Report on the Basic Survey of Population and Development in Southeast Asian Countries
– Thailand –

FEBRUARY 1985

The Asian Population and Development Association (foundation)

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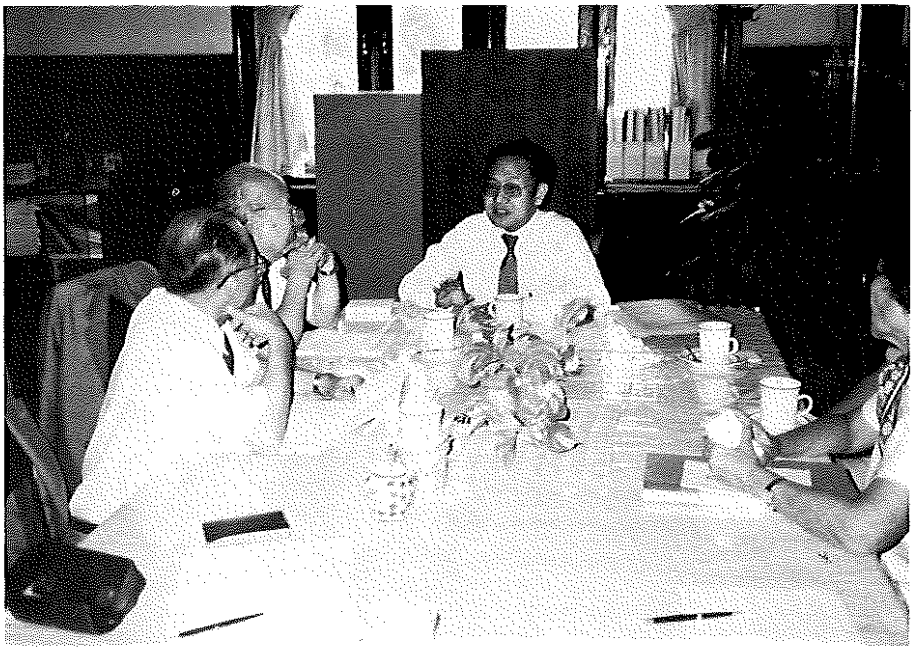
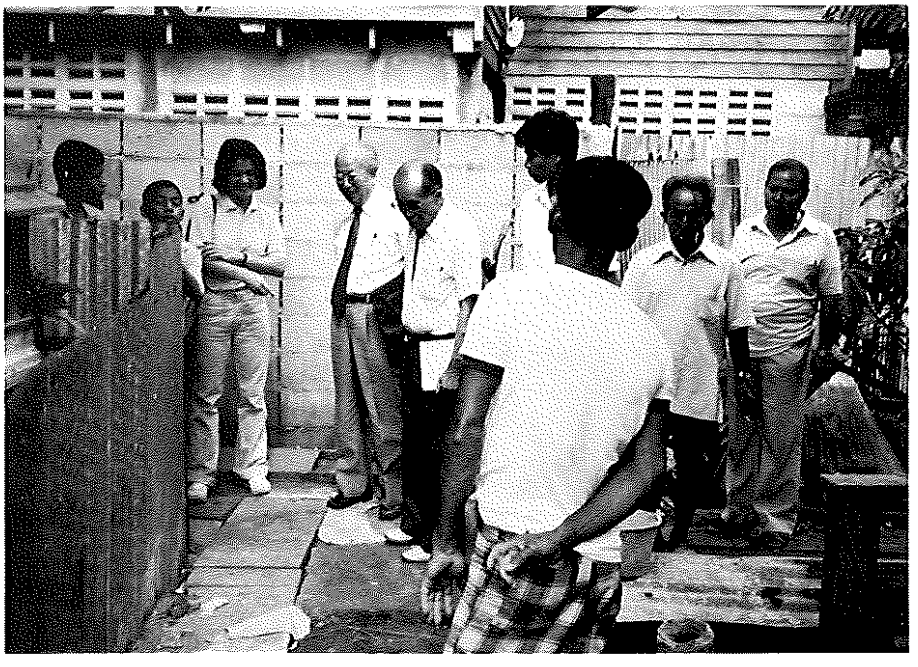


Dr. Boontium, Dty. Minister (center), Ms. Samsen, Secretary (right)
Dr. Kuroda and Dr. Yamamoto (from left)



Dr. Kuroda and Dr. Yamamoto (center) and Miss Tassane (left) inspecting Bangkok slum improvement activities

Photo of a slum dwelling

Photo of slums surveyed

Foreword

The following report represents the results of a "Basic Survey on the Population and Development of Southeast Asian Countries," consigned by the Ministry of Health and Welfare and Japan International Corporation of Welfare Services in 1983, assigned to and undertaken by The Association of Population & Development in Asia for the Country of Thailand. The survey and compilation of the results were carried out mainly by members of the Association's Committee for Study (Chairman: Dr. Toshio Kuroda, Project Director of the Population Research Institute Nihon University).

The survey was organized under the following objective. "In order for countermeasures concerning population-related issues to produce sufficient results in Southeast Asian countries, it is necessary to gain detailed insight into the nations' population growth, diseases and mortality, population reproduction, family structure, population distribution and internal migration, population structure and other topics, and to study the effects and interaction of these factors on the livelihood, welfare and health and medical care of each nation. With this understanding, the objective of the survey is to research and analyze the detailed population trends, livelihood and welfare, available health and medical services and so on of the Southeast Asian countries in order to contribute to the resolution of problems concerning Population and Development in the Asian nations.

We are indebted to the Thai Vice Minister for Transportation and Communication, Dr. Boontium Khamapirad, Member of Parliament, Ms. Samsen Vil as well as Ambassador of the Japanese Embassy in Thailand, Mr. Masatada Tachibana and First Secretary Yasunobu Takayama for their guidance and support of the survey project in Thailand, as well as to the members of the Bangkog Regional Development Project, who accompanied and supported the Japanese staff members during the course of the survey. In Japan, the kind quidance and assistance of the persons concerned in the Division of Policy and Evaluation of the Secretariat to the Health & Welfare Ministry and the Foreign Ministry's Economic Cooperation Bureau are gratefully appreciated. I wish to extend my deepest gratitude to these people.

In closing, I sincerely hope that the following report may be instrumental in effectively promoting Thailand's future Population and Development Programs and the cooperative efforts being made by the Japanese government.

This report was compiled under the responsibility of APDA. It should be noted that any of the comments included in this report does not reflect opinions or policies of the government of Japan or the Ministry of Health and Welfare.

February 1985
Tatsuo Tanaka
Chairman, Asian Population
and Development Association

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CHAPTER 1: Introduction

Population problems and population studies have undergone dramatic changes since WWII. The conclusion of the War triggered the advent of population problems hitherto unwitnessed in the history of mankind. They were, in short, the unprecedented leap in the populations of nations after the war which formerly mere colonies to the so-called advanced industrialized nations of today - i.e. nations currently referred to as developing countries. During the 1950s and 1960s, issues concerning how to deal with the population explosion, hailed the human crisis, became a high priority item for the United Nations and for professionals over the world. In realistic terms, the central theme of population studies was concerned with how to reduce fertility through such countermeasures as fertility regulation and family planning. The 1972 report entitled "The Limits to Growth" was a representataive manifestation of scholars sharing similar humanistic interests. The 1974 World Population Conference in Bucharest, which spotlighted the population policies of government representatives of the world, who unparalleled in the history of U.N. conferences in terms of its scale. One may summarize this era as the age of family planning, when colossol volumes of brains, goods and money were mobilized.

A decade following the Bucharest meeting, the 1984 International Population Conference in Mexico triggered a transition from population issues and research centered around family planning or fertility question to a more comprehensive research issues which integrates population processes and population factors into a comprehensive development program. In U.N. terminology, the 1980s is the decade of population and development. The same slogan was already the focal issue at the 1982 U.N. Asia and Pacific Population Conference (Colombo, Sri Lanka). An international populaion problem study group, organized mainly by parliamentations, has begun enthusiastic activities related to the study of and countermeasures against population problems, with population and development as the central theme of discussion. The Asian Parliamentarian Conference on Population and Development in Beijing in October 1981 had epoch-making significance for Asia, currently burdened with the largest share of the world population and hence serious population problems.

The relationship between population and development is extremely complex. It remains academically unexploited, and contains still many unknowns. However, what is apparent is the inseparable relatioship between population and development. The word "development" generally covers economic and social development, but policy-makers in charge of development programs are all too aware of the need to give careful consideration to population factors in formulating development plans. No programs are viable if they fail to consider the size of the population; age structure, and the changes in population.

Nevertheless, the relationship between population and development is too complex to allow an accurate prediction. This is particularly

due to the fact that they interact with each other. Social and economic changes influence such factors of population change as births, deaths and migration, and the resulting shifts in these vital factors in turn produce new effects on the social and economic conditions. If, in fact, development plans are intended to bring about changes in the social and economic environments, then these plans must take into consideration the possible repercussions of the intended social and economic changes on population factors, as well as the consequent social and economic effects of population changes.

Yet one phenomenon that has been reconfirmed up to the present, is that an excesively high population increase rate will inhibit economic growth, and thus hinder modernization in the borad sense of the word. Therein lies the reason why most Asian nations follow active population growth restriction policies today. However, the Western experiences with demographic transition in the past have given ground to an insistent support for the "developmentalists position" which claims that a reduction of both the birth rate and population growth is impossible without economic development. However, it is noteworthy to see an increasing number of case where severely under-developed economies have succeeded in lowering their birth rates. Sri Lanka, Java in Indonesia, the Kerala state in India, and more recently China have experienced dramatic declines in thier birth rates, testifying to the efficiency of these nations' well-founded population policies to reduce the number of births. The appearance of totally diferent phenomena in the developing countries, from the process of a decling birth rate seen in the past in Western nations without any population control policies, is well worthy of consideration.

Of course, economic growth continues to be a factor in promoting reduction of the birth rate. The revolutionary drop in the birth rate of Singapore was proven to be the result of a joint effect of tough fertility control policies compounded by rapid economic growth. In South Korea and Taiwan, the process of reducing the birth rate was almost silimar to that of Sigapore.

The Thai population and development survey, undertaken by ourselves with the energetic cooperation and assistance of the Thai government, unveiled the fact that a dramatic drop in the nation's birth rate was borne out of the government's vigorous family planning efforts to diffuse the practice, and the achievement of high economic growth.

The survey was based on an on-the-spot investigation of the slums in Bangkok, but an exchange of opinions was conducted concurrently with specialists positioned in the government ministries and agencies concerned, the Institute of Population Studies, Chulalongkorn University, and the Institute of Population and Social Reserch, Mahidol University, on the current status and population policy problems centering on the economy, population, social welfare, public health and

sanitation activities as well as family planning on a nationwide level. Of the nearly 500 slum districts in Bangkok, the survey team members engaged in on-the-spot research on as many sites as time allowed (7 districts). The crucial finding in this research was the fact that Thai slums distinctly differ from those of other nations. The most outstanding features of Thai slums are the relatively high living standards, and small family size or small number of children. Almost all families owned durable consumer goods such as TVs, radio-cassette recorders, electric rice cookers, electric fans, and some even electric refrigerators. It soon became apparent that the relatively high standard of living in the slum districts reflects the wide permeation of the fruits of Thailand's high economic growth. In other words, the living standards in the slum districts cannot improve independent of nationwide economic growth. Although the nation's economic growth rate has begun to decline to the 4% level since last year, the country sustained high economic growth of 7%-or-over until that time. The figures indicate a substantial gain in the Thai people's standard of living, which in turn elevated the living standards of even the slum dwellers.

The second feature is the small numer of children in slum families. Although the results of a questionnaries survey we implemented have yet to be compiled, the results of other surveys show that the average number of children per slum family is 2.4 or 2.5. This fact indicates that the family planning practice has sufficiently penetrated Thai slum society. The outstanding decline in the birth rate in Thailand can be regarded as a distinct reflection of the effective dissemination of the above-mentioned measures. The average annual birth rate during the period of 1975-80 was 37.5 (crude rate or the number of births per thousand population; based on the 1979 UN materials), whereas, the rate dropped to 21.6 in 1983 showing the outstanding decrease of the 1980s. This decline in the birth rate during the past ten years is remarkable, though possible under-registration of births should be taken into cosideration.

According to a government official, future family planning measures will be focused on four major regions or groups; the southern area, northern mountain people, approximately one million factory workers, and the slum population. The successful results of family planning among the slum population explained above may indicate the possiblity of reducing the birth rate to the level of 20 or less. The high economic growth in this country is also one important factor which has accelerated population policy effect.

Needless to say, the situational analyses of Thai economy and the populations mentioned above are based on short-term observations, possibly with some uncertain or incorrect conclusions, leaving the necessity of further detailed surveys and research projects. Nevertheless, one obvious aspect of the problems posed this time is the delay in social welfare policy under high economic growth, a similar

situation also experienced in Japan. This is obviously presented by the fact that the slum area, having deteriorated environmental conditions, is still in existence in spite of the favorable progress in the standard of living in this area. This may be phenomenon exlusive to slum areas. Even in the history of many other nations, including Western Europe, the delay in developing the social infrastructure has been an inevitable problem, which unfortunately exhibits the difficulties of implementing well-balanced economic and social development. Whether developed or developing, nations are more or less suffering from an inconsistency between economic and social development.

The remarkable achievements in the area of population and development in Thailand will prove to be a useful lesson to many other developing nations. Furthermore, it is our expectation that the further enforcement of social development in Thailand will lead to affluent national living standards in excellent balance with her economic development.

We also expect analyses of the field survey conducted in Bangkok bring forth valuable findings, though sample size is very small. Identification of hypotheses derivea from micro observations by macro observations and vice versa is the common research methodology. The microanalyses of the limited survey observations obtained this time in the Thai slum could be identified with general trends based on a nationwide level. The consistency between both micro and macro phenomena could be recognized. The future task will be to acquire new knowledge based on the questionnaire results obtained at the slum as well as to analyze the macro basis and to examine the universality of the hypotheses produced by new findings; that is, whether it can be applied to nationwide macro phenomena.

Finally, we would like to express our sincere gratitude to the enthusiastic cooperation and assistance extended by Dr. Boontium Kamapirad who actively works with the humane intention of improving the quality of life of the Thai people.

CHAPTER 2: Thailand -- General Outline

1. The Land

Thailand, located in the southeast region of the Asian continent, lies between 6 to 20° north latitude and 97 to 106° east longitude. The capital city of Bangkok (Krungthep) is located approximately at the nation's center at 13°45' north latitude and 100°31' east longitude. The geographical location of Thailand is an important factor in understanding the ecological conditions of the nation. That is to say, in Thailand, a developing country where agriculture is the mainstay industry, the low level of basic technology in agriculture has resulted in the situation where the economy and society of Thailand is highly dependent on the natural conditions. 80% of the people live in rural communities, devoting a large portion of their lives to farming and dialy living activities which have adapted to and incorporate the natural features of the nation.

Thailand covers a land area of 513 thousand km^2, approximately 1.4 times that of Japan. Bordered on the east by Cambodia, northeast by Laos, west by Burma and south by Malaysia, Thailand's border populations are a mixture of racial characteristics of the respective neighboring countries. 70% of its land mass consists of plains or rolling hills, and this land is arable if irrigated. The reamining 30% of land is mountainous, but there are no steep ridges. The highest peak is 2,297 meters (Mt. Doi Pha Hom Pok). Due to these topographical conditions, the majority of Thailand's farming communities are colonies situated on the open plains or on hilly flatlands. Mountain villages typical of Japan are rare. While the colonies on the plains are villages situated along rivers and canals, those in the hilly areas are closely located to each other on the river banks, and help prevent flash floods during the rainly season. Isolated houses are a rare form of rural community in Thailand. The such formations of Thai rural villages are believed to have a significant effect on the characteristics of village communities.

As can be gathered from its geographical location, the climate of Thailand, which is one of the major natural factors greatly affecting the lives of its people, is tropical in the southern half of the nation and sub-tropical in the north. The entire land is affected by monsoons. These climatic conditions have formed three different vegetational climate zones in Thailand; tropical rain forests in the south and southeast regions, sub-tropical rain forests in the central and northern regions and savannas in the northeast. Furthermore, the nationwide effect of monsoons has divided the Thai climate cycle into two distinct seasons; the rainly season (May to October) and dry season (November to April). (For this reason, 4 distinct changes of season do not occur as in Japan). Thailand's climatic cycle greatly affects the nation's industrial activities as well as the annual life cycle of its people, which has been adapted to suit the seasonal changes. Thailand's traditional farming, centered around the staple rice production, is mainly a once-a-year crop dependent on the natural

rainfall during the monsoon season (May to October). (Biannual harvests are possible on irrigated land and areas with access to abundant water). The rice-growing cycle of plaughing (April) - seedling growth (May - June) - rice planting (June - July) - rice plant growth (August - October) - rice harvesting (November - December) - shipment (December - January) - field burning (February - March) and back to plaughing, is adjusted to the seasonal changes in precipitation. In additon, the production cycles of crops such as sugar cane, corn, cassava, tobacco, kenaf and fruits are integrated into the basic rice-growing cycle (refer to Fig. 1, Harvest Calendar of Major Crops).

Another natural factor of Thailand which greatly influences the life-style of its people is the absence of major natural disasters. For example, 1) the absence of earthquakes eliminates the need for earthquake-proof architectural structures such as houses, high-rise building, bridges, piers and dams; 2) the absence of typhoons and violent storms allow cost savings in protecting houses and the land from strong winds and downpours; and 3) the tropical or sub-tropical climate and the absence of freezing temperatures do not necessitate housing facilities and clothing to protect one from the cold. All of these factors have a positive effect on the livelihood of the people because they allow reduced living costs. The people also do not have to worry about preparing for possible disasters. The average annual temperature in Bangkok is 28.7°C, annual rainfall 1,236.4 mm with 133 days of rain, average humidity marked 76.4%, and no sensible earthquakes or typhoons have been recorded (all figures as of 1978).

2. The People

The population of Thailand has reached 50 million in 1984. The following are the results of various population censuses conducted up to the present (Table 1). The Table indicates that what was once a comparatively slow population increase up to the 1947 census suddenly began to increase sharply. The trend may be attributable to a shift in the population growth structure from high-birth-high-death prior to World War II, to high-birth-low-death, brought about by the development and diffusion of medical drugs and services. The high-birth-low-death population growth continued from the 1950s to the mid 70s, sustaining rapid population growth until just recently. After a period of 6 years, this population growth triggered a rapid increase in the number of school children, and after a span of some 15 years, Thai society was faced with a drastic growth in the working population. As Thailand finally begins the shift to a low-birth-low-death population structure with the diffusion of education related to family planning, it seems that the nation has obtained the prospect of restricting its population growth. As far as population density is concerned, Thailand has only less than half the population of Japan living on 1.4 times the area. Thailand's

population density of 87 persons per square kilometer is low, and when measured by Japanese standards, most of Thailand, excluding a few urban centers, are "underpopulated areas". This point must be fully considered in the drawing up of Thailand's regional development strategies.

85% of the population of Thailand is comprised of the indigenous Thai or Lao peoples, 10% overseas Chinese, and 5% Malay. In addition to these easily identifiable large racial groups, there are a few ethnic minority groups such as the Meo's, Yao's and Karen's. Thai is the official language used throughout the nation, with the exception of some overseas Chinese and Malay communities where the Chinese (mainly Chaochou) and Malay languages are respectively used in daily life.

More than 90% of the people are Buddhist (Hinayana/Theravada Buddhist) followed by Muslim, Confucian, Christian and Hindu. The Muslim population is primarily comprised of Malays living in the southern region, but certain Muslim followers are found among the Yunnan origin Thai in the north. Confucianism is honored by the overseas Chinese, while the Indians hold Hindu in high regard. In the Southeast Asian setting, Thailand is a unique nation where different religions and races live side by side in peaceful co-existence. Other Southeast Asian nations have been frequently and seriously troubled by religious and racial strife. And riots and violence directed particularly at the overseas Chinese, have often jolted a certain nation's political and economic systems. Conversely, in Thailand, it is noteworthy that no riots against the overseas Chinese have taken place in the past. Education is stil below standard. Although schoolaged children up to the fourth year of the six-year compulsory education system attend school regularly, school attendance drops to approximately 50% by the sixth grade. Secondary education at the present consists of 3 years of junior high school and 3 years of high shool. The attendance rate is 30% in junior high school and 20% in high school. The Thai school education system was revised in 1978 from the previous 7-5 system to the 6-3-3 system, and is currently in the final phase of transition. Higher learning is offered at 15 national universities, 11 private colleges, 147 advanced professional schools, 4 military and police academies, and others. Although 14% of high school graduates advance to higher learning, the attendance rate, excluding those who study in open classes at Ramkamhaeng University, is only 5% to 6%. In summary, the Thai education system faces the pressing tasks of 1) nationwide enforcement of compulsory education, 2) up-dating the school curriculum, and 3) improving and expanding higher education.

Table 2 identifies the key characteristics of the Thai Manpower Structure by presenting 1) the working-age rate 2) dependency ratio, 3) the economically active population, and 4) the number of the employed by industry. One will note that the effects of the

population explosion up to 1970 were seen after a 15-year time period in the 1980s when the previous scenario of small-working-age-population versus large-dependent-population switched to one of rapid increase in the working-age population and a drop in the number of dependents due to the explosion of labor face. Yet the overwhelming majority of workers are still employed in the agricultural sector; a persisitent vestige of the traditional industrial structure. (Refer to Table 2) In Thailand, women account for a large percentage of the economically active population. They are in actual life, an important labor force not only for agriculture, but also in various fields of industry.

In summary, it would be difficult for Thailand, at its present economic status, to provide its people with sufficient incomes, schooling and employment opportunities.

3. Politics and Government

The political system of Thailand may be slightly outdated in terms of its structure when viewed in light of the global political trends of the present. Many crucial requirements including the reflection of the wishes of the governed in politics, safety on people's lives and properties, and administrative services for the Thai people remain less than satisfactory. In Thailand, military regimes have been in power for most of the postwar era. The nation has only experienced a total of 3 years of civilian or democratic rule; for a short period of time immediately following the World War II, and the period between 1973 and 76. On the other hand, the minitary has held the reins of government for 36 of the 39 postwar years, and changes in regime were often achieved by coupd'etat. For these reasons, the rule-making regarding the transformation of government, the incorporation of the wishes of the people in politics and the enforcement of political administration have yet to be fully established within the Thai political system. As a result of these factors and complicated by the inexperience of the Thai people regarding democracy, politics as a system has not taken root among the people.

As indicated above, many characteristics can be found in the political and administrative systems of Thailand. In this paper, however, the following four basic points are given attention. Firstly, Thailand is a constitutional monarchy having a dual mechanism of political decision-making; the King's prerogative of supreme command, and Parliamentary vote. The Thai administrative system is easily understood by the people of Japan because Japan had adopted a similar political system for the period beginning from the Meiji era to the end of World War II. The assembly consists of two Houses (the assembly system has undergone several changes, and the present system is based on the 1978 Constitution). The Upper House members are

nominated by His Majesty the King, and the Lower House representatives are elected by general election. Important bills are determined by vote at joint meetings attended by the members of both Houses. Furthermore, the Prime Minister is appointed by the King, and does not necessarily have to be a member of Assembly.

Secondly, the mechanism of local government is comprised of the administrative organs of the central government - province (changwats) - district (amphoe) - township (tambon) and village (muban), of which the province and district play the key roles. The provincial governor and district chiefs are appointed by the Minister of Interior, and the district chief in turn supervise town and village mayors. In some cases provincial, district, or town assemblies may be organized outside this administrative framework, but such assemblies possess little autonomy. Bangkok and Pathaya City are designated as "special cities". In summary, local government bodies are in fact under the jurisdiction of the Minister of Interior of the central government, and public participation in local politics is limited. The administrative services of local government organizations are for the mos part carried out by the central government.

A third primary feature of the Thai political system is that government essentially plays the role of a "vigilant (night guard) state," whose services are relegated to the minimum requirements. That is to say, the Thai government's task is to organize the land and its people under the supreme command of the King, develop the core of its administrative mechanism around an organization for security and public order (armed forces and police) and tax collection (the Ministry of Finance), and then conduct any additional administrative tasks. As a result, the Thai government's functions as a welfare state fall far short of those of the majority of the developed nations. This remains to be a major issue for Thailand in its pursuit of social development.

A fourth characteristic of Thailand's politics and government is its extreme sensitivity to the world politics. The U.S. Asian strategy implemented following the end of World War II, and the war in the neighboring country of Vietnam represent political experiences which cannot be overlooked in grasping Thai politics and government. They were in fact what have determined the basic nature of Thailand's political and administrative framework as it exists today. Thailand's past reliance on foreign aid for the construction of a social and economic infrastructure in particular raises questions concerning to what degree this nation can sustain and develop itself through self-help efforts.

The present government organization of Thailand is as illustrated in Figure 2.

The Thai government also consists of organizations other than those presented in Fig. 2 under the status of independent agencies. They are 4 divisions related to the Royal Household, the office of the Audit Council, the Secretariat of the National Assembly, and Bangkok Metropolitan Administration. 65 public corporations and agencies operate as relatively independent organs from the Ministries and Agencies with which they are affiliated.

4. Economy and Economic Policies

The Thai economy has made dramatic strides since the 1960s. The average annual economic growth was 7% in real terms throughout the 60s and 70s. During this time, Thailand had developed itself from an under-developed agrarian country to achieve a certain degree of industrialization as well as expanded exports of primary commodities. With a gross domestic product (GDP) of $40.4 billion and a per-capita-national income (GNP) of $793 (both in 1983), Thailand is now at the threshold of joining the Newly Industrialized Countries (NICs). Yet, the economy remains essentially geared for an agricultural state, and farming continues to generate the highest national income among the nation's industries. Although rice is still the staple of Thailand's farming industry, the past 20 years have witnessed an increase in the variety of primary commodities for global trade. The development of corn (maize), cassava, sugar cane, beans, pineapple, etc. has promoted diversified farming. Because Thailand has traditionally been an abundant exporter of foods, (mainly rice), the diversification of farm production led directly to the development of export goods. At the present, rice, corn, cassava, sugar, beans, rubber and pineapple, along with marine products such as prawns and squid, and mineral product of tin account for more than 60% of Thailand's total exports. In this sense, agriculture plays a crucial role in the Thai economy. Furthermore, the fact that Thailand is a powerful exporter of food items has contributed significantly to the stability of agricultural communities in the nation, in contrast to other ASEAN countries which have always had to import their food, despite having similar industrial structures as that in Thailand.

The industrialization of Thailand, which entered full development in the late 60s, was a process of import substitution; that is to say, the transfer of coventionally imported consumer goods and manufactured products to domestic production. For this reason, coupled with the scarcity of natural resources, Thailand's industrialization efforts were one-sidedly concentrated on the light industries i.e. home electric appliances, textiles, sundry goods, food and car assembly, and not very much on heavy industries. As industrialization progressed in light industries, the country became more and more dependent on imported raw materials and intermediate commodity. In addition, because the instruments of industrialization were often joint venture foreign-capital companies, such industries were situated

around Bangkok or the surrounding areas for the purpose of allowing easier access to raw materials and intermediate commodity, proximity to large consumer areas, and sufficient living facilities for foreign employees. In conclusion, although the industrialization of Bangkok has progressed steadily, the industries were unequally distributed, generating regional economic disparity.

The Thai economy is about to undergo a major structural shift as it enters the 1980s. The causes are multiple: 1) an increase in oil and other energy costs; 2) stagnation of export prices of primary commodities; 3) worldwide economic stagnation; 4) an increase in accumulated foreign debts; and 5) fiscal deficit in the government. To cope with such conditions, the Thai government has hammered out countermeasures which include 1) making full use of private sector, 2) restraining overseas borrowing, 3) restricting public investment, 4) promoting exports, and 5) improving economic efficiency. Fortunately for the Thai people, a natural gas development project in the Gulf of Siam has entered commercial production, allowing a cut-back in oil imports. In 1984, the economic upturn in the U.S. was partially carried over to the Thai economy, and a certain amount of Hong Kong capital flowed into Thailand in search of refuge in the face of eventual return of the British colony to China. Both support what appears to be a comparatively steady economic growth over 1983 and 84.

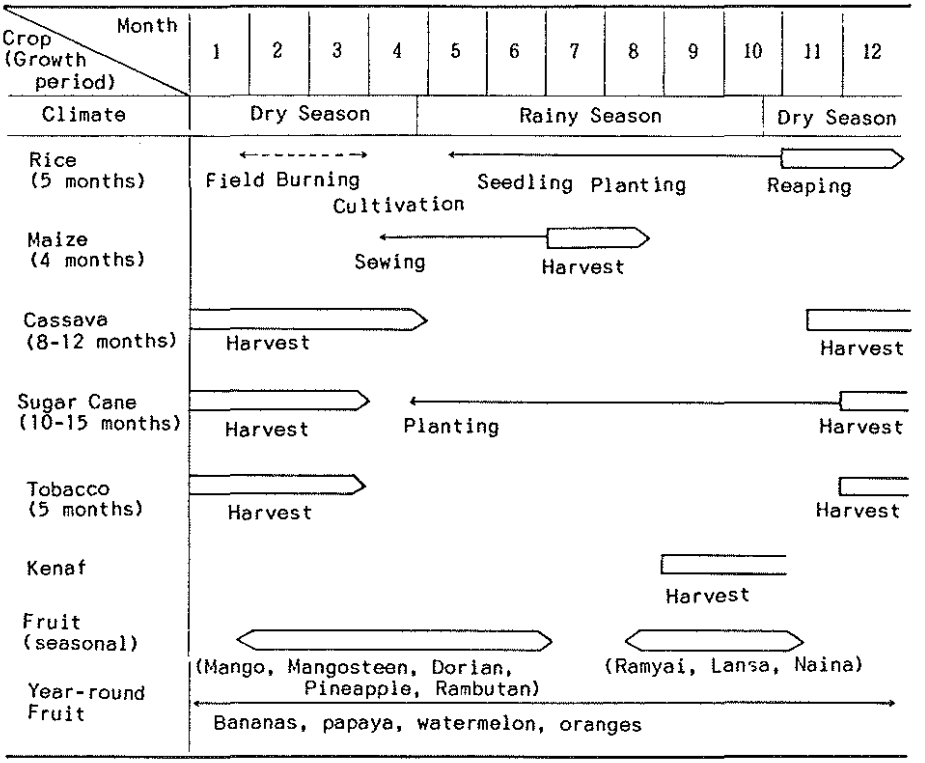
As for Thailand's Economic Development Plans, the First Economic Development Plan (Jan. 1961 - Sept. '66), the Second Economic and Social Development Plan (Oct. 1966 - Sept. '71), the Third Economic and Social Development Plan (Oct. 1971 - Sept. '76), and the Fourth Economic and Social Development Plan (Oct. 1976 - Sept. '81) have been implemented, and the Fifth Economic and Social Development Plan (Oct. 1981 - Sept. '86) is now in progress.

Thailand's economic growth entered full development in the 1960s following the introduction of the Economic Development Plan, and consolidation of infrastructure by public investment to promote industrialization has been implemented. The target and achievements of each Economic Development Plan are shown in Table 3. The First Development Plan fueled active private investment in industry, and promoted private-led industrialization. It was also at this time that the government launched major infrastructure projects such as the Phumipol hydro-electric plant, the Mekhlong irrigation project, the construction of national roads, and improvement of the railways. The Second Development Plan emphasized the appropriate distribution of income, the enhancement and diversification of agricultural production, increased employment, and upgraded education along with economic growth. Activities were directed at developing electric generation, irrigation and roads as well as communications, telephones, port facilities, and industrial financing. The Third Development Plan was geared to maintain the momentum of development, but with additional emphasis on an improved economic structure,

correction of income disparities, development of human resources, and decreasing population growth. The Third Economic Plan coincided with a succession of turbulent developments on the political and economic scene, both within Thailand and abroad. The 1971 Nixon Shock, the 1973 student rebellion and the first oil crisis, and the fall of South Vietnam and its capital of Saigon in 1975 were all developments which rocked Thailand. However, although real economic growth during this period declined to 6.2% as shown in Table 3, the drop was cushioned by the developmental effects of the two previous Economic Plans and a hike in the international price of primary commodities. Business recovery, curbed population growth, increased employment opportunities, environmental protection, defense buildup and stable farming villages were underlined in the Fourth Five-year Economic Plan. The industrialization of export-oriented industries and the agro-industry was believed to have numerous positive prospects. The scale and number of development projects were greatly enhanced in the Fourth Economic Development Plan, and efforts were directed at such diverse fields as telephones, public housing, school education, agricultural financing, water supply, fisheries and the development of farming communities in addition to the traditional target areas of electric generation, irrigation and road construction. The Fifth Five-year Plan, undertaken in the wake of the second oil crisis and the resulting world-wide recession, focuses on correcting the imbalances in social and economic devlopment created as a result of past development schemes.

In summary, economic development efforts, which began more than 20 years ago in the 1960s, have improved the absolute standard of living of the people, and facilitated the modernization of Thailand's economic structure. Farming villages, once semi-self-sufficient economies which tended to become isolated in the rainy season, have advanced through the construction of roads from a livelihood bare of any of the benefits of modern civilization to societies accessible by car. The increased production of rice, maize and other primary commodities for export, and the practice of farmers seeking employment in other sectors during the off-season has promoted the diffusion of the commodity and monetary economies. It has also enriched the people's lives with a variety of quality consumer and manufactured goods at low prices, bringing about significant change in the people's life-style. The urbanization of Bangkok and other major cities has been accelerated by taking full advantage of the benefits of development. This has proceeded to a point where the urban administration cannot keep up with the pace of rapid growth. The pending, crucial task for Thailand will be how it can sustain and develop its society and economy independently now that the transition has been completed from an economically poor but more-or-less independent social economy, to one which relies on imported technology, goods and life trends.

Fig. 1 Harvest Calendar of Major Crops



Remarks: There exist substantial differences in the above schedule according to the type of plant and region. The above figures simplify these differences.

Fig. 2

Organization Chart, Royal Thai Government

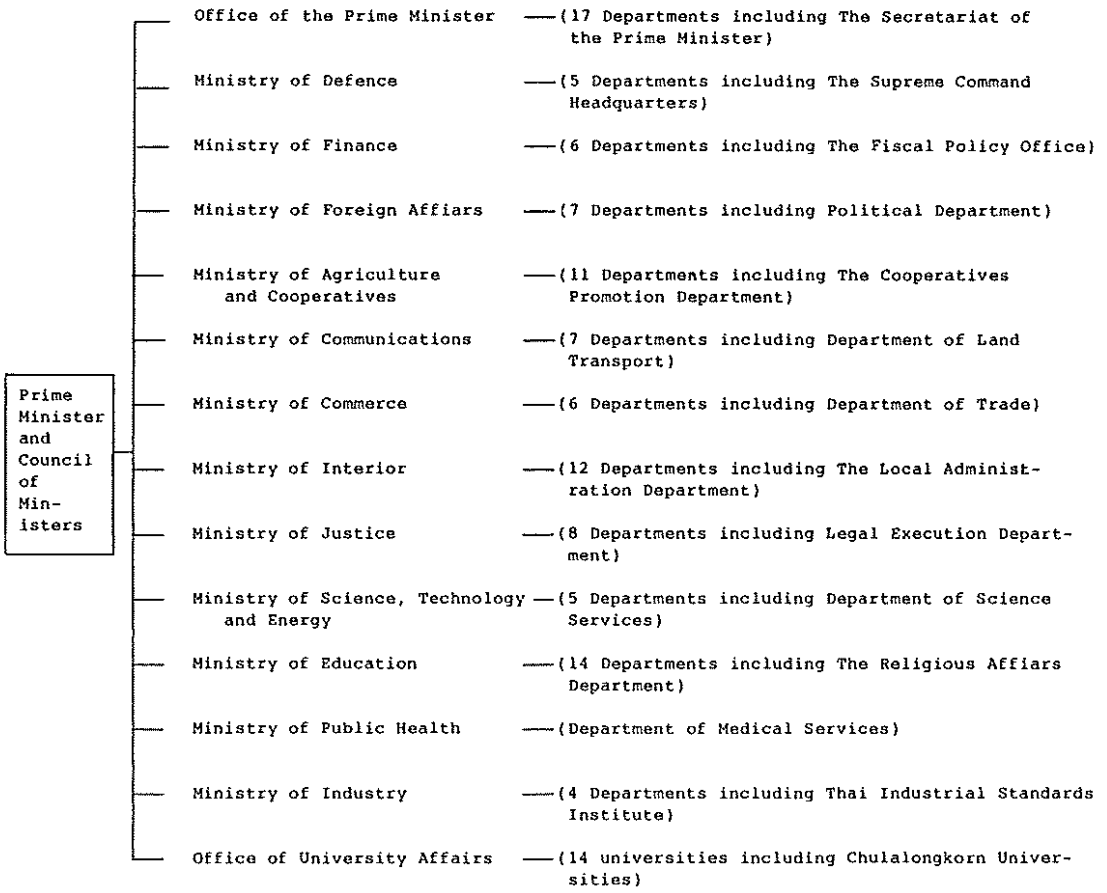


Table 1 Population of Thailand

CENSUS YEAR	TOTAL POPURATION	ANNUAL INCREASE RATE	DENSITY (person/Km²)
1911	8,266,408		16
		1.4	
1919	9,207,358		18
		2.2	
1929	11,506,207		22
		2.9	
1937	14,464,105		28
		1.9	
1947	17,442,689		34
		3.2	
1960	26,257,860		51
		2.8	
1970	34,397,374		67
		2.7	
1980	44,824,540		87

Table 2 Manpower Structure

	1960	1970	1980
I. Working-Age Rate	52.6	50.8	58.2
II. Dependency Ratio	90.3	96.9	72.0

III. Economically Active Population	1960			1970			1980		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Actual Number (thousand)	6,658	6,099	12,757	8,120	7,042	15,162	11,166	9,275	20,441
Percentage (%)	50.6	46.5	48.6	47.4	40.8	44.1	50.0	41.2	45.6

Note: The economically active population = Aged 15 and over

IV. Employed Population(thousand) by Industry (%)	1960			1970			1980		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
1. Agriculture, Forestry & Fisheries	5,576	5,758	11,334	6,636	6,566	13,202	8,348	8,473	16,821
2. Mining	22	7	29	64	23	67	65	29	94
3. Manufacturing	294	177	471	391	291	682	696	612	1,308
4. Electricity, Gas, Water	15	1	16	22	3	25	51	9	60
5. Construction	62	6	68	155	26	181	286	67	353
6.7. Commerce	363	417	780	403	473	876	732	972	1,704
8. Transportation, Communication	157	9	166	252	16	268	382	34	416
9. Service	458	197	655	754	430	1,184	1,106	774	1,880
0. Unknown	159	93	252	107	39	146	375	270	645
Total	7,107	6,665	13,722	8,785	7,867	16,652	12,041	11,240	23,281
1. Agriculture, Forestry & Fisheries	78.5	86.4	82.3	75.5	83.5	79.3	69.3	75.4	72.2
2. Mining	0.3	0.1	0.2	0.7	0.3	0.5	0.5	0.3	0.4
3. Manufacturing	4.1	2.7	3.4	4.5	3.7	4.1	5.8	5.4	5.6
4. Electricity, Gas, Water	0.2	0.0	0.1	0.2	0.0	0.1	0.4	0.1	0.3
5. Construction	0.9	0.1	0.5	1.8	0.3	1.1	2.4	0.6	1.5
6.7. Commerce	5.1	6.2	5.7	4.6	6.0	5.3	6.1	8.6	7.3
8. Transportation, Communication	2.2	0.1	1.2	2.9	0.2	1.6	3.2	0.3	1.8
9. Service	6.5	3.0	4.8	8.6	5.5	7.1	9.2	6.9	8.1
0. Unknown	2.2	1.4	1.8	1.2	0.5	0.9	3.1	2.4	2.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Compiled from population Censuses. The economically active population aged 11 and over

Table 3 GDP, Growth Rate, Target and Achievement (%)

Industry	1st Development Plan Achievement	2nd Development Plan		3rd Development Plan		4th Development Plan	
		Target	Achievement	Target	Achievement	Target	Achievement
Agriculture	4.6	4.3	4.1	5.1	3.9	5.0	3.0
Mining	10.9	6.6	8.1	6.0	-0.5	3.2	11.2
Manufacturing	10.2	10.9	9.2	8.0	8.6	9.6	9.0
Construction	12.3	11.4	8.4	6.5	4.0	3.0	11.7
Electricity· Water Supply	18.2	18.0	20.7	15.0	14.4	11.3	10.9
Transportation· Communication	9.0	11.0	7.5	6.0	8.1	7.4	8.7
Wholesale·Retail Trade	8.0	8.4	7.7	7.0	4.8	6.3	6.2
Finance	16.6	17.0	14.4	15.0	5.1	8.1	14.4
Real Estate	3.7	5.0	4.1	2.5	3.6	4.4	5.0
Public Administration	7.2	12.0	10.0	6.0	6.0	6.5	9.0
Service	6.0	9.5	8.8	7.0	8.2	7.8	9.7
G D P	7.3	8.5	7.2	7.0	6.2	7.0	7.3

Note: 1. The First Plan targeted 5.5% growth in GDP.

Source: "An Economic Outline of Thailand" (1982-1983 Edition), Japanese Chamber of Commerce in Bangkok.

Table 4 Gross National Product by Industrial Origin (Unit: Millions of Baht)

Year	1979		1980		1981		1982		1983	
Industry	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
Agriculture, Forestry & Fisheries	147,076	26.4	173,806	25.4	187,886	23.9	188,742	22.3	202,787	21.8
Mining	12,614	2.3	14,493	2.1	13,373	1.7	14,807	1.7	16,303	1.8
Manufacturing	109,740	19.7	134,515	19.7	158,272	20.1	164,659	19.5	172,532	18.6
Construction	29,240	5.3	39,865	5.8	42,008	5.3	43,040	5.1	46,880	5.0
Electricity & Water Supply	6,075	1.1	6,284	0.9	10,743	1.4	14,454	1.7	16,390	1.8
Transportation.Communication	37,844	6.8	45,261	6.6	57,281	7.3	63,133	7.5	73,043	7.9
Wholesale-Retail Trade	102,853	18.5	128,731	18.8	150,293	19.1	159,849	18.9	176,577	19.0
	31,396	5.6	41,891	6.1	52,025	6.6	61,021	7.2	71,991	7.8
Ownership of Dwellings	6,297	1.1	7,378	1.1	8,411	1.1	9,912	1.2	11,138	1.2
Public Administration	21,623	3.9	28,263	4.1	30,645	3.9	37,349	4.4	42,261	4.5
Services	51,482	9.3	64,443	9.4	75,229	9.6	89,170	10.5	98,636	10.6
G D P	556,240	100.0	684,930	100.0	786,166	100.0	846,136	100.0	928,548	100.0
Net Income from Abroad	- 9,791		- 12,490		-21,787		-26,376		-26,087	
G N P	546,449		672,440		764,379		819,760		902,461	
Per capita GNP ((baht)	11,843		14,475		16,096		16,906		18,247	
" (US$)	592.1		723.8		699.8		735.0		793.3	

Source: Bank of Thailand "Quarterly Bulletin" March 1984.

Note : The per-capita national income is computated at the following exchange rates

1 US$ = 20 bahts in 1979, 1980
1 US$ = 23 bahts in and after 1981

Table 5 Total Value of Major Exports & Imports (Units: Million of Baht)

Item \ Year	1979		1980		1981		1982		1983	
		(1,000tons)		(1,000tons)		(1,000tons)		(1,000tons)		(1,000tons)
Total Exports	108,179		133,197		153,001		159,728		146,472	
Rice	15,592	(2,797)	19,508	(2,800)	26,366	(3,032)	22,510	(2,784)	20,157	(3,476)
Maize	5,644	(2,014)	7,299	(2,203)	8,349	(2,575)	8,330	(2,831)	8,486	(2,659)
Cassava	9,891	(3,961)	14,887	(5,218)	16,446	(6,266)	19,752	(7,815)	15,387	(5,197)
Sugar	4,797	(1,190)	2,975	(452)	9,572	(1,119)	12,932	(2,206)	6,338	(1,537)
Rubber	12,351	(521)	12,351	(455)	10,841	(472)	9,490	(544)	11,787	(555)
Tin	9,252	(31)	11,347	(34)	9,091	(30)	7,773	(25)	5,265	(18)
Textile Products	8,795		9,643		12,570		14,005		14,351	
Precious stones	2,250		3,240		4,486		4,671		6,214	
Others	39,607		51,947		55,280		60,265		58,487	
Total Imports	146,161		188,686		216,746		196,616		236,361	
Consumer goods	15,933		19,286		22,985		22,783		29,834	
Raw materials, Intermediate products	43,500		45,312		53,575		48,596		59,462	
Chemicals	14,856		14,962		18,011		16,138		20,884	
Iron and steel	10,035		10,335		12,039		11,323		13,722	
Others	18,609		20,015		23,525		21,135		24,856	
Capital goods	39,902		46,075		56,772		47,778		69,346	
Non-electrical machinery and parts	18,648		20,402		25,842		21,172		33,160	
Electrical machinery and parts	7,355		11,206		10,867		11,008		15,843	
Others	13,899		14,467		20,063		15,598		20,343	
Other Imports	46,826		78,013		83,414		77,459		77,719	
Vehicles and parts	7,126		6,912		9,568		7,687		11,224	
Fuel and lubicants	32,647		58,733		65,100		60,765		57,064	
Others	7,053		12,368		8,746		9,007		9,431	
Trade Balance	-37,982		-55,489		-63,745		-36,888		-89,889	

Source : Bank of Thailand "Quarterly Bulletin" March 1984.

Table 6 Consumer Price Index (1978 = 100.0)

Item	Weights	1979	1980	1981	1982	1983
All Items	100	109.9	131.5	148.2	156.0	161.8
Food	43.7	109.1	130.5	144.2	148.3	155.8
Clothing	8.1	113.7	136.8	150.5	158.7	164.7
Housing	22.3	109.8	131.0	148.5	159.2	166.1
Personal Medical care	6.4	106.9	128.9	142.1	151.3	156.0
Transportation	7.4	116.7	145.0	186.3	195.3	196.4
Education · Recreation	8.1	110.4	131.9	145.2	157.2	160.5
Tobacco & Alcoholic Beverages	4.0	102.7	113.9	126.9	149.5	145.3

Source: Bank of Thailand, "Quarterly Bulletin" Dec. 1983.

Table 7 External Debt

(Unit: 1 million dollars)

Item	1979	1980	1981	1982
Total Debt Outstanding Disbursed	4,070.4	5,825.6	7,285.6	8,522.8
Public	2,827.1	4,123.1	5,187.0	6,205.9
Private	1,243.3	1,702.5	2,098.6	2,316.9
Principal Payments	153.8	166.1	226.9	305.6
Interest Patments	159.9	267.8	394.5	482.9
Average interest (public)	5.4%	6.8%	7.5%	8.5%
Average interest (private)	10.5%	13.8%	13.8%	11.5%
Debt service ratio	4.7%	5.1%	6.7%	8.4%
International Reserves	3,100	3,026	2,721	2,674

Source: IBRD "World Debt Tables" 1983 - 84

Table 8 National Budget Trend (Unit: million bahts)

	Items \ Year	1979		1980		1981		1982		1983	
Budget Expenditures	Education	18,004	19.6	22,558	19.7	27,933	20.0	32,365	20.1	37,143	21.0
	Defense	19,066	20.7	22,384	19.5	27,723	19.8	31,618	19.6	35,235	19.9
	Economic Services	17,604	19.1	24,096	21.0	31,943	22.8	32,857	20.4	33,869	19.1
	Public Health and Utilities	11,045	12.0	11,641	10.2	15,273	10.9	16,726	10.4	18,827	10.6
	Internal Security	5,036	5.5	6,051	5.3	7,321	5.2	8,231	5.1	9,612	5.4
	General Administration	2,657	2.9	3,551	3.1	4,748	3.4	4,309	2.7	5,214	2.9
	Debt Services	10,028	10.9	12,393	10.8	17,531	12.5	21,009	13.0	27,150	15.3
	Others	8,560	9.3	11,882	10.4	7,528	5.4	13,887	8.6	9,949	5.6
	Total Expenditure	92,000	100.0	114,556	100.0	140,000	100.0	161,000	100.0	177,000	100.0
	Rate of Increase of Expenditures	13.6		24.5		22.2		15.0		9.9	
Actual Revenue	Taxes	66,889	89.1	82,338	88.8	95,928	86.8	100,393	88.3	120,340	87.6
	Sales of Assets & Service	2,107	2.8	2,514	2.7	2,942	2.7	3,273	2.9	4,243	3.1
	State Enterprises	3,886	5.2	4,797	5.2	6,212	5.6	4,895	4.3	6,066	4.4
	Others	2,208	2.9	3,041	3.3	5,404	4.9	5,093	4.5	6,802	4.9
	Total Revenue	75,090	100.0	92,690	100.0	110,486	100.0	113,654	100.0	137,451	100.0
	Borrowings	13,429		17,500		14,682		26,422		37,682	
	Treasury Account	-		-							
	Rate of Increase of Revenue	20.8		23.4		19.2		2.9		20.9	
	Revenue as Percentage of GDP	13.5		13.5		14.1		13.4		14.8	

Source: Bureau of the Budget, "Thailand's Budget in Brief" each annual edition.

CHAPTER 3: Population and Sanitation

1. Outline of Thai Population

(1) Population Growth and Urbanization

According to the 1980 Population Census, the total population of Thailand was 44,824,540; 22,328,607 males and 22,495,933 females at the time of the Census on April 1, 1980. After the War, the Thai population has been increasing steadily; in 1980, it grew 2.5 times in comparison to 1947 as shown in Table 1.

The average annual rate of population growth, though dropping year after year, was as high as 2.68% between 1970 and 1980 due to the very high fertility rates and decreasing mortality rates.

In the developing countries, urbanization trends have become popular, as a consequence of the acceleration in population growth since 1950. According to a UN estimate, the proportion of the total population living in urban areas leaped rapidly from 16.8% in 1950 to 30.7% in 1980. In Thailand, the urbanization has been proceeding with the advance of industrialization. Since Thailand is an agricultural country, as is widely known, the rate of urbanization was 17.0% in 1980, the lowest among the ASEAN countries (the urbanization rates of each of the other ASEAN countries in 1980 were: 20.2% in Indonesia, 29.4% in Malaysia, 36.2% in the Philippines, and 100% in Singapore). Nevertheless, the pace of urbanization has proceeded quickly because the urban population had increased rapidly during the period of the high growth economy. According to Table 1, the urban population increased 4.4 times in the 33-year period from 1947 to 1980, and the population increase rate in urban areas reached 5.3% between 1970 and 1980. On the other hand, the rural population, which accounted for 83% of the total population in 1980, increased only 2.3 times in the same 33-year period. In other words, the rate of increase of the rural population only recorded half of that of the urban population. The increasing rate of the rural population had been slightly lower than that of the total population, and it has been continuously since 1947. Such differences in the rates of increase of the urban and rural populations is attributable to the population migration between the urban and rural areas, not to mention any difference in the natural rate of increase.

(2) Age and Sex Composition

In figure 1, the population pyramids for 1970 and 1980 are compared. The figure shows that the population from 0 through 9 years of age and that from 30 through 39 years of age decreased, while the population from 15 through 29 years of age and that population of 40 years of age and over increased during this 10-year period. The decline in population below 10 years of age reflects a reduced birth rate in recent years, while the increase in the population from 15 through 29 reflects high birth rates in the 1950's and 1960's. The

increase in the population of 40 years old and above may be partially explained by increase in the expectation of life due to considerable improvement in mortality.

According to Table 2, the sex ratio in 1980 was 97.3, or the female population was larger than the male population.

Judging from the above population pyramid and the proportions of the popuation by broad age groups, namely, 0-14, 15-64 and 65 and over --- children aged 0-14, 38.3%, working age adults aged 15-64, 58.2%, and aged population, 3.6%, in Table 2, the population structure can be said to be young. When we compare the urban and rural population structure, first, we notice that the sex-ratio is 92.9 in urban areas and 98.2 in rural areas. This means that the female ratio is higher in urban areas, which is different from the general tendency in Asian countries of the "male ratio being higher in urban areas than rural areas." This indicates that in Thailand, the ratio of female migrants from rural areas to urban areas was comparatively higher. Migration between urban and rural areas was not yet reported in the 1980 Census, but the sex-ratio of migrants into Bangkok in 1980 was 90.5, indicating that there were more female migrants. Next, about the age structure, the proportion in the child age group was smaller by 10%, but the proportion in the working age group was conversely greater by 10% in urban rather than rural areas. These conditions have largely been the result of comparatively higher fertility obtaining among the rural population and of the rural-urban migration by young adults. The proportion aged 65 years and over in the two areas were almost identical. Consequently, the dependency ratio was 51 in urban areas and 77 in rural areas, while it was 72 in the whole country, indicating a heavier burden for the economically productive sector of the population than in the urban areas.

(3) Trends in Fertility and Mortality

Since the number of registered births and deaths published in Thailand appears to be extremely inaccurate and not reliable because of incomplete registration of events, Table 3 illustrates the values estimated by the UN and ESCAP as well. From the Table, we can see that the crude birth rate had dropped from 45 to 28 per 1,000 population and the crude death rate had also dropped from 15 to 8 during the period 1950-83 in Thailand. In addition, the total fertility rate (average number of children born alive per female) had decreased from 6.8 to 3.5 during the same period.

According to the 1980 Census, the average number of living children per mother is 3.84 in the whole country, 3.23 in the urban areas, and 3.96 in rural areas, indicating that the fertility is higher in rural areas than in urban areas. The average number of living children in each of the regions is : 3.05 in Bangkok, 4.24 in the north-eastern region, 3.65 in the northern district, and 3.90 in

the southern region, and 3.73 in the central region, indicating that the largest regional difference is 1.2 between the north-eastern region where the number is the greatest and Bangkok where it is the smallest. These fertility rates are considered to be correlated with social/econmic factors such as the rate of practicing contraception, the literacy rate and so on, which are shown in Table 2 and 4. In other words, the average number of living children is higher in areas where the rate of practicing contraception is lower and where the percent of farming households is greater.

The average expectation of life at birth for both men and women were below 50 years in the 1950's, but it increased by more than 15 years to 61 for men and to 65 for women in 1983.

The infant mortality rate was 12 (published value) in 1982 and 50 (value estimatsd by ESCAP) in 1983; the two values are significantly different. Since there seems to be many infant deaths which are not registered, judging from the Survey of Population Change; 1964-65 and 1974-75 conducted by Thai Statistical Office, the actual infant mortality rate is considered to be substantially higher than the registered/published value.

(4) Population Distribution by District and Its Social/Economic Characteristics

In the 1980 Census, the country was divided into four regions - northern, north-eastern, central, and southern - and further into 72 administrative prefectures (Changwats). The results were published for the four regions (Bangkok was excluded from the central district) and Bangkok metropolice. We shall also use the division in this paper.

In Table 4, we can find the population distribution by district in 1980. The most populous district was the north-eastern region, 35%; next, the central region; then the northern region; the southern region; and, last, Bangkok. Only 9 prefectures among the 72 had population of more than 1 million, and the other 8 prefectures except Bangkok, which had a population of 4 milllion 700 thousand, had a populaion of between 1 and 2 million. The 8 prefectures are: Nakornratchasima (1 million 950 thousand), Ubon Patchathani (1 million 620 thousand), Udon Thani (1 million 460 thousand), and Khonkaen (1 million 250 thousand) in the north-eastern region, Nakhon Si Thammarat (1 million 210 thousand) in the southern region, Chiang Mai (1 million 150 thousand) in the northern region, and Buri Ram (1 million 100 thousand) and Si Sa Ket (1 million 60 thousand) in the north-eastern region.

The population density in 1980 was 87 persons per km2, it has been increasing compared with that of 1970 (70 persons). The population density by district was 3,001 in Bangkok, which had the

highest density in Thailand, and 53 and 33 below the average value in the northern and southern regions, respectively. The population density in each prefecture is illustrated in Figure 2. When we classify the population densities into three --- below 60, 60-110, and more than 110 per 1 km^2, the most densely inhabited prefectures are Bangkok and its surrounding prefectures in the central district, Phichit in the north region, Khonkaen and four other prefectures in the north-eastern region, and Nakhon Si Thammarat and four other prefectures in the southern region.

The social/economic characteristics of population in each region is shown in Table 4. The average number of persons per household was 5.2 in 1980 and it was smaller than that in 1970, 5.8. The region where the number was the highest was the north-eastern region, 5.7, and that where it was the lowest was the northern region, 4.8.

The proportion of agricultural households whose head was a farmer was 56%, indicating that in Thailand more than half of all households earned their living mainly by agriculture. The districts where there are more agricultural households than national average are the north-eastern region (77%) and northern region (66%), while in the southern region only 40% were agricultural households.

The literacy rate in Thailand is 90%, fairly high in comparison with other developing countries, because of the diffusion of education after the War. In the northern and southern region, the rate is slightly below the above rate for the entire country, but the illiteracy rate is as low as below 20%.

Next, let us consider the sanitary conditions, which appear to affect births and deaths indirectly. In the 1980 Housing Census, the diffusion rates of water service and electricity and possession rate of sanitary toilets were surveyed, and the results are shown in Table 4. First, the diffusion rate of water service in the whole country was as low as 18%. This was especially true in the north-eastern region, where the per capita income was the smallest, only 8.1%. On the other hand, in Bangkok it was as high as 76%. The difference between urban and rural areas was great. In areas where water service was not supplied, people used well water or rain water.

The diffusion rate of electricity was 43% in the whole country. While in Bangkok where the rate was 96% most of the households was supplied with electricity, people in the north-eastern region whose rate was only 26% used kerosene lamps.

As for toilets, only half of all households possessed lavatories of proper sanitary level. The other half possessed non-sanitary toilets or did not possess such facilities. Similarly, for the cases of water service and electricity, the possession rate of sanitary lavatories was lower at around 35% in the north-eastern and southern

regions, while in the central and northern regions more than 60% of the households possessed sanitary toilets, and in Bangkok the rate was as high as 97%.

From the above, we can conclude that the public sanitation facilities in Thailand differ greatly in Bangkok and in other districts or in urban and rural areas.

Next, the gross regional income per capita is discussed. It was 14,255 bahts (at 1980 current price) in the whole country (national income per capita), 43,423 bahts, the largest, and about three times that of the national income per capita, in Bangkok, and 5,806 bahts, the smallest, below half of the national income per capita and below 1/7 of that in Bangkok, in the north-eastern region.

Regional differences in social/ecocomic factors, such as described above, are considered to explain the regional differences in birth and death rates, either directly or indirectly.

(5) Internal Migration

In the 1980 Census, it was found that 3,120,000 people had changed their place of residence at least once between 1975 and 1980 (see Table 5).

This Table shows that 7.9% of the population 5 years old and over had migrated, and that the number of migrants and migration rate then were slightly below those 10 years ago, 3,330,000 or 11.6%, respectively. Of the total migrants, 62.3% migrated within a region and 1,180,000 or 38% of the total migrants migrated within a prefecture, indicating that there were many short-distance movements. The number of people who had moved across the district amounted to 860,000, or 27.6% of the total migrants: this was a little above the 770,000 of 10 years ago, indicating that long-distance movements across the region had been increasing.

When examining the in-migrants and out-migrants among districts, here immigration from abroad and in-migrants from unknown places of residence are ommitted. First, the region which accepted the most immigrants was Bangkok, 340,000 or 40% of toal immigrants, indicating that similarly to 10 years before that the most popular destination for immigrants in Thailand was Bangkok. The region into which the second most immigrants entered was the central region, 290,000 or 33.2% of the total in-migrants. The district which accepted the fewest in-migrants was the southern region, 50,000.

On the other hand the region which the largest number of out-migrants left was the north-eastern region, 270,000; next, the central region, 240,000; and then Bangkok, 170,000, which was equivalent to half of all in-migrants.

In the southern region, both in-migrants and out-migrants were the smallest in the district and migration was not actively seen.

Next, let us discuss the migration rate in each region. As shown in Table 5, both the in-migration rate and out-migration rate were the highest in Bangkok. The net-migration rate of was also the highest. In the central region whose migration rate was the second highest, the net-migration rate was 0.5%. In the other districts of the north-eastern, southern, and northern regions, out-migration rates were higher than in-migrations rates and the net migration rates were between -0.1 amd -1.5%.

It will be noted from Table 5, rural-rural migrants or short-distance movements were the most significant in volume in 1980 similarly to in 1970. On the other hand, most migrations between the rural and urban areas were to/from Bangkok.

What are the factors that prompted these migrations? The 1980 Cencus collected information on reasons for migration. the motivation factors have been summarized as follows, first, the major reason were familial reasons such as to accompany relatives, 33.8%; next, migrations to seek employment, 21.7%; then migrations to change jobs or to be transferred to other offices, 10.5%; migrations for marriage, 9.2%; migrations for study, 5.6%; return migration (U-turns), 2.7%; and lastly residential migrations, 2.4%. Among male migrants, who were 54% of the total migrants, migrations for jobs were greater than migrations accompanying family. Also, in the 1981 Survey of Migration in Bangkok Metropolis by National Statistical Office, major reasons for migration were economic ones, 61%; next, family reasons, 18%; and then educational reasons, 15%. This indicates that economic reasons were the main reasons for migrations. Demographic characteristics of in-migrants into Bangkok are that most of the in-migrants were young people aged 15 to 29 years especially never-married females, and that the most commonly seen type of migration was single migration.

2. Populaion Policies in Thailand

(1) History of Population Policies

In the first half of this century, Thailand's official stance on population was predominantly pronatalist. In Thailand, high population increase rates (population explosion) were recorded in the 1960s, and since then population problems began to be considered. However, it was not until 1970 that population policies were established.

In 1968, the Ministry of Public Health (MOPH) started family planning services experimentally. In 1969 together with the National Economic/Social Development Board (NESDB) the MOPH and Institute of

Population Studies, Chulalongkorn Univeristy prepared a comprehensive report for the cabinet on the adverse effects on economic and social development of the high rate of population growth and strongly recommended the adoption of a popution policy. Cabinet accepted the report and announced a national Population Policy in 1970. Later, MOPH established a 5-year plan for the National Family Planning Program (NFPP) to be included in the third social economic development 5-year plan (1972-76) : first, reducing the population growth rate from over 3% to about 2.5% by 1976; second, informing and motivating eligible women, particularly those living in rural and remote areas about the concept of family planning and making services readily abailable thoughout the country; and third, integrating family planning activities and over-all maternal and child health service and thus mutually strengthening activities in these closely related fields. Then government activities emphasize three methods of contraception: the IUD. oral contraceptives and female sterlization, and the former two were widely available through commercial channels major activities in the field of family planning are carried out by the Planned Parenthood Association of Thailand (PPAT), which has been a very active private organization and which became a full member of the International Planned Parenthood Federation (IPPF) in 1975. Its role is primarily in the areas of public information, education and training and its cooperate closely with the National Family Planning Program (NFPP). In the fourth national economic/social development 5-year plan (1977-81), population policies such as those following were adopted as well like in the preceding third plan: first, reducing the population growth rate to 2.1%, or more concretely, crude birth rate should be reduced to 28.4 and crude death rate 7.7 per thousand; second, improving the quality of population through programs related to food and nutrition, public health measures and manpower development; and third, the population should be properly distributed, or concretely excessive concentration into Bangkok should be avoided and migrations into other districts should be encouraged. Accomplishments of this fourth plan were rated as follows by many domestic and overseas organizations and population policies were partly changed according to the rating before being incorporated into the fifth plan (1982-86). First, as to the first object in the fourth plan, namely population suppression, family planning program had been very effective and the objective was almost attained, but since the population increase rate then, 2.0%, was still too high, it should be reduced to approximately 1.5% by 1986, or crude birth rate to 22.9 and crude death rate 7.3, and total population in 1986 should be 52.1 million Second, the quality of population was not sufficiently improved due to various problems such as small budget, insufficinet man-power, and complicated management structure (many government organizations such as the Ministries of Agriculture, Interior and Public Health, and Universities have been participating to attain this objective). Consequently, the improvement of quality of population should be an objective in the fifth plan continuously. Third, as to proper population distribution, migrations into urban

areas, especially into Bangkok, had been increasing continuously contrarily to expectations. This was because in urban areas social/economic functions and, as described above, public services were concentrated, making them more attractive, while on the other hand development of the country, especially rural areas had not progressed. In the fifth plann, in order to improve population distribution, economic conditions in rural areas should be improved, especially in industrial sectors as well as agricultural sectors, to increase opportunities of employment by developing urban centers and promoting industrialization to reduce population concentration in Bangkok, prefectures surrounding Bangkok, Samut Prakan, Pathum Thani, Nouthaburi, Nakhon Pathom and Samut Sakhon should be developed at the same time.

Other problems to be promptly coped with by the government include improvement of life of slum inhabitants, hill tribes, muslims on the south border, inhabitants in secluded rural areas established by the Internal Security Operation Command where communist guerrilas penetrate, and refugees (Cambo dians, Laotians, Vietnameses, Meo hill tribes and so on).

(2) Family Planning and Fertility Survey

The national family planning program, which started in 1970, has been successful, and the number of people who had newly adopted family planning services during the period of the third plan, 1972-76, reached 2.4 million exceeding 21.6%, which had been initially planned. The acceptors of family planning services during the period of the fourth plan, 1977-81, as well, registered 30% more than had been planned. Thus, the family planning program has been steadily diffused in the last 10 years. However, since the present population increase 2.0%, is still too high for the social/economic development, and since the generation born during the period of baby boom period 20 years earlier is now entering the reproductive ages, the family planning program should also be performed in the fifth plan (1982-86). During this period, the target of the plan should be people in the rural areas and people of lower income brackets to which knowledge and services of family planning have not yet been diffused. Since there are problems such as insufficient doctors, nurses, and health nurses in these cases, more difficulties than ever anticipated are present.

The survey of fertility in Thailand was conducted on 4,465 sample households across the nation in March, 1975, as part of the World Fertility Survey (WFS). From it we can see that knowledge of family planning was widespread in Thailand, because 96% of women know at least one method of contraception. Nearly 90% of women know contraceptive methods of pills, IUD, and female sterilization, while on the other hand only 50% of women know about condoms or the rhythm. Reversely, women who do not know anything about contraception are 3.5%; 1.1% in urban areas and 4.0% in rural areas, and by regions 4.5%

in the northern region, 3.2% in the north-eastern region, 9.4% in the southern region, 1.3% in the central region, and 0.7% in Bangkok, indicating that many women in rural areas and the southern region do not know it.

As to use of contraceptie tools, 45% of husbands and 43% of wives have ever used and the rate varies in districts and according to educational levels as shown in Figure 3.

Table 6 shows that 37% of women who are not pregnant at the present are using contraceptive methods and the most commonly used method is the pill.

Rate of practice of contraception in married women was 14% in 1968-1969, 26% in 1971-72, and 37% in 1975 as mentioned above, having been augmenting year by year. (Table 7)

When we examine the rate of practicing contraception in 1975 according to number of living children, age of women, districts, educational level, and family income as shown in Table 8, the following interesting fact appears: in women who have one or fewer or 6 or more children, women under aged 25 or aged 35 and over, women living in rural areas or the southern or north-eastern region, women who have been educated for shorter than 5 years, and women of lower income, the rates of practicing contraception is lower.

Next, the survey on the desired number of children showed that it was 3.7 in the whole country, 3.4 in urban areas and 3.7 in rural areas, 4.1 in the north-eastern and southern regions, 3.4 in the central region and Bangkok metropolio, and 3.3 in the northern region, and 4.1 in non-educated people and 2.9 in people educated far more than 11 years, indicating that it is affected by social/economic factors. As for whether sons or daughters are preferred, 50% of both husbands and wives prefer sons, 30% daughters, and 20% either, indicating that sons are more preferred in Thailand, too.

From the above results of fertility survey, again we can see that Thai family planning programs have been penetrating widely. Among couples in rural areas, of lower levels of education, or of lower income, however, rate of practice of family planning is lower, and it should be improved in the future.

3. Outline of Conditions of Sanitation and Medical Care

When health and medical care in a country is to be communicated, the content depends on the objective of the communication. Here, we will inform you about health and medical care in the whole country of Thailand, using various reports published so far. First, problems about health care (including medical care) are discussed.

(1) Health Status in Thailand Seen from General Health Indices

In order to grasp general health level, we first observe the representative comprehensive indices among the health indices published, namely the average life expectancy at birth. In Thailand, it has been steadily prolonged since 1970 and the indices for men and women in 1970 - 74, and 1975 - 80, and 1983 were: 55.4, 60.8; 57.0, 63.0 and 60.9, 64.9 respectively.

When the most recent values are compared with Japanese values, they are most similar to 1951 values in Japan: 60.8 and 64.9.

Other general indices on growth of children are shown in Table 1.

Weight at birth is 0.11kg (male) and 0.15kg (female) lighter than those in Japan respectively. Heights are shorter at the age of 6 by 3.08cm (male) and 3.24cm (female); at the age of 14, 10.1cm (male) and 5.8cm (female) and at the age of 17, 6.3cm (male) and 3.4cm (female) respectively. These differences indicate that growth of Thai children is slower by 3 years (male) and 4 years (female) than that of Japanese children. A similar difference is witnessed in weight, and the value of weight is lighter at the age of 14 by 10.2kg (male), 7.6kg (female); and at the age of 17, 7.8kg (male), 5kg (female) respectively. These figures again indicate that the growth in weight of Thai children is slower by 3 to 4 years than that of Japanese children. These differences are considered to occur due to various conditions such as nourishment.

When we compare conditions of nourishment in Thailand with those in Japan, especially noteworthy is that in Thailand both animal protein and fat supplied are lower. Also, less calcium, and vitamin A, B1, B2, and C are supplied. Table 2 is data for 1977, and when it is compared to that for 1978 (because Japanese data in 1977 is not available), we can see that it is much less.

(2) Occurrence of Diseases

Though we suspect that many cases of disease have not been registered or published, we are going to discuss data on infectious diseases. Many cases of infectious diseases of the digestive organs such as cholera, typhoid, paratyphoid, and food poisoning (bacterial), malaria and cold occur. They occur throughout the year. (See Table 3)

(3) Deaths According to Causes

Data on deaths according to cause is an extremely important and most reliable index in grasping health levels in each district and in establishing health measures. From Table 4-(1), we can see that the

death rate started to decline steadily in the 1970's but that the rough death rate was 5.1 per 100 thousand and the infant mortality rate was 12.4 per 1000 births in 1982, about double our figures. The still birth rate and perinatal mortality rate were as low as 1.2 and 4.3, respectively, but we are afraid that deaths immediately after birth had not been registered. This was the opinion of many exports.

Deaths caused by upper respiratory infection, pneumonia, and diseases of digestive organs are many. Other causes of death include diseases originating in the perinatal period. Various infectious diseases account for many cases of infant deaths, and accidents occur in the case of 1 - 4 year-old children walking alone. Other common causes of death are diarrheal disease, malaria, diphtheria, heart diseases, diseases of the stomach and duodenum, and nutritional deficiencies.

According to Table 4-(2), deaths caused by external forces such as accidents, food poisoning, and violence increase as age advances. Among them, traffic accidents can be inevitably occur in the confusion of urban traffic in newly developed areas.

A similarly inevitable health hazard caused by flooding in most of the slums in urban areas, especially in Bangkok, during the rainy season. Water pools in low and damp ground in slums and remains even in the dry season.

Next we will discuss death rate in pregnant women in 1982. It was still as high as 69.6 per 100 thousand population but it is a remarkable improvement from 1970's rate of 226.1.

Many middle-aged people die from tuberculosis. This is thought to occur because BCG injections just after birth are effective enough to delay the occurrence of the disease until after middle age. Tuberculosis could be completely eliminated by being detected early through mass examinations and by full treatment.

(4) Conditions of Health and Medical Care in Thailand

In Thailand those who perform medical care include doctors, medical assistants, PHC staff, and voluntary assistants with minimal training. Thus, insufficiency of personnel resources is a problem.

In PHC, basic personnel and institutions need to be reinforced, too. The Thai system of health and medical care is administered through both the Ministries of Domestic Affairs and of Public Health.

(5) Primary Health Care in Thailand

PHC activities were started in 1960 in Thailand. In Japan, also, regional health programs were executed in several areas, directed by

scholars of public health, in the 1960's. The health activities in both Thailand and Japan consisted of general, and prioritized activities, and were based on concepts similar to those of PHC, initial which was later promoted by WHO and UNICEF. In other words, health activities took place in both countries.

Also in 1960, our Ministry of Welfare advocated a common health plan, and its equivalent in Thailand was the fourth Thai health plan: 1961-1981. Then health activities began to be planned for specific objectives in both countries.

The Ministry of Public Health and other health-related ministries have begun a series of activities to develop national strategies and plans so as to arrive at the aim of PHC, "Health to all by the year 2000."

Thailand participated in an international conference on PHC held in Alma Ata in 1978, and reported on PHC. Later advice on PHC and a statement on PHC policies were offered to the Thai cabinet.

In March, 1979, the cabinet adopted PHC principles as national Public Health policies, and decided to use various resources and to offer administrative support to Public Health activities in order to attain the objects of the policies. In addition, the Ministry of Public Health newly established a PHC administration unit in the office of the PHC Deputy Minister, and decided to make it responsible to organize cooperation for the policies.

PHC in Thailand has thus been established from an administrative viewpoint.

In 1981 those who performed PHC included specialists who had received higher education: doctors, dentists, pharmacists, nurses (10,581 persons), mid-wives (7,363), clinical examinors (432), physical therapists (256), medical therapists (103), radio-therapists (118), sanitary engineers (48), and sanitarians (215). Others included various assistant personnel who had received secondary education: medical assistants (42), dental operators (323), assistants to pharmacists (466), assistants to animal doctors (116), assistants to nurses/mid-wives (8,577), radiological engineers (118), and sanitary examination engineers (7,788). The rest were many voluntary people who had been trained for a short period.

In Thailand, as in other developing countries, there are not enough doctors and medical institutions, and there are many medical difficulties. However, Thailand aims to meet basic medical needs by producing medical staff other than doctors through training. Assistant medical staff seem to be a considerable support for the national health system.

While PHC was introduced as described above, four economic and social development plans were executed since 1961. Health levels were considered to be improved by the plans, too. The fourth plan included a health program consisting of the following 11 items:

1. Birth rate should be reduced, and birth control education, supplies, and facility should be provided as necessary.

2. To prevent loss of lives, health needs of mothers and children should be especially taken care of.

3. Nourishment should be improved, especially for 6-9 year-old children

4. Infectious diseases should be exterminated through effective detection and early treatment.

5. To protect people from an insanitary environment, water should be supplied, human waste should be safely disposed of, and measures should be taken against contamination of water and food, in the whole country.

6. To provide better medical care, activities in hospitals and health centers should be made more effective and efficient.

6. Medical services for poor people should be free. A health insurance system should be introduced.

7. Manpower should be trained to ensure general health services using the health care infrastructure effectively.

8. Basic health services should be disseminated by prompting voluntary groups or voluntary liaison staff in towns.

9. The government should plan and administrate health care more properly and develop the quality of health information.

10. Needed ingredients for manufacture of medicines should be secured.

11. Various governmental and non-governmental health organizations should cooperate to the utmost to solve health problems and to develop health manpower.

The health budget has been increasing as the four plans have been executed. The budget of the fourth health plan was 19,080 million bahts, or 7.9% of the whole budget.

Fig. 1 Thai Population Pyramid

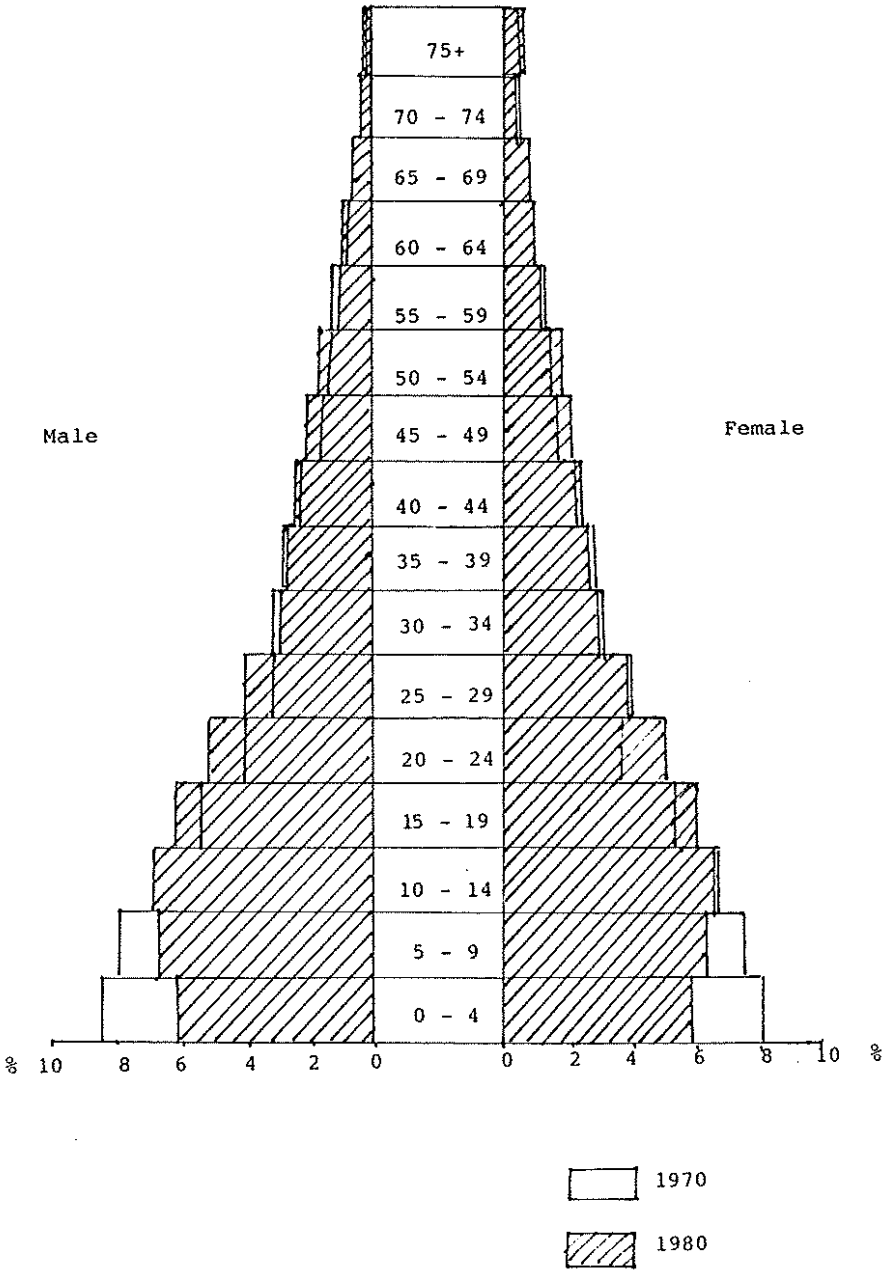


Fig. 2 Population Density in Thailand

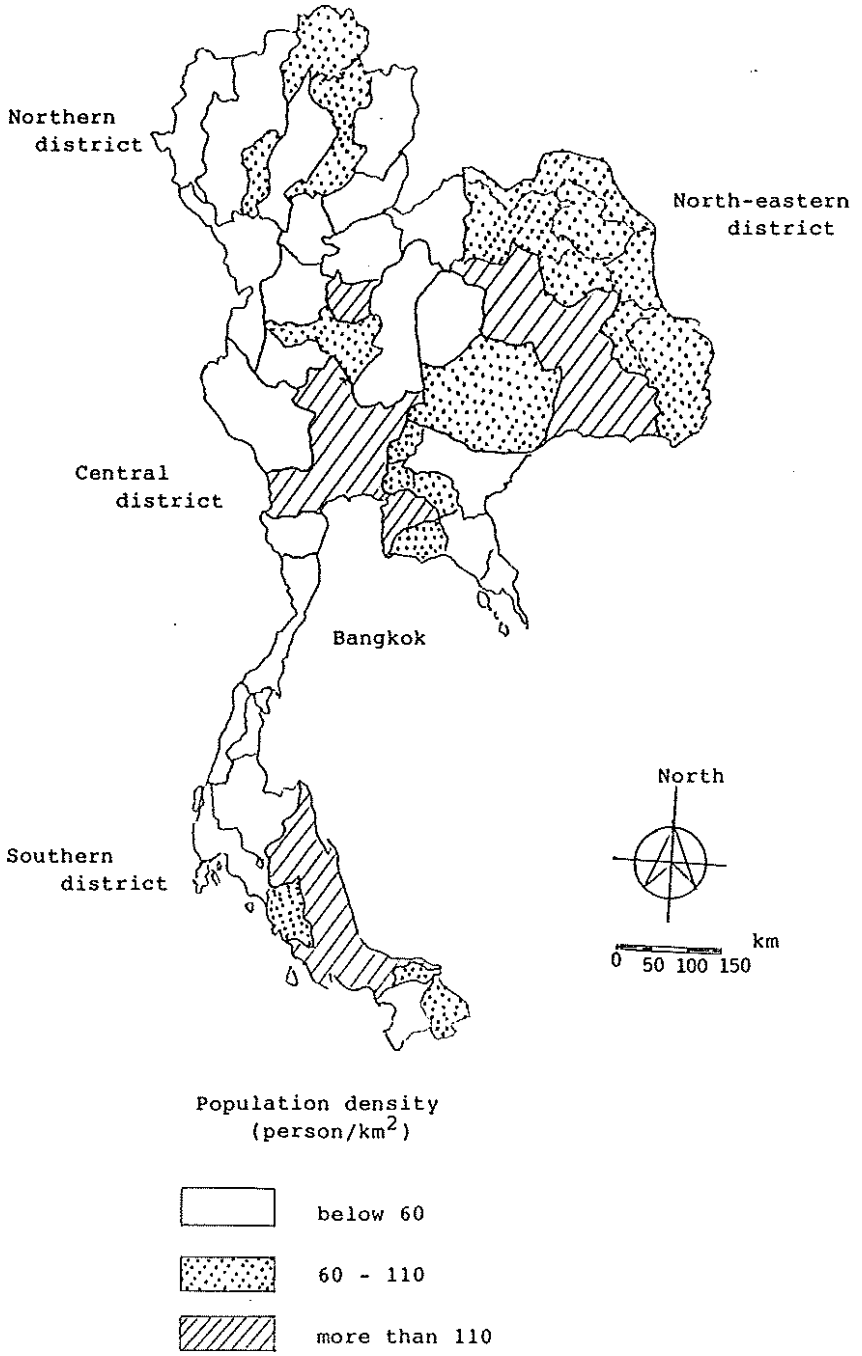
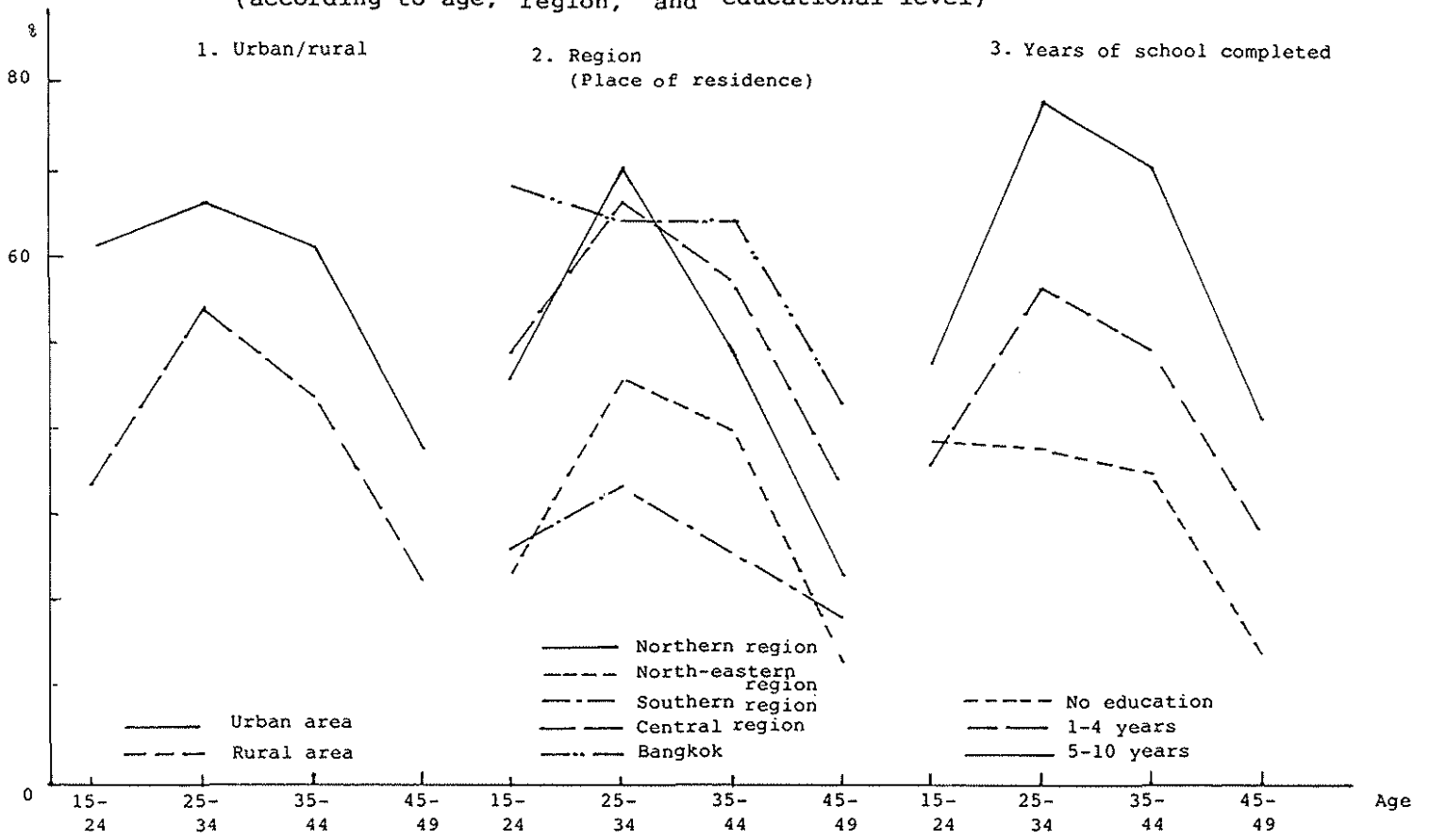


Fig. 3 Percent of Women Ever Married who Had Ever Used a Contraceptive Methods (according to age, region, and educational level)



Materials: Institute of Population Studies Chulalongkorn University, Populaiton Survey Division, N.S.O., "The Survey of Fertility in Thailand: Country Report", Bangkok Thailand 1977

Table 1 Trends in Total Population, Urban Rural Population, and Rate of Urbanization in Thailand

Year	Total Population			Urban Population			Rural Population			
	Population (thousand)	Index*	Average annual increase rate(%)	Population (thousand)	Index*	Average annual increase rate(%)	Population (thousand)	Index*	Average annual increase rate(%)	Rage of Urbanization (%)
1947	17,443	100	-	1,735	100	-	15,708	100	-	9.9
1960	26,258	151	3.15	3,274	189	5.01	22,984	146	2.97	12.5
1970	34,397	197	2.70	4,553	262	3.35	29,844	190	2.65	13.2
1980	44,825	257	2.68	7,633	440	5.30	37,192	237	2.22	17.0

* index: Population in 1947 is assumed to be 100.

Sources: National Statistical Office, Statistical Yearbook, 1976 - 80
National Statistical Office, 1980 Population & Housing Census

Table 2 Social Characteristics of Urban and Rural Populations (1980)

	Whole country	Urban population	Rural population
1. Population structure by sex/age			
Total population	44,824,540	7,632,916	37,191,624
Sex-ratio (%)	97.29	92.90	98.21
0 - 14 years old (%)	38.30	30.32	39.93
15 - 64 years old (%)	58.15	66.31	56.48
65 years old - (%)	3.55	3.37	3.59
Dependency ratio (%)	71.96	50.80	77.06
2. Fertility			
Number of living children (per 1000 ever married women)	3,941.6	3,226.8	3,959.1
Average age at first marriage (SNAM)	22.78	25.49	22.03
Percentage of married women aged 15-49 years practicing contraception	41.16	45.67	40.27

Source: National Statistical Office, 1980 Population & Housing Census

Table 3 Fertility and Mortality

	Vital rate (0/00)			Infant mortality rate (per 1000 live births)	Total fertility rate	Expectation of life at birth	
	Birth rate	Death rate	Natural increase rate			Male	Female
1950 - 55	44.6	14.6	30.0		6.81[U]	42.6[U]	47.8[U]
1955 - 60	45.2	12.8	32.4				
1960 - 65	42.1	11.4	30.7	84[S]	6.59[U]	49.9[U]	55.3[U]
1965 - 69	40.6	9.9	30.7		6.25[S]	52.9[U]	58.3[U]
1970 - 74	37.9	10.5	27.4	52[S]	4.85[W]	55.4	60.8
1975 - 80	32.3	8.9	23.4		4.51	57.6	63.0
1971	32.7	6.1	26.6	23			
1975	27.4	5.7	21.7	26			
1980	23.2	5.3	17.9	13			
1981	22.4	5.0	17.4	6			
1982	22.5	5.1	17.1	12			
1983	28.2	7.6	20.5	50	3.5	60.9	64.9

Sources: Values for 1950 - 70 and 1983 are estimated by ESCAP. Five-year average values for 1970 - 74 and 1975 - 79 are estimated by UN. U: estimated by UN.

1971 - 82: NSO. "Statistical Yearbook 1976 - 80", "Statistical Handbook of Thailand 1982"

S : The Surveys of Population Change (SPC) 1964 - 65, 1974 - 76
W : The Survey of Fertility in Thailand, 1975

Table 4 Population and social/economic indices by region, Thailand, 1980

	Population (1,000)	Population distribution (%)	Population density (persons/km²)	Persons per household	Rate of agricultural households	Literacy rate	Diffusion rate of piped-water service	Diffusion rate of electricity	Rate of sanitary types of toilets	Percentage of married women aged 15-19 years practising contraception	Income per capita (baht
Whole country	44,825	100.0	87	5.2	55.5	89.5	18.1	43.0	49.2	41.2	14,25
Central region (except Bangkok)	9,726	21.7	95	5.1	46.1	90.6	16.7	54.6	67.9	45.6	19,73
Bangkok	4,697	10.5	3001	5.1	2.9	92.7	76.0	95.9	96.9	46.9	43,42
North-eastern region	15,699	35.0	93	5.7	77.3	92.3	8.1	25.5	36.7	36.8	5,80
Northern region	9,074	20.2	53	4.8	66.4	83.6	10.7	37.9	59.2	50.0	9,54
Southern region	5,628	12.6	33	5.2	39.8	85.2	9.8	30.8	32.5	25.5	14,19

Materials: National Statistical Office, 1980 Population & Housing Census, E-Cr. Pop. - No. 14-83

Office of the National Economic and Social Development Board, Gross Regional and Provincial Product, 1980

Table 5 Number of Migrants 5 Year of Age and Over, Migration Rates for Each Region, Thailand: 1975 - 80

Region of present residence	(1) Total population (5 year of age and over)	(2) Total migrants	In-migrants (3) In-migrants within region	(4) Immigrants from abroad	(5) In-migrants from other region	(6) Unknown place of previous residence	Total out-migrants (7)	Migration rate (%) (2)/(1)	In-migration rate (%) (5)/(1)	Out-migration rate (%) (7)/(1)
Whole country	39,380,252	3,121,569	1,944,291	18,159	861,196	297,923	857,194	7.93	2.19	2.18
		(100.0%)	(62.3%)	(0.6%)	(27.6%)	(9.5%)				
Central region (excluding Bangkok)	8,626,346	826,501	472,412	2,004	286,189	65,896	235,331	9.58	3.32	2.73
Bangkok	4,250,365	584,623	184,159	4,241	340,792	55,431	170,392	13.75	8.02	4.01
North-eastern region	13,512,169	745,229	586,389	6,575	74,827	77,438	268,691	5.51	0.55	1.99
Northern region	8,112,184	581,796	411,927	4,350	104,892	60,627	121,568	7.17	1.29	1.50
Southern region	4,879,188	383,420	289,404	989	54,496	38,531	61,212	7.86	1.12	1.25

Sources: Same as for Table 4.

Table 6 Percent Distribution of Currently Married Non-pregnant Women by Current Contraceptive Status and Current Use of a Specific Contraceptive Method

Status and method	%
Infecund	18.7
Fecund and not using contraception	44.2
Fecund and using contraception	37.1
Pill	15.3
IUD	6.6
Injection	2.1
Condom	0.5
Female sterilization	6.8
Male sterilization	2.4
Douch, rhythm, withdrawal or abstinence	2.8
Other female scientific method	0.1
Others	0.5

Source: Same as for Fig. 3

Table 7 Percent of Currently married Women Currently Practising Contraception by Residence

Residence	Note 1) LS I 1968-1969	Note 1) LS II 1971-1972	Note 2) SOFT 1975
Whole country	14	26	37
Urban areas	33	45	49
Rural areas	11	23	35

Source: Same as for Fig. 3.
Note 1: The two rounds of the longitudinal study (LS) included all currently married women aged 15-44 years
Note 2: SOFT included all currently married non-pregnant women aged 15 to 49 years

Table 8 Percent of Currently Married Non-pregnant Women Currently Using any Contraceptive Method, Including Sterilization, by Age and Number of Living Children for Selected Background Variables

Unit: %

Variable	Number of living children								
	Total	0	1	2	3	4	5	6	7+
Whole country	37	9	36	42	45	48	39	33	27
Residence:									
Urban areas	49	(12)	(49)	52	51	49	(61)	*	(53)
Rural areas	35	8	33	40	44	47	36	31	25
Region of Residence:									
Northern region	44	7	53	52	60	44	42	(40)	23
Northeastern region	30	5	19	31	34	46	37	27	26
Southern region	18	4	(19)	8	22	32	(24)	(23)	(8)
Central region	45	(17)	36	52	56	60	43	41	37
Bangkok	50	(13)	(60)	53	(52)	(47)	(56)	*	*
Years of school completed:									
None	27	(7)	21	41	30	39	27	19	20
1 - 4 years	38	7	35	42	47	49	43	39	30
5 - 10 years	43	(17)	(43)	(44)	*	*	*	*	*
11 years and over	53	*	(70)	(38)	*	*	*	*	*
Age of married women									
Under 25	34	10	37	41	49	*	*	*	*(note 1)
25 - 34	47	10	44	49	51	53	46	(41)	*
35 - 44	37	(4)	14	30	39	50	43	39	41
45+	13	*	*	(5)	(13)	26	18	13	(0)
Family Income									
Level 1 (lowest)	28	(0)	24	32	34	35	30	(27)	18
Level 2	34	(7)	35	42	40	32	33	(35)	26
Level 3	37	(8)	37	36	43	54	47	(35)	23
Level 4	42	(10)	41	46	52	54	47	(30)	28
Level 5 (highest)	45	(12)	44	48	61	57	(43)	42	39

Source: Same as for Fig. 3

Note 1: For this item only, the case of 7 living children is shown.

Table 1 Mean Height and Weight of Children in Thailand (1980)

	Male	Female
Weight at birth (kg)	3.12	3.01
Height at the age of 6 (cm)	112.82	111.86
Height at the age of 14 (cm)	153.14	150.20
Height at the age of 17 (cm)	163.41	153.71
Weight at the age of 6 (kg)	18.16	17.52
Weight at the age of 14 (kg)	41.93	38.07
Weight at the age of 17 (kg)	52.38	47.13

Source: SEAMIC Health Statistics 1983 pp92, 94-95, 96-97.
Southeast Asian Medical Information Center (SEAMIC) Tokyo. 1983

Table 2 Per Capita Food Supply in Thaiand: 1977

Energy (calorie)	2,098
Vegetable	1,952
Animal	146
Protein (gr/day)	46.3
Vegetable	32.2
Animal	14.1
Fat (gr/day)	22.5
Vegetable	13.8
Animal	8.7
Calcium (gr/day)	243
Vitamin A	73
B1	0.87
B2	0.64
C	60

Source: SEAMIC Health Statistics 1983. pp88-89
SEAMIC Tokyo. 1983

Table 3 Number of cases of infectious diseases

Name of Diseases	Number	Note
		(4288 in 1980)
Cholera	645	
Typhoid fever	5,125	
Paratyphoid fever	61	
Amoebic and bacterial depentery	14,748	
Amoebic disease	2,729	
Food poisoning	27,580	
Tuberculosis	14,974	
Leprosy	515	
Diphtheria	1,125	
Varicella	4,247	
Infections hepatitis	9,103	
Rabies	204	
Malaria	156,623	
Influenza (cold)	63,800	

Source: SEAMIC Health Statistics 1983, pp62-63 SEAMIC Tokyo 1983

Table 4-(1) Leading causes of death (rate per 100,000 population) among infant and early childhood, Thailand, 1977-1982

	1977	1978	1979	1980	1981	1982
Under 1 year of age						
Certain conditions originating in the perinatal period	240.24	302.15	266.25	306.04	289.95	278.07
Upper Respiratory Infection	211.5	213.8	146.4	52.45	34.93	38.02
Pneumonia	146.9	130.7	105.9	86.39	95.65	89.53
Disease of the digestive system other than oral cavity, salivary grands and jaws	119.33	108.05	90.92	75.84	66.28	70.10
Diarrhoeal disease	110.6	132.4	97.1	74.45	63.45	47.51
Convulsion	38.9	32.6	-	16.89	-	19.71
Diseases of nervous system	30.20	29.22	29.16	26.08	23.16	20.45
Viral diseases	22.42	16.92	13.97	20.05	16.29	12.27
Congenital anomalies	20.38	23.07	42.95	45.30	38.03	45.74
Diphtheria	14.8	13.9	12.7	11.14	9.70	9.67
Age 1 - 4						
Upper Respiratory Infection	88.8	80.3	67.2	20.2	19.1	17.4
Diarrhoeal disease	30.5	29.9	27.3	19.6	18.2	16.2
Accidents Poisonings and Violence	26.4	30.0	26.4	30.9	27.1	25.4
Pneumonia	22.8	21.9	20.8	18.4	15.8	17.1
Malaria	14.5	12.8	11.8	9.2	10.0	9.6
Convulsion	7.8	7.3	6.7	5.1	3.4	4.6
Diphtheria	7.9	7.3	6.7	5.1	2.6	4.1
Diseases of the Stomach and Duodenum	6.9	6.8	6.8	5.2	5.1	4.7
Nutritional deficiencies	3.1	2.6	3.4	2.7	2.5	2.4
Diseases of the Heart	0.7	0.4	6.3	7.8	1.2	9.0

Source : Vital Registration, Division of Health Statistics, Ministry of Public Health, Thailand.
From: By Yawarat Porapakkham
Cause of Death: Trneds and Differential for National Seminar on ASEAN Morbidity & Mortality Differential Studies in Thailand, No. 1-3, 1984 Organized by Mohidol University

Note: Rate per 100,000 livebirths under one year of age is calculated.

Table 4-(2) Leading causes of death (rate per 100,000 population) by age group, Thailand, 1977 - 1982

	1977	1978	1979	1980	1981	1982
Age 5 - 14						
Accidents, Poisonings and violence	18.5	19.3	18.3	17.4	16.7	15.0
Malaria	8.6	7.2	5.8	5.2	5.6	5.2
Diarrhoeal disease	5.9	6.2	4.8	3.3	2.5	2.2
Pneumonia	4.6	3.1	3.3	3.0	2.2	2.5
Diseases of the Heart	1.4	1.6	3.3	3.8	3.0	4.1
Malignant neoplasm, all forms	1.6	2.1	2.1	2.0	2.0	2.3
Age 15 - 24						
Accidents, Poisonings and Violence	42.2	47.6	44.4	43.9	41.1	39.2
Malaria	12.5	11.9	8.5	9.3	9.7	8.3
Diseases of the Heart	6.4	7.3	10.8	11.6	11.3	11.4
Malignant neoplasm, all forms	4.3	16.9	4.6	4.5	4.5	4.6
Tuberculosis of Respiratory System	3.1	3.5	2.3	2.4	1.9	1.9
Pneumonia	2.8	2.4	2.4	2.6	2.2	2.3
Age 25 - 44						
Accidents, Poisonings and Violence	45.1	49.1	46.7	45.6	44.8	43.9
Diseases of the Heart	22.0	23.6	25.4	27.0	25.6	26.7
Malignant neoplasm, all forms	16.2	17.5	16.3	18.2	21.8	19.2
Tuberculosis of Respiratory System	14.4	15.1	12.6	10.8	9.1	8.7
Malaria	9.8	10.2	8.0	7.6	8.4	7.7
Pneumonia	5.2	4.5	4.2	4.5	3.8	3.9
Age 45 - 64						
Malignant neoplasm, all forms	82.6	89.1	93.2	103.6	108.9	113.2
Tuberculosis of Respiratory System	74.0	75.1	65.6	63.9	51.1	52.5
Diseases of the Heart	69.4	54.6	93.8	99.4	99.8	110.0
Accidents, Poisoning and Violence	46.8	52.8	51.9	52.1	48.0	47.6
Pneumonia	19.6	19.0	16.1	18.5	16.2	17.5
Malaria	13.5	13.6	12.0	12.2	12.9	11.1
Age 65 and Over						
Malignant neoplasm, all forms	152.5	146.0	159.4	174.0	180.7	295.2
Tuberculosis of Respiratory System	113.5	125.3	112.6	109.7	97.0	144.0
Accidents, Poisonings and Violence	78.4	77.2	72.8	68.4	71.9	97.3
Pneumonia	57.5	57.3	47.3	52.5	50.4	77.1
Diseases of the Heart	50.8	50.8	252.1	273.1	290.0	457.1
Malaria	16.1	15.6	13.4	13.5	14.0	18.0

Source: From the same reference as Table 4-(1)
Vital Registration, Division of Health Statistics,
Ministry of Public Health, Thailand.

Table 5 Those who perform health and medical care in Thailand: 1981

Doctors	6,931
Rate (per 10 thousand populatio)	1.5
Multipurpose sanitary assistants	249,250
Rate (per 10 thousand population)	52.5
Nurses	19,599
Rate (per 10 thousand population)	4.1
Midwives	8,577
Rate (per 10 thousand population)	1.8
Dentists	1,132
Rate (per 10 thousand population)	0.2
Pharmacist	2,680
Rate (per 10 thousand population)	0.6

Source: SEAMIC Health Statistics 1983 pp 122-123
SEAMIC. (Tokyo) 1983

Table 6 Institutions for health and medical care in Thailand: 1981

General hospitals number	80
Beds	14,014
Rate (per 10 thousand population)	3.0
District hospitals number	552
Bed	43,416
Rate (per 10 thousand population)	9.1
Medical centers number	75
Bed	1,129
Rate (per 10 thousand population)	0.2
Rate of beds (per 10 thousand)	12.3

Source: SEAMIC Health Statistics, 1983 pp102-103
SEAMIC Tokyo 1983

CHAPTER 4: Activities of International and Domestic Organizations

1. United Nations Fund for Population Activities (UNFPA)

The total amount of assistance made available by UNFPA from 1979 to 1982 (the third stage) was about US$10 million. The budget request for the period from 1983 to 1986 is US$5.9 million. Sixty-one per cent of the budget from 1983 to 1986 is to be used for family planning projects.

The projects scheduled during the period from 1983 to 1986 are as follows:

1) The long-term assistance for studying abroad in the field of population and family planning.

2) Population education: This involves reading materials for the elementary and secondary students, teacher's manuals for secondary education, guidance plan and teaching materials. There are also planned orientations and seminars for local educators, training for the teacher's in primary, secondary and vocational schools as well as for those concerned with agriculture, health and regional development. The creation of radio programs and pamphlets is also planned.

3) Health service project for hill tribes: This includes such activities as provision of primary health care education to VHV (Village Health Volunteer) of highland inhabitants, construction of simple health care facilities, provision of educational materials, and implementation of seminars for establishing guidelines in regard to the health problems and the future family planning needs of highland dwellers.

4) The promotion of the National Family Planning Program: This will provide training on sterilization to 250 medical students in such places as chulalongkorn hospital during the weekend from 1983 through 1986. As for the faculties of PCMO and MOPH, an annual seminar will be held on such topics as management and establishment of future goals. Domestic inspection tours shall be conducted by staffs of the prefectures, districts and towns to visit the areas where maternial and child health care, and family planning have been advanced. Surveys on illegal abortion and odolescence counselling provision shall also be conducted.

5) Evaluation and improvement of the NFPP traning unit: Reorganization of the training curriculum for those engaged in the health care activities including nurses and midwives, and training programs of intermediate clinic techniques for 1,000 paramedical personnel shall be implemented. A survey and evaluation of the training results shall also be conducted.

6) Population education through rural agricultural development networks: This involves presentation of a basic workshop to 80% of

agricultural authorities in 20 prefectures, distribution of manuals to curators and trainers, and the publishing of quarterly magazines and broadcast of radio programs through Kasetsart University.

7) Communication Support to NFPP Family Planning Activities: Planning and reviews shall be made to use mass media (posters and radio spots) to promote sterilization, the IUD and "the two child family norm". Requests for cooperation of local radio stations shall also be made. Audiovidual aids are made available.

8) Exlansion of Family Health Department (FHD) activities: This is a campaign in four southern provinces focusing on maternal and child health and birth spacing. This project selects mothers from 1,037 villages and trains them as crusaders for maternal and child health and family planning, holds regional conferences, conducts study tours to the neighboring Mohammedan countries for Islamic instructors.

9) Support for population related activities in southern region: This assistance, made available through Prince of Songkla University involves activities to encourage birth spacing for the sake of family health, field training for students and provision of mechanical equipments and vehicles.

2. UNICEF

The funds, technological aid and machinery and material grant provided by UNICEF in 1983 amounted to a total of US$2,663,900. More than 10% of the total amount has been set aside for the social preparation course for 123 districts within the 38 indigent prefectures of Thailand. Although these UNICEF activities are not directly connected to the National Family Planning Project (NFPP), both maternal and child health and family planning are one of the important objectives.

The social preparation program is under the jurisdiction of the Prime Minister's Office, however, such ministries as the Agriculture and Cooperatives Ministry, Education Ministry and Public Health Ministry have participated in the assistance committee. This program which was begun in 1982, was intended to expand as a grass root movement in the local areas through the education of village leaders.

The reason why UNICEF has a strong interest in this program is that by its progress, it will contribute to the general development of children, and at the same time, as the education of the villagers advances, it will create an inclination to accept UNICEF activities. Eighty-seven per cent of UNICEF budget is being used for training concerning nutrition, health, water, sanitation, VHC (Village Health Communicator) and VHV (Village Health Volunteer) as well as preschool education and irregular education activities.

The most important part of social preparation is the training. In the village unit course, emphasis is put on four areas: health, pychological and mental development, vocational education and community participation. The trained villagers are requested to train other villagers. It is when such village level training has been completed that UNICEF activities such as nutrition, vegetable seeds, livestock and teaching materials for preschool education and vocational schools are used effectively.

Although the aforementioned are still in the experimental stage, in one northeastern district, the number of malnourished children declined from 41.95% to 38.02% in a year, the rate of vaccination reached 90% and the rate of school absenteeism also declined.

By 1986, six to nine persons per village in 123 districts are scheduled to finish their training.

With the advance of family planning, there seems to be a number of schools closing in local areas due to declining enrollment. However, since the goal of UNICEF is to improve the quality of education, it is aiming to use the shutdown schools to educate others such as preschool children and women.

3. Institute for Population and Social Research, Mahidol University

This Institute which consists of 44 members: 17 instructors, 5 researchers, 2 statistics officers, and 20 clerical employees, produces 15 masters of arts annually. Its activities include formulation of fertility, family planning, migration, maternal and child health, policy for the low income population. Recent research achievements are as follows:

1) Survey of 46 slum areas in 1981

2) Family Planning Service Delivery as a Policy Strategy to Reduce Population Rate Phase II (cooperated by the Ford Foundation)

3) A Tale of Two Generations, A Qualitative Analysis of Fertility in Thailand (cooperated by the Population Council)

4) Recent Migrants in Bangkok Metropolis -- a follow up study migrant's, adjustment, assimilation and integration (cooperated by the Population Department of UNESCO)

5) The Dynamics of Family Planning Acceptance in the Northeast of Thailand, '83 (cooperated by USAID)

6) Executive Summary, seminar on Fertility, Family Planning and Development Issues of Population (cooperated by UNFPA)

7) A Study of Low-Income Households in the Northeastern Region of Thailand '83 (cooperated by the Council for Asian Manpower Studies)

8) Evaluation of the Family Planning Programme in Thailand in 1981 (cooperated by ICOMP)

9) Impact, Effectiveness, and Efficiency of th AFPH Programmes on Family Planning Status in 20 Provinces (cooperated by CIDA)

As seen above, most of the research is done with financial support from international foundations and organizations. The research materials produced have been beneficial for the domestic policy formulation.

4. Institute of Population Studies Chulalongkorn University

This Institute has been carrying out a maternal and child health project in slum areas since 1983 with aid from the Health Department of Bangkok Metropolitan Administration and UNICEF.

The major study activities are migration, urbanization, particularly measures for slums, roles and status of women and sterilization, etc. Recently, it has also begun studies on aging.

5. Bangkok Community Development Project

(1) Details of its establishment

Bangkok Community Development Project (BCDP) was established in 1980 when member of the parliament from Bangkok distributed 1.5 million bahts budget to BCDP and solicited cooperation from the Health Department of Bangkok Metropolitan Administration and Health Education Department of Mahidol University. BCDP's activities are mainly "sanitary improvements in six slum areas" and "a school food sanitation project."

In 1981, a 20,866,400 bahts budget was provided to the Health Education Department of Mahidol University to promote BCDP. This was the first time that such a large budget was approved for use for the enforcement of a project by a single university. In 46 communities, the project was begun. Since th ultimate goal of BCDP is to promote resident's self support efforts, and in order to give the organization flexibility, BCDP came under the jurisdiction of the Ministry of University Affairs in 1982. The number of communities, the objectives of BCDP are to increase from 256 in 1983 to 356 in 1984.

(2) Objectives of BCDP

1) To develop the quality of life among the low income population so they will have basic needs, good health and sanitary housings.

2) To develop the quality of youths in the community so that they will be good human resources in the future.

3) To promote the mental health of the people and the community by various social and recreational activities.

4) To promote good health, good nutrition and better quality of life to all.

5) To promote community organization and community responsibility.

6) To find a model for urban development area to do action research.

7) To promote cooperation among residents in developing their own communities.

8) To set a model of how various organizations can coordinate and cooperate to service the people.

9) To improve the housing sanitation in the community.

10) To improve the environment in the community including path construction, garbage and sewage disposal.

11) To control and eradicate the vectors of diseases such as mosquitoes, cockroaches, rats and dogs.

12) To arrange for a recreational areas in the community.

13) To arrange for occupational training for the people in the community.

14) To provide the community with basic health care service.

15) To arrange for the malnourished preschool children to receive adequate nutrition.

(3) Main implementation activities policy stress on the following areas

1) Improvement of environment, garbage disposal, cleanliness

2) Walk path in the community

3) Water, electricity and public telephone

4) Health care service (medical, dental, and veterinary)

5) Quality of life development

(4) Implemented activities

Activities done by BCDP and the people in the community for fiscal year 1982 are as follows:

Improvement of the environment

Many community sanitation problems have received no attention for years. The residents of the area only think about their economic problems. Housing and the general environment is in bad and unsanitary conditions as well as scattered around without any order. This creates a breeding place for all types of germs, insects, rodents and the like. In addition, the crowded houses leave not much room for walk path or if there is a little room to walk, the condition of the path may not be safe and convenient.

6. Japan International Cooperation Agency (JICA)

Since 1974, the Japanese government has been providing without compensation a total of US$3,695,652 to the Health Department Ministry of Public Health for Thailand's maternal and child health and family planning programs. Specifically, from 1974 to 1978, an annual average of US$304,347 and from 1979 to 1983, the annual average of US$434,782. The Japanese government is particularly putting an emphasis on the northern and northeastern parts of Thailand.

Commodity grant made available during th fiscal 1983 were:

1) Motorcycles (total 1,560)

1,060 motorcycles to health centers, 435 to MCH centers, 25 to District Hospitals, 30 to CBFPS, and 10 to border police.

2) Mobile IEC units and Vans (total 66)

17 vehicles to MCH centers, 16 to PCMO, 2 to District hospitals, 15 to NFPP, 3 to the Department of Health, 11 to CBFPS and 2 to medical schools.

3) Family Planning Educational and Motirational Films

Distribution of 572 sets to the prefectural hospitals, MCH centers, and District hospitals.

Although the budget from 1984 to 1987 for MCH and family planning is yet undecided, the Thailand government is anticipating US$1.5 million a year.

Specially, it will be used for the training, medical equipments, condoms, vehicles, motorcycles, audiovisual materials, MCH center construction, technological cooperation, etc.

On the other hand, Japan International Cooperation Agency (JICA) has also been collaborating in the nursing education project.

Specifically, construction of Srimahasarakham Nurses college in Mahasarakam province, dispatch of Japanese experts for the establishment of curriculum and teaching materials for pre- and post-education course, creation of teaching aids for audiovisual centers, consultants to 21 nurse's colleges, short-term training for 971 people, and study and training for 13 nurses in professional nursery and audiovisual education in Japan.

Assistance by the Japanese government in the field of the primary health care has become promoted mainly through the ASEAN Primary Health Care Training Center which was constructed in Mahidol University at Salaya. In addition, there has been local training centers in Khon Kaen (completed), Chonburi, Nakorn Sawan, Nakhon Sitamrat (these three are in progress.)

Organizational Structure of BCDP in 1983

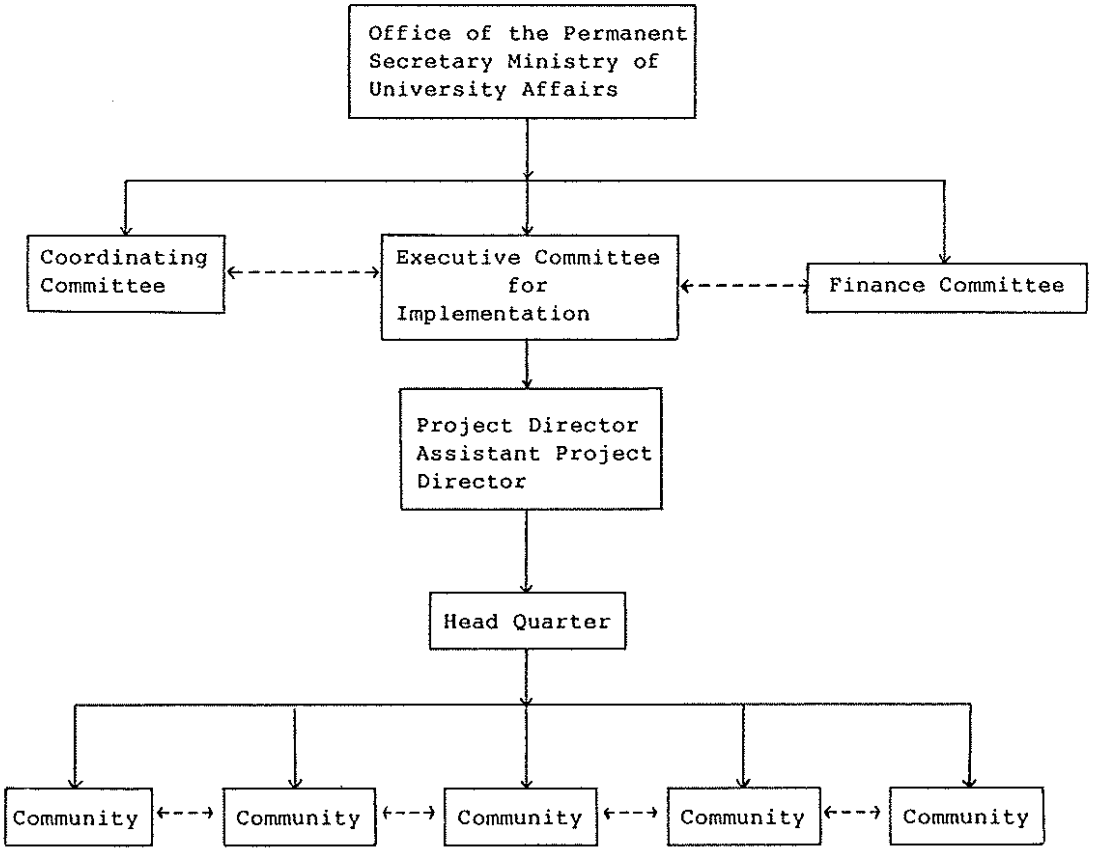


Table 1 Work done to Improve the Environment during Fiscal Year 1982

Type of work	Number of Communities	Number of times work done	Remarks
Community clean up (Garbage disposal)	156	343	2,744 truckloads of garbage were taken out from the communities
Eradication of insects and rodents	82	82	16,400 households were covered

Table 2 Walk Path Construction in the Communities during Fiscal Year 1982

Type of path	Number of communities	Length of path (meters)	Money donated toward work by communities	Money & materials supported by BCDP	Mean expense (baht)/meter of path	Mean support from BCDP (B)/meter of path
Coment	35	4,449.70	228,997	678,569.5	204	152.50
Wood	36	7,752.35	262,518	1,126,719.25	179	145.34
Dirt	2	1,700.00	102,630	48,430	89	28.49
Total	73	13,902.05	594,145	1,853,718.75	472	326.33

CHAPTER 5: Field Survey of Slum Areas in Bangkok

1. Outline of the Findings of A Past Survey of Slum Areas

Many survey reports on slum areas are available in Thailand. Here we will pick up a joint survey by Chulalongkorn University's Institute of Population Studies and Development of Health of Bangkok Metropolitan Administration (a report "A Study of Four Improved Congested Areas in Bangkok, 1983" by Nibhon Bebavalya, Aurapin Bunnag, Pannee Prachuabmoh and Ma-Yuree Nokyoongthong) as the representative one, and according to it will briefly describe the chareaceristics of the slum areas in Thailand. The Bangkok Community Development Project (BCDP) being executed under the direction of Dr. Boontium Khamapirad, Vice-Minister of Communication, is a very large-scale slum improvement project. This project must be based on a true understanding of the important conditions of the slum areas in Thailand, but no survey reports on this project have been published.

The above-mentioned survey is, as is seen from its title, a survey of four improved slum areas -- Wat Pai Ngoen, Wat Sroy Thong, Soi Ruam Ruksa and Soi Farm Wataua. Its basic objectives were to understand traditional health practices, knowledge as well as thier community organization and leadership, and to develop the so-called primary health care program for the areas. Thus, this survey deals mainly with health-related problems and measures to resolve them. But its findings included basic information which will be important to our own survey.

The total number of the sample households in the four areas, is 621. Regarding the number of the members of a household, "3 to 4" accounts for 41% of the total (for the four areas together) and "5 to 6" accounts for 26%. The size of household is not so large, the average number of the members of a household being 5.2. As to own house and landowner, "own house" accouts for 50% of the total and "own land" accounts for 68% of the total.

(1) Population Characteristics

Breakdown by age group of the total number of wives with a spouse shows that "25 to 29" accounts for 25% of the total and "20 to 24" accounts for 22%. Consequently, "Under 30 years of age" (including "15 to 19 years") accounts for a majority of 52.3%.

Breakdown by birthplace of the total number if wives with spouse shows that "central region" (excluding Bangkok) accounts for 37.6% of the total, "area in Bangkok other than the present dwelling place" 20.6%, "northeastern region" 19.9% and "the present dwelling place" 13.1%. Accordingly, "Bangkok" accounts for 33.7% of the total and "regions other than Bangkok" 66%. This means that, of the total number of wives dwelling in the slum areas, one-third were born in Bangkok and two-thirds come from regions other than Bangkok. Many of the wives dwelling in the slum areas have moved into such areas from

local regions.

As to their former dwelling place before moving into the present dwelling, "other area in Bangkok" accounts for 54% of the total, "central region" 20% and "northeastern region" 9%. "Bangkok accounts for 34% of the total in terms of place of birth but 54% in terms of previous residence. This means that many of them moved into an area in Bangkok at some time after birth and finally came to present community after some moving experiences in Bangkok.

Breakdown by former dwelling place of the total number of husbands shows that "Bangkok" accounts for 48% of the total, and the "central region" accounts for 24%. This proportion resembles that for wives.

Breakdown by period of dwelling in the present place of the total number of wives shows that "less than 5 years" accounts for 37%, "5 to 10 years" 32% and "more than 10 years" 30%. It should be noted that "more than 20 years" accounts for as much as 20% of the total.

As to the reasons for moving into the present dwelling place, "marriage" accounts for 32% of the total number of wives with spouse. This is also a noteworthy fact. "To find a job" accounts for 18%, "was forced out of the former dwelling place" 13% and "with parents" 11%.

As for the wish of wives to move to other area, 50% of the total replied, "I do not wants to move," and only 43% replied, "I want to move." As the major reason why they did not want to move, 39% of the total replied, "because the present place is convenient to work."

The average age at first marriage is 20.3 years. "First marriage" accounts for as many as 90% of the total. The average number of children is as small as 2.2 to 2.5. It also should be noted that 62 to 67% of the total are practicing contraception. The most widely used means of contraception is pills, followed by sterilization (women).

As to death of their children, "none" accounts for 90% and "death of a child" accounts for 10%.

(2) Social and Cultural Characteristics

Of the total number of families, 70% are "nuclear families" and 30% are "extended families." As to their educational level, "no school education" accounts for about 10% of the total, "primary education" 67% and "secondary education" 21%. As a whole, their educational level is relatively high. The educational levels of husbands were found to be higher than those of wives, and "no education" accounts for only 1.9 of the total husbands. While 1.4% of

the total number of wives are "college graduates", "2.9% of the total number of husbands are "college graduates."

As to their contacts with mass media, 14.5% of the total number of wives read newspapers every day, 45% listen to the radio and 63% watch TV every day, exhibiting very high rates.

(3) Economic Characteristics

First, let's take a look at husbands' occupations. Of the total, the highest rate (28%) are craftsmen and production workers and 25% are working in the transportation/communication industry. The two categories together account for the majority of the total. If daily laborers (13%) are added to this, the percentage totals 65%. Noteworthy are their former occupations. Agriculture accounts for 15.1% of the total, transportation/communication 15.0% and craftmen and production workers 14.5%. The three categories account for 45% of the total. If daily laborer (10.1%) is added to this, the total percentage adds up to 55%. Those who were engaged in agriculture as their former occupation are assumed to have moved from the local areas. As for former occupations, 13% replied "virtually unemployed", while present occupations include no "unemployed." "Not working" accounts for 5.5% of the total. But "not working" simply means that they are not working for some reason or other, and they should not be regarded as "unemployed." It can be said that there are no "unemployed" persons in the slum areas.

Of the total number of wives with a spouse, 47% are "not at working." In other words, more than half of the total number of them are "working." As regards their occupations, sales account for 17% of the total, craftmen and production workers acounts for 13%. Sales" means sale of foods, drinks and sundries at their homes or street peddling and craftmen and production workers mean side work at home.

Consumer durables owned are electric fan (93.2%), clock or watch (84.2%), electric iron (78.8%), radio or radio with cassette tape (77.1%), electric rice cooker (72.4%), TV (black and white 69.2%, color 13.8%), refrigerator (35%), gas stove (29.4%) and sewing machine (26%). In particular, the relatively high figures for the last three items are surprising.

Husbands' Incomes and Those of Wives and Members of Households

The average of husbands' monthly incomes is 2,911 bahts (1 baht = about ¥10). "2,000 to 2,900 bahts" accounts for 26.5%, the highest figure, "3,000 to 3,900 bahts" 24.5% and "less than 2,000 bahts" 20,4%. Accordingly, "less than 4,000 bahts" accounts for 71% of the total. In a 1979 survey the northeastern region had the lowest per capita annual income of 4,991 bahts. The total of husband's monthly income, wife's average monthly income of 1,080 bahts and the average

monthly income of 137 bahts earned by other members of the household is 4,128 bahts. This total is the average monthly income per household. Per capita income -- 4,128 bahts / 5.2 (average number of household members) -- is 800 bahts. Accordingly the annual per capita income is 9,600 bahts, which is nealy twice as much as the lowest per capita income (4,991 bahts) of the northeastern region. But this figure is less than one-third of the average per capita annual income in Bangkok (30,161 bahts). This comparison suggests the relative position of the slum dwellers' income level in Bangkok.

(4) Health and Diseases

The slum dwellers still take little interest in health. Many of them own a radio or a TV set but are indifferent to radio and TV programs on health. Mothers' knowledge of immunization is very limited. Nowadays many of them give birth to babies at hospitals. They utilize clinics to have their health condition examined before childbirth. The average period of breastfeeding is 10.6 months in the case of the first childbirth, and 11.7 months in the case of the last childbirth. The main diseases the slum dwellers had caught during the 3 months before this survey was conducted were diseases of the respiratory organs (particularly cold), asthma and diarrhea. Medicines they take are mostly those bought from arrigstores. Important is the fact that one-third of the wives in the sample for this survey did not know their community's health service. One-seventh of them replied, "No such service is offered here." Also, the fact that many of them demanded medical examination and health nurses' visits to their homes implies that health service is urgently needed in the slum areas.

Mr.Nibohon Bebavalya, the author of the survery report (then director of Chulalongkorn University's Institute of Population Studies and now chief of the Population Division of ESCAP), writes in conclusion, "the needs of slum dwellers relate to the upgrading of skills and economic level and their more effective utilization in raising economic levels, and to the over-all improvement of living condition while maintaining the social structure and social cohesion that are an integral part of community life."

2. On A New Field Survey of Slum Areas Conducted in 1984

In the Bangkok Community Development Programs (BCDP), health service, refuse treatment and waterworks programs have been planned and implemented for 156 of about 500 slum areas (as of 1983) in Bangkok. Also, in this project, surveys of slum areas have been conducted.

With the cooperation of BCDP, this survey group inspected 6 out of those slum areas which are covered by the project and those which

will be covered by it in the future, and selected 2 out of the 6 areas for field survey.

We will briefly comment on each of the 6 areas we inspected.

(1) Khun Na Tee Area (where our questionnaire survey was conducted)

This is a slum area formed on the trunk road running between the central part of Bangkok and Bangkok International Airport. It consists of about 200 households. It is surrounded by ordinary residential buildings and a high-rise apartment. Because it is on lower ground dirty water always flows into it. As a result, its dwellers are forced to live on the water (dirty water).

Recently water pipes have been laid in this area with the cooperation of BCDP. Every house is equipped with an oil drum lavatory.

Every house is connected to alley by wooden walkways Since there are very few streetlights, it is very dangerous to walk about in this area at night.

The 52nd Public Health Center which services this slum area is offering health service to a total of 80,000 people in the areas under its jurisdiction. It has 2 medical doctors, a dentist, 12 health nurses and 7 office clerks -- 21 in total. This public health center was established about 2 months ago as a spin-off from a public health center operating in a neighboring district. It has therefore very few data on its health service results. We were unable to have adequate discussions with its staff.

(2) Monawan Area (where our questionnaire survey was conducted)

It is about 20 minutes' car ride from the central part of Bangkok to this area, which is located to the west of Bangkok. This area became a slum about 20 years ago. In it ordinary residential buildings are mingled with shanties. It consists of 200 households. Although a detailed household survey has not yet been conducted, every household has its house number.

Few of its dwellers have fixed occupations. But some of them are engaged in the manufacture of rattan furnitre and shipment of charcoal.

As to the use of water, some households are using underground water pumped up and transported from a neighboring area and some others are using potable city water. But most of them are using water from canals to do washing.

Every house is connected to an alley by wooden walkways. Since this area faces a canal on two sides, some houses are flooded as deep as the height of the floor in the rainy season.

(Interviews)

a) A's family moved into this area from Ayutthaya 20 years ago. Currently the family members are a 70-year-old woman, her daughter, and her grandchild. The old woman's husband was alive 20 years ago, currently, however, the daughter is working as a sweeper to support her family and is paid 6 bahts an hour.

   The house is very poorly furnished. It has no electric appliances.

b) B's house is similar to A's house, but B's family is leading a life far better than A's. B's family has a TV, a radio with cassette tape, an electric refrigerator, an electric fan and a lavatory. They drink water cooled in the refrigerator. The head of the household has a fixed occuption and his wife does washing using canal water during the day, which is almost the same life style as that of ordinary people.

   Vegetables and rice are sold at the grocery in the area. A vinyl pack of 5kg of rice was priced at 35 bahts.

   The 22nd Public Health Center which services the Monawan Area is offering public health service to a total of 50,000 people living in the districts (including areas other than Monawan) under its jurisdiction. It has a staff of 13 -- a medical doctor, a dentist, 5 health nurses, a social worker and 5 clerks. The diseases prevalent in this area are diseases of the circulatory system. The staff members visit in pairs 5 families daily.

(3) Dindeng Area, Huaykwans

This area is located to the southwest of Bangkok and has 5 apartments and many shanties. This is a typical area where improved houses are mingled among the shanties.

Apartment dwellers moved from shanties and amount to about 500 householdds. On the other hand, about 300 households are living in shanties.

Apartment dwellers are paying 1,000 bahts a month in rent (1,500 bahts in the case of a family with children). It is said that some of the apartment dwellers are renting their room.

There is a day-care center servicing these apartment dwellers. It has a staff of 3 nurses. The number of children is 35. The children are aged 3 to 5 years. The daily fee is 6 bahts per head. The expenses for lunch are included in the fee. Part of the expenses for between-meals refreshments are defrayed by Bangkok Women's Council. The nurse's monthly salary is 800 bahts.

Shanties were built illegally on what once was a refuse collection site.

About 300 households live in these shanties, almost all of them own a TV, a radio and an electric fan. Water pipes are not yet laid in this area. Drinking water is bought at a place 500 meters away at 1 baht for two 20-litter cans.

(Interview)

> Mr. C operates a variety store in the area. He was born in Ayutthaya. He lived in a neighboring slum before moving into this area. Several years ago Japanese-Thai Youth Center was built in the area with the cooperation of Japan and he was forced out of the area and moved into the present dwelling place. His house has two rooms (8 m2 and 4 m2) and is equipped with a TV, a radio and a Buddhist altar. He lives with a family of 10.

(4) Chan Hun Area, Huakhang

It is about 5 minutes' car ride from Dindeng Area to this slum area. This area consists of about 200 households. Noteworthy of this area is the fact that its sub-leader is a woman. All of the dwellers in this area are living on the water (dirty water). Drinking water is kept in a 20-litter plastic bottle in each house. The slum dwellers are paying 150 bahts a month to the landlord. The number of the members of a household ranges from 5 to 12.

(Interview)

> Mr. A moved into this area 7 years ago because the former slum area had been cleared for readjustment. He said, "I have 3 children now. If I have more money, I want to have more children."

(5) Bangkok Yai Area

Unlike other slum areas, this area is characterized by the relatively high standard of houses and living conditions. Its dwellers are actively participating in community activities. At first sight, this area does not look like a slum area.

In this area, a construction project is underway to change all alleyways into concrete ones as one of the BCDP activities. Both adults and chidren participate in this work on weekends.

Many households own TV, radio and electric fan. Some households have a gas range in the kitchen. Some have sofas in their living room. But some of them are earning a living only by side work at home.

(6) Lad Phroa Area

This is one of the largest slum areas in Bangkok. It consists of more than 1,000 households. There are many alleys connecting this area with the trunk road. There are so many shanties, both large and small. Most of them have TV, radio and electric refrigerator. But some others have inadequate lavatories. Most of its dwellers are actively participating in communiy activities. On weekends internal and dental treatment service is offered. A medical team, consisting of a medical doctor, 3 assistant doctors, 2 dentists, 3 assistant to dentist and 6 volunteers from BCDP, offering diagnosis and treatment service. The medical service fees are very low. The fees received are deposited at BCDP for use in other programs in the area.

Fig. 1 Map of Khun Na Tee Area and Its Vicinity

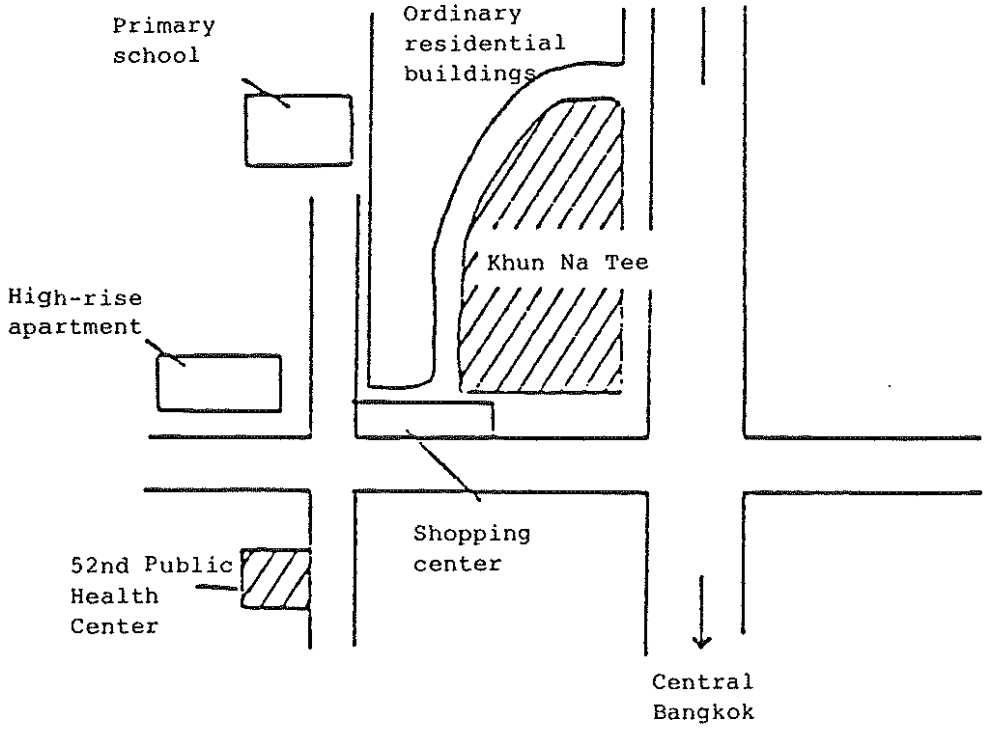
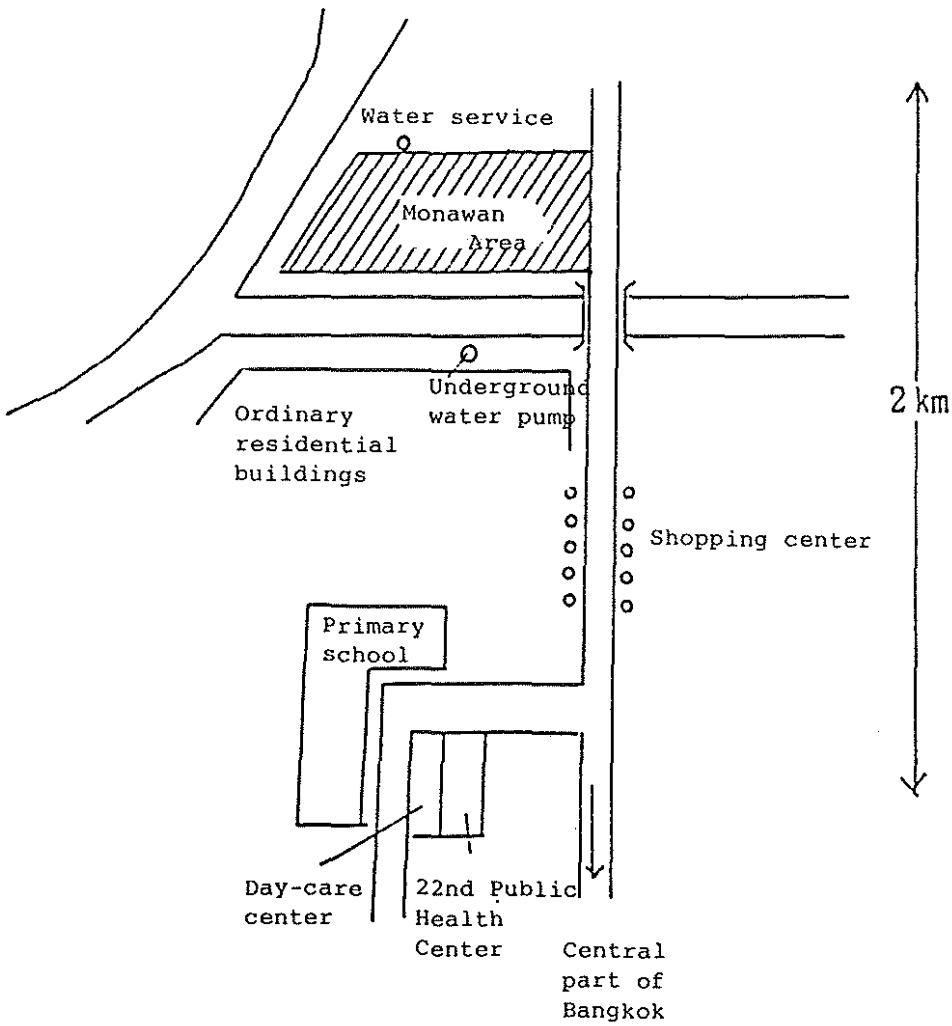


Fig. 2 Map of Monawan Area and Its Vicinity



(Front)

Home Visit Card

Bureau of Public Health, Bangkok Metropolis

Family name _____ F.F. _____

Name of patient _____ Age _____

Address _____

Diagnosis _____

Other comments _____

_____

_____

H. V. Plan _____

(Back)

Month \ Week	1	2	3	4	5
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

CHAPTER 6: Members and Their Schedule

Schedule (Nov. 4 - Nov. 17, 1984)

Nov. 4 (Sun.) Depart Narita

Arrive Bangkok

5 (Mon.) Pay courtesy call to Ambassador Shoji Tachibana

Discussion with First Secretary Takayama

Discussion on research with the Deputy Minister of Communication, Dr. Boontium Kamapirad

Discussion on investigation of the actual condition of slums with the members of BCDP (Bangkok Community Development Project)

6 (Tues.) Briefing on the research institute's activities by Dr. Pramoto Prasatkul, Director, the Institute for Population and Social Research (IPSR), Mahidol University

Briefing on health activities by Dr. Amorn Nondasuta, Permanent Secretary, Ministry of Public Health

Briefing on the research institute's activities by Dr. Pichit Pitaktepsombati, Director, Institute of Population Studies, Chulalongkorn University

7 (Wed.) Briefing on the national statistics system by Dr. Niyon Purakam, Secretary General of the National Statistics Office

Briefing on the status quo of public health in Thailand by Dr. Debhanom Muangman, Dean, Faculty of Public Health, Mahidol University

Briefing on public health administration of Bangkok by Dr. Chek Dhanasiri, Deputy Under secretary of state, Bangkok Metropolitan Administration

8 (Thurs.) Field research of slum areas: Dindeng Ward, Chan Hun Ward, Khun Na Tee Ward

Outline of national family planning program by Ms. Patama Bhiromrut, Public Relations and Information Section, Family Health Division, Department of Health Ministry of Public Health

9 (Fri.)	Preliminary meeting on field research at BCDP
10 (Sat.)	Discussion on content of questionnaire with Dr. Boontium Khamapirad, Deputy Minister of Communication
	Field research of slum areas; Bangkok Yai Ward
11(Sun.)	Attend representative's meeting of the slum areas in Bangkok
12(Mon.)	Field trip to the 21st health center, the Bangkok Metropolitan Administration
	Arrangement of materials
13(Tues.)	Field research of the slum areas Monawan Ward
	Field trip to the 22nd health center, the Bangkok Metropolitan Administration
14(Wed.)	Visit the population division of ESCAP
	Briefing on activities of the ASEAN Training Center by the coordinator, Mr. Ken Hasegawa
15(Thus.)	Field research on sound pollution caused by ships at Nawii district.
	Field trip to the 52nd health center, the Bangkok Metropolitan Adminisration
	Field research of the slum area: Khun Na Tee Ward
16(Fri.)	Visit national social and economic development committee of Thailand
	Visit the population council
	Visit the Embassy of Japan and report to First Secretary, Yasunobu Takayama
17(Sat.)	Leave Bangkok
	Arrive Tokyo

Members

Japan

(Committee)

Toshio Kuroda (chief)	Project Director Nihon University Population Research Institute
Mikio Yamamoto	Guest Professor of Teikyo University
Hiroaki Washio	Senior Researcher Economic Cooperation Department of the Institute of Developing Economies
Yasuko Hayase	Statistics Department of the Institute of Developing Economies
Junji Funatsu (coordinator)	Councillor of the Asian Population and Development Association

(On-the-site Research Members)

Toshio Kuroda	Research Chief
Mikio Yamamoto	
Massaki Endo	Staff of the Asian Population and Development Association

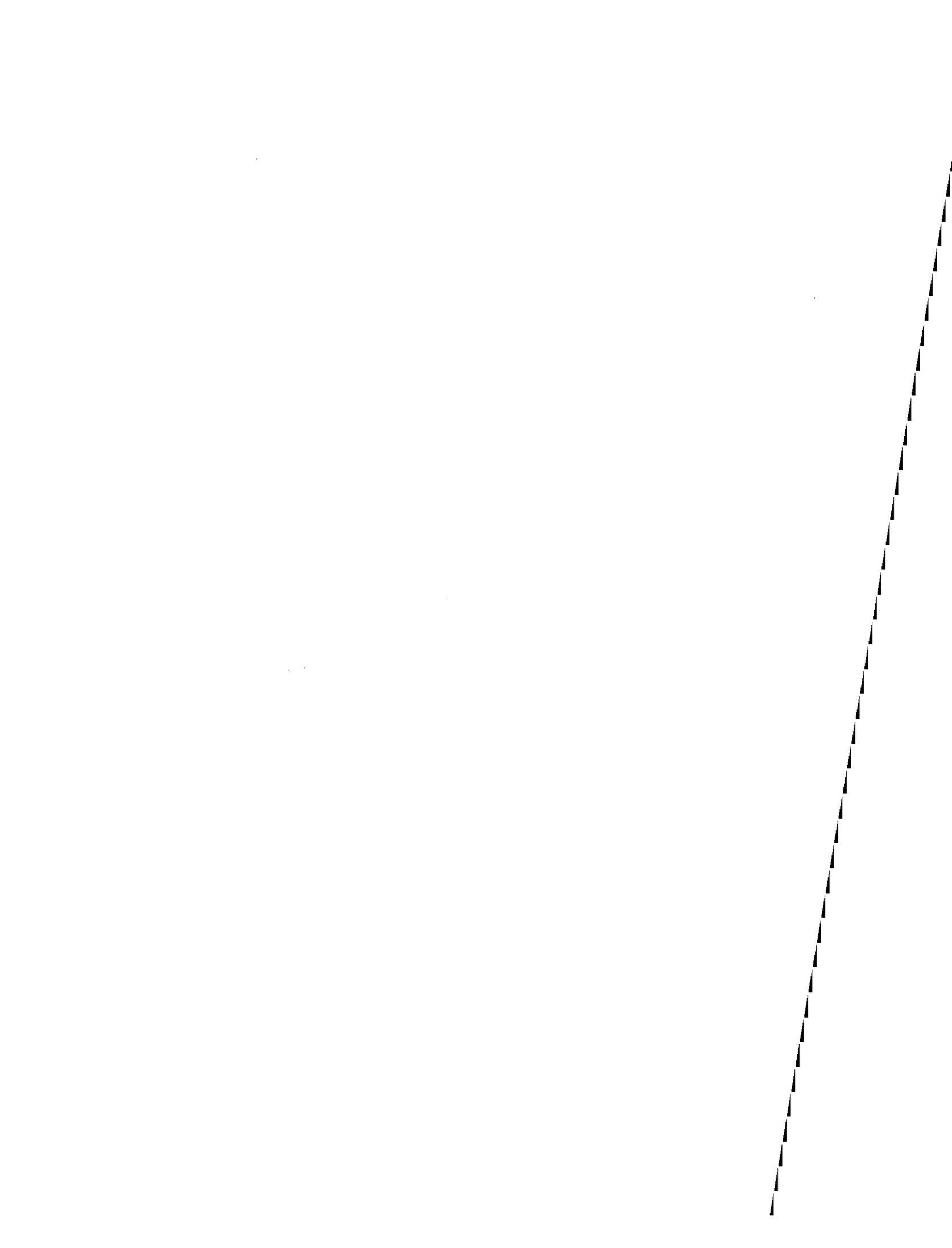
Thailand

Embassy of Japan in Thailand

Ambassador Shoji Tachibana

First Secretary Yasunobu Takayama

Dr. Boontium Khamapirad	Deputy, Minister of Communication
Ms. Khunying Kanok Samsen Vil	Secretary to Deputy Minister
Dr. Subarn Panivisavas	Dean, Faculty of Sciences and Humanities Mahidol University at Salaya
Miss Tassane Indrasukhsri	Director, Bangkok Community Development Project
Dr. Karoon Liowstrisook	Faculty of Public Health Mahidol University
Dr. Nongluk Tunyavanich	Faculty of Science and Humanities Mahidol University
Dr. Amorn Nondasuta	Parmenent Secretary, Ministry of Public Health
Miss Patama Bhiromrut	Chief, Public Relations and Information Section, Family Health Division, Department of Health, Ministry of Public Health
Dr. Chek Dhanasiri	Deputy Under Secretary of State, Bangkok Metropolitan Administration
Dr. Debhanom Muangman	Dean, Faculty of Public Health, Mahidol University
Dr. Pramoto Prasatkul	Director, Institute for Population and Social Research, Mahidol University
Dr. Apichat Chamratrithirong	Deputy Director, Institute for Population and Social Research, Mahidol University
Dr. Niyon Purakam	Secretary General, National Statistics Office
Dr. Pichit Pitaktepsombati	Director, Institute of Population Studies, Chulalongkorn University
Mr. Ken Hasegawa	Coordinator, ASEAN Training for Primary Health Care Development Project
Dr. Barnett F. Baron	Senior Representative South and East Asia, The Population Council



CHAPTER 7: Description of the Survey Questionnaire Items

ID. NO. .....

Questionnaire for AFDA

Bangkok Community Development Project Ministry of University Affairs

Name of Respondent (Head of household)..... Address.....

1. General situation : total members in a household.....persons

No	members of household	Sex	Age	marital status	Occupation	income/ month	level of Education	Illness in the past 2.weeks	Who diagnose the illness?	Did you go to see doctor?	Days under Hospital-ization	Method of Self treatment?	How many cigaretts do you smoke a day?	Family planning information for carried people: method used	not use and not plan to use	not use but plan to use (method)	Remarks

2. Do you have latrine ? ☐ Yes (private latrine)

☐ Yes (community latrine)

☐ No

3. What kind of water do you use for drinking ?

4. What kind of water do you use for domestic use ?

5. Condition underneath the house ☐ Dry ☐ Wet/polluted water

6. Place of birth for head of household

(1) In this slum community (2) Other slum in Bangkok.....

(3) Non-slum community in Bangkok.....(4) North.....

(5) South..... (6) North east.....

(7) Central..... (8) East.....

7. Durable goods

(1) B/W T.V.	☐ Yes, Price.....	☐ No,
(2) Color T.V.	☐ Yes, Price.....	☐ No,
(3) Refrigerator	☐ Yes, Price.....	☐ No,
(4) Stereo set	☐ Yes, Price.....	☐ No,
(5) Electric fan	☐ Yes, Price.....	☐ No,
(6) Radio	☐ Yes, Price.....	☐ No,
(7) Electric rice cooker	☐ Yes, Price.....	☐ No,
(8) Sewing machine	☐ Yes, Price.....	☐ No,
(9) Motorcycle	☐ Yes, Price.....	☐ No,
(10) Others (specify)	☐ Yes, Price.....	☐ No,

8. Does Head of household have good friend or good relative in this community before move in ?

☐ Yes,

☐ No,

☐ Not applicable (Born here)

9. Previous places of residence (head of household)

☐ Never move (born here)

☐ Total number of times moved.....

Place	Present Place	8										4th move	3rd move	2nd move	1st move	Place born (same as#5)
1. Slum in Bangkok																
2. Non-Slum in Bangkok																
3. Central																
4. North																
5. North East																
6. South																
7. East																
Year moved to the place																
Reason for the move																
1. Marriage																
2. Followed family																
3. Job																
4. Eviction																
5. Environmental reason/																
6. Live independently																
7. Economic reason																
8. Others (specify)																