7000 families in 10 years.

Secondly, slums can also be created through proper and legal arrangements. In most cases, crown, temple, or private land is divided and rented in small parcels (200-300 m²) to tenants at a very nominal rent. This low rent coupled with prime location with respect to job sites has encouraged the original tenants to subdivide and sublet the land to the other tenants. It is not unusual to find that such a process repeated itself many times until no empty land was available. Thus, the process gradually turned low-density to high-density residential areas and eventually into slums.

Health conditions in the slum communities reflect the squalid environmental conditions and the general poverty. A survey of 108 slum communities, carried out in 1976 by the NHA, indicated that 19% of the families had a member sick at the time of the survey. In a study of King Petch, a major slum in the centre of the city, 44% of the families had a member sick during the month prior to the survey. The major types of illness reported by the residents were colds and skin diseases, but according to local nurses, diseases endemic to the area also included malnutrition in children, intestinal infection, and respiratory diseases.

Owner occupation was the most prevalent form of house tenure. In King Petch, for example, 55% of the houses were occupied by owners. Houses frequently serve commercial, and small-scale industrial, as well as residential purposes. In King Petch, about 30% of the dwellings were used in this manner including small-scale processing or manufacturing on subcontract with larger concerns. Incomes were low, and unemployment was relatively low and short term.

**Slum-Upgrading Program**

As mentioned earlier, a change in government housing policy in 1978 resulted in an effort to upgrade the slums. An evaluation has revealed that several key factors led to this new policy. Firstly, the continuation of primacy of the Bangkok Metropolitan Area (BMA) is a magnet that attracts
large numbers of rural migrants toward Bangkok. Also, economic and other hardships which prevailed in the countryside could not be controlled. Secondly, the backlog of housing in the BMA persisted and remained unsolved due partly to the shortage of financial allocation for housing by the government. Private housing does not normally reach the poor. Thirdly, general economic hardship contributes to the proliferation of slums in the city. Proximity to places of employment has been an advantage of slum living. Lastly, slum housing is regarded as structurally sound and can be used longer. It has been estimated that existing slum housing is worth approximately B1400 (US$70) million. Eradication and destruction of such houses is considered to be unwise and wasteful.

Slum improvement is a strategy of improving physical, social, and economic conditions with a minimum of expenditure. It is aimed at ameliorating problems of low-income earners and improving the environment, public health, and services in such communities.

At the present time slum-upgrading implementation programs are under the priority plan (1979–1982) of the NHA. This plan concentrates on communities with low-income people earning less than B2500 (US$125)/month. The project is financed by the government in the form of an annual budget allocation and loans from the World Bank.

In carrying out slum improvement, at least four criteria have been taken into consideration. Firstly, areas selected for a slum-improvement program will continue to be designated low-income residential areas. Secondly, improvement of public utilities, services, etc. should be undertaken in cooperation with the other relevant government agencies. Thirdly, a holistic approach combining improvement in land tenancy, physical infrastructure, and socioeconomic programs is adopted. Fourthly, cooperation should be sought from government agencies who own land on which slums stand to assist with provision of land tenure to slum residents.

A variety of goals are pursued in a slum-upgrading program including the following:
- To rationalize the existing services and promote the installation of water and electricity;
- To improve the living environment such as access, drainage, etc.;
- To increase directly or indirectly income-generation opportunities;
- To encourage savings through improvement of the residents’ dwellings;
- To provide programs which will ensure the security of long-term land tenure;
- To maintain the flexibility in providing low-cost housing; and
- To avoid government commitment to direct construction of housing.

Slums may be improved in three ways. First, they may be upgraded as permanent residential areas. This involves the provision of public utilities and community facilities and improvement in socioeconomic conditions and land tenure. Secondly, they may be upgraded as temporary residential areas which will be used for later and possibly other development. Thirdly, slums may simply be designated for clearance. This means that they will make way for new construction or land-development programs.
Slum-Improvement Programs

Physical and Environmental Improvement Projects

These projects are basically attempts to deal with infrastructure and environmental problems through improving and constructing of necessary public infrastructure for slum dwellers such as roads, walkways, drainage, water supply, and electricity. Moreover, the program also seeks to improve services such as the garbage-collection system and landscaping. Internal security in the slums is also improved by reducing fire hazards through a fire-extinguishing system.

Social- and Economic-Improvement Projects

The aims of these projects are to increase, directly or indirectly, the income of slum dwellers. They provide the residents not only with social services that cannot be acquired by themselves such as schools, health facilities, security, parks, and recreation; but also various assistance programs in savings and debt management; drug abuse, occupational and retraining assistance; sanitation, health, family planning, crimes and delinquency, etc. The various components of these projects are implemented by setting up community organizations. Planning of the 17 social and economic improvement projects has been carried out in cooperation with other government agencies such as the Bangkok Metropolitan Administration and Family Planning Association.

The projects are being pursued over the long term and most likely will result in better living and social conditions.

Land-Tenure Project

Secure land-tenure arrangement is the primary goal of a successful slum-improvement program. Legal arrangements in slums on private land mainly take the form of 1-year leases renewable by the landlords. In the case of government lands, leases normally extend from 1 to 5 years depending on individual circumstances.

The tenure arrangement project emphasizes the security of tenure, and in the case of privately owned land, landlords are asked to extend a medium- to long-term lease to tenants. Ideally leases should extend to a 30-year term if possible.

Program Implementation

When the slum-upgrading policy and program was formulated in 1977, 26,000 dwelling units were to be upgraded during the 5-year period between 1978 and 1982. By the end of 1980, 5121 houses in 10 slum areas had been upgraded. At the same time, in 21 other slums designated in the 1979 program another 4181 dwelling units were under construction. In 19 other slums, 5089 dwelling units were ready for construction under the 1980 program. In 1981, 10,527 more dwelling units in 26 other slums were in the planning stages. This brought the total number of houses being upgraded
or planned to be upgraded to 24,918 units.

Throughout the implementation program, numerous problems have emerged, some of which have been manageable whereas others were more difficult. Among the major problems were land acquisition, the lack of understanding and cooperation from slum dwellers, and physical and socioeconomic problems.

**Land Acquisition**

Land acquisition has been a crucial factor for any slum-upgrading program. In Bangkok, where slum settlements are found to be on both the government and private land, negotiation to obtain consent of the landlord to improve a slum has been difficult and time consuming. No serious difficulty has been experienced with respect to government or the semigovernment-owned land.

Privately owned land is more difficult to acquire and the process is more uncertain. Landowners have been afraid and reluctant to allow their slum land to be upgraded. The reasons for this unwilling cooperation are understandable because upgrading means continued occupation by slum dwellers. Upgrading also reduces the opportunity of landlords to make more profitable future redevelopment. In some instances, after land acquisition had been completed, the original owners sold the land to new owners who refused to allow the slum land to be upgraded at a later date.

In practice, a lawyer from the NHA is sent to negotiate with the potential landlords as soon as a suitable slum land has been identified. The process can last a long time depending on the number of landlords involved, the size of land and its location, and the potential future uses of the land.

**Lack of Understanding and Co-operation**

At the time of implementation of a slum-upgrading program, reactions from slum dwellers have been observed to be lukewarm. Slum residents fear that upgrading is only a disguise for eventual eviction. Furthermore, the program originally involved direct and partial cost recovery on certain infrastructure investments from the residents. It was not until the reversal of the direct cost recovery policy and an intensive familiarization campaign that the residents became more cooperative and less hostile toward the program.

**Physical Problems**

Numerous minor physical problems have been encountered in all of the areas of slum upgrading. These problems are themselves a reflection of the overcrowded conditions in the slums. The expansion of roads and walkways, for example, means the inevitable removal of obstacles and properties which happen to be located within the needed right-of-ways.

Drainage constantly poses a major problem. Due to the fact that almost all slum lands occupy unfilled low-lying land and have become waterlogged, the draining of discharged water is still an insoluble problem.

**Socioeconomic Programs**

Another source of problems is related to the socioeconomic projects.
initiated by NHA that are expected to be maintained continuously by other government agencies. It has, however, been observed that budgetary constraints on the various agencies are responsible for most of the problems. Co-operation in the implementation of these projects leaves considerable room for improvement.

**Conclusion**

It is generally considered that housing problems in Thailand, even in the BMA have not yet reached a critical stage. Unlike some other big cities of the region, where a large number of people squat on public land, Bangkok's residents still enjoy relatively easy accommodation through rental or outright ownership. This trend may not continue for too long, for with accelerating urbanization, urban-housing problems are becoming more critical. The expansion of housing programs and policy must continue.

Slum upgrading has now been accepted as a means of providing housing for the poorest sectors of urban population. At the same time, proliferation of slum settlements must not be encouraged. It should be emphasized that the slum-upgrading program, as an alternative to housing construction, emerged out of necessity. All efforts should be employed to prevent the large-scale rural-urban migration that has been a main cause of the urban-housing problem.

To provide an example of how the slum-upgrading program is carried out, the King Petch project has been selected and is described in the annex.

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**Annex: King Petch Improvement Project**

Long part of Bangkok, King Petch has been in existence for many years. Cambodian Muslims first migrated and settled in this area some three generations ago, giving it its previous name of Kampong Cham, or Cambodian community. Of the three parts of King Petch, Ban Khrua is the older settlement within King Petch. For years Ban Khrua has been known for its silk-making and is situated directly across from Jim Thompson's famous house on the canal. In 1964, the building of the present Charoenphol Road opened up the area, and has apparently had more influence on the development of Wat Phrayayang and Charoenphol (the other two parts of King Petch) than on Ban Khrua.

Although the area is about evenly divided by religion, Islam greatly affects the social organization within King Petch. The mosque acts as the centre for community activities, a source of social and economic support, and a place from which to borrow kitchen utensils and other facilities for
group gatherings. The head of the mosque is elected for life or until he resigns. The mosque committee generally consists of 15 voting persons elected every four years. Women are generally not as active in the religion although older women tend to be more active.

King Petch is conveniently located near jobs, markets, several bus routes, and recreational areas. The major fear of the occupants is fire not only because of the types of house construction, but also because of the possible tenure changes that may occur after a fire in that the area may, from a landowner's point of view, be conveniently cleared. Social control is strong and local methods of security are effective; punishment of burglars is usually exercised before reporting to the police.

Although no direct information is available, Wat Phrayayang is generally considered as an area with drug addicts. The area has transient students, and others moving in and out, and, generally, more migration is directed toward this area than to the other parts.

Physical Conditions

Poor drainage characterizes most of the region in which Bangkok is located, and King Petch is subject to flooding. However, it is seldom subject to extended periods of flooding. The residents of King Petch have overcome all but the most severe flooding by building their houses and walkways above flood level. During the dry season the soil fails to dry out because surface water draining from septic tanks and other waste sources is trapped in the natural drainage areas by garbage. When the rainy season comes the rain adds to surface water fostering stagnant water, mosquitoes, odour, and other environmental problems. Wat Phrayayang has the most fill and is about 2.0 m above mean sea level (msl). Ban Khrua is about 1.7 m above msl in the northern half of the area and about 1.5 m in the southern half along the canal. Charoenphol is in the lowest area and is about 1.5 m above msl throughout. The water table is about 1 m below the surface but varies from wet to dry season.

The three areas of the community of King Petch, consisting of about 80 rai (12.7 ha), are situated along the formerly important canal Khlong Sanseab. Although it appears crowded, the density is considered medium by Bangkok standards. Generally everyone has water and electricity, but some 36% of the houses do not have direct piped water and some 24% do not have metered electricity. It is an area of mixed residential, commercial, and light industrial use.

Social and Economic Aspects

Family Conditions

In a recent survey, the average number of persons per dwelling was 6.8 persons and the average family size was 5.6 persons. Some 88% of the heads of households were men, 74% were married, 51% were Buddhists, and 46% were Muslim, and 28% had no formal education. Primary occupations of the heads of households were salesworkers, craftsmen, production workers, laborers, and service workers. Primary family income was
about B3356/month (US$17) (1978). Sixty-five percent of the families spent less than B1000/month (US$5) on food including between B100 and 200 (US$0.50 and 1.00) for rice. Expenditure on housing was relatively low, representing less than 10% of the family income.

Housing

Of the dwellings, which averaged about 25 years old, 66% were separate dwellings, 9% were family dwellings with rental rooms, 20% were wooden row houses, less than 1% were temporary buildings, and 4% were other. The houses are generally constructed of wood with corrugated iron roofs.

Community Aspects

About 70% of the heads of households thought the community was a satisfactory place to live, whereas 13% rated it as average, and 16% found it non-satisfactory. Over 75% thought that community cooperation was good, and some 80% were involved in community-oriented projects. Most were long-term local residents: 70% were born in the central region, 47% in Bangkok Metropolitan Area (BMA), and 13% in King Petch. Voluntary associations of various types were found in King Petch; however, their resources to solve social problems were limited. For example, there was a Youth Improvement Association in Ban Khrua that needed books for its library.

In recent years, residents of King Petch have made numerous improvements to their walkways and have assisted others in house construction. Moreover, an informally organized fire-protection system exists and a night watchman service, paid for by the residents, has been organized. Assistance is given at times of funerals and for those whose houses have been destroyed by fire. These aspects point to the need for significant community involvement in the planning and implementation of specific improvements.

Work

Most persons employed did not travel more than 30 min to work. Some 30% of the people felt it necessary to open a shop at their home to increase their income, and some 28% stated they would like additional work to increase their income. Only 14% wanted to change their occupation. During 1980, about 50% of heads of households took a vacation and most missed work less than 10 times.

Health

The survey reported that some 44% of the families had a member sick during the past month. The major types of sickness were colds and skin diseases. Local nurses indicated the diseases most common in the area are malnutrition in children, intestinal infection, respiratory diseases, and skin diseases. Family-planning workers usually visit most houses and advise women on methods of birth control, but, although 78% of the respondents indicated that they believed in family planning, only 25% practiced birth control.
Planning for Improvement

The major physical problems faced by the community are: the lack of adequate drainage; inadequacy of the internal circulation network now composed of narrow, unstable wooden walkways; intermittent water-supply; the lack of a refuse-disposal system; and inadequate fire protection. No schools or clinics are located within King Petch, but its inhabitants have access to several such facilities located within walking distance.

Improvements are envisaged for the King Petch area through several projects:

(a) the provision of secure land tenure to existing residents through long-term leases;

(b) improvement to infrastructure including the construction of new wooden and concrete walkways, the creation of an adequate drainage system, upgrading the water network to permit a substantial increase in water quality and consumption, the creation of a system for collection and disposal of garbage, and improvement of the fire-protection equipment;

(c) the provision for two primary school or multi-purpose buildings, to be constructed by NHA;

(d) small-scale business loans to local enterprises for the expansion of existing, or creation of new, businesses (the average loan will be around B2500 (US$125)); and

(e) social support programs to include adult training and community organization, and a participatory program to reinforce community self-help programs.

So far, two sites on government land have been selected for community facilities at King Petch, and it is envisaged that two schools or multipurpose buildings will be constructed by the NHA, requiring the relocation of five families within the slum area. Assurances have been obtained during negotiations that the relevant agencies will staff and operate the facilities.

Financing

The King Petch project will be implemented by using a World Bank loan. This loan, which will finance 50% of the total project cost, was made to the Royal Thai Government which will pass about 77% of the bank loan on to the NHA as a loan at 7.5% interest over 20 years with 5 years grace. The total improvement budget for this project is B26.98 (US$1.35) million.

Project Implementation

Physical Improvement Program

Plans to upgrade the physical condition of King Petch include the construction of public utilities such as walkways, drainage systems, garbage collection, water, electricity, and two community centres. To implement these kinds of projects, the NHA has to coordinate closely with other concerned agencies. The community advisory committees will be given an opportunity to review preliminary designs for improvements to infrastruc-
ture. The engineers on the team responsible for the design will also supervise the construction by contractors. They will work closely with the advisory committees to secure community cooperation during construction, which is likely to disrupt normal circulation patterns in dense settlements with narrow passageways.

The construction work will be completed by local contractors through a bidding process operated by the NHA.

Socioeconomic Program

To improve the employment opportunities and earnings of slum residents, projects to provide job training, credit, and technical assistance to small businesses will be run in the slums. The National Institute of Skill Development (NISD) will prepare a mobile course in a skill area (e.g., small-motor operation and maintenance) identified jointly with the NHA. In other mobile courses run by the NISD, two or three instructors have offered 30 to 60 hours of training. Community workers from the NHA will also help slum residents to seek places in vocational training courses offered by the NISD and the various divisions of the Department of Industrial Promotion (DIP) outside the community. These and other projects will be financed out of the agencies' normal operating budgets.

Loans for small businesses in the slums will be made by Krung Thai Bank (KTB). NHA community workers will identify and screen existing slum businesses that could use small loans to expand their operations. Prospective borrowers will be referred to KTB, which will assess their proposals and make the loans.

Family-planning services will be provided in the slum by the staff from BMA health centres and the Family Planning Association of Thailand (FPAT). The BMA's public health services are supported by the Family Health Division of the Ministry of Public Health which provides in-service family-planning training for paramedical staff, birth-control supplies and educational materials, and technical support and supervision. The FPAT will supplement the work of health centre staff by conducting family-planning campaigns and population awareness activities in project areas. They will work closely with BMA staff, NHA community workers, and the community advisory committees. The family-planning services will be financed out of the normal operating budgets of the BMA and the FPAT.

A day-care centre program will be organized and operated by the NHA and the concerned agencies, for example, the Association of Universities, Women of Thailand, and the YWCA. All the children will be selected for the program before the day-care centre project is operated.

A mobile medical clinic is a priority project for the slum upgrading program. The project will be done in cooperation with the BMA medical team.