



1974

World Population Year

**THE POPULATION  
OF  
THAILAND**

C.I.C.R.E.D. Series

# **The Population of Thailand**

**A monograph prepared for the World Population Year Series  
under the general direction of the  
Committee for International Coordination of  
National Research in Demography  
(C. I. C. R. E. D.)**

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**Bangkok, 1974**



# The Population of Thailand

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# Chapter I

## Population Growth in the Past

### Introduction

Thailand is a tropical country in Southeast Asia, extending over an area approximately 400 miles, plus a 500 mile extension down the narrow Malay Peninsula. In addition to Malaysia, its neighbors are Burma, Laos, and Cambodia.

Much of the nation consists of a flat alluvial plain, most of which is farmed in rice. Forested and mountainous areas exist, particularly in the north along the western border and in parts of the south. Because its latitude is from 6 to 20 degrees north of the equator and attitude is very close to sea level in many areas, high temperatures and high humidity are prevalent.

Currently, Thailand is ranked as the 17th largest country in the world with a population of about 35 million counted in the 1970 census.

The standard of living, and the health and nutrition of the people are high by the standards of Southeast Asia. The only metropolis, Bangkok-Thonburi, is the financial, educational and communications center of the nation, in addition to being the capital.

### Population Before Censuses (Before early 1900)

The Thai people have had a very long existence. The furthest land to which they can be traced was in the south of China. Later, they were forced to move further south. The first kingdom, known as Siam, was established in the mid-thirteenth century. Although many historical records were kept continuously, data on the number of population are available only from scattered and disparate sources. Since fighting with neighboring countries was a continuous event, it is possible that population records may have been kept for conscription or other military purposes but have not survived to the present. In the absence of reliable records, knowledge of population in the early time is very limited and uncertain. We can assume however that population growth in this period was low because of the balance between high birth and death rates. This observation is evidently supported by the fact that it took about 7 centuries for the total population to reach 8 million (counted by the first census ) while successive additions 8 million took much less time. In addition to this information, population in the past may be assessed through estimation as shown in Figure I.

Figure I assembles learned conjectures, and a sketched-in trend line forms an estimated consensus of these historical informed guesses, most of which appear to have been derived from local registers kept by district officials, generally for purposes of military conscription, taxation, or administrative utility. About the best we can say is that the number of people then living inside the present borders may have been about 4 million in 1700, rising to 6 or 7 million by 1900; with most of this growth probably occurring in the nineteenth century. An acceleration in the rate of growth apparently began at some time between 1850 and 1875.

The cause was rice. Learning that Thai-grown rice was both available and of particularly high quality, peoples of other nations began to buy it in sufficient quantity to bring Thailand out of its former self-sufficient, subsistence economy into the international marketplace and an exchange economy. The resultant influx of money apparently raised the economic well-being enough to enable the rise in the rate of population growth which persisted into the early years of the twentieth century. Two-fifths of this increase consisted of the immigration of Chinese, the other three-fifths being the excess of births over deaths consequent upon a drop in mortality combined with a possible rise in fertility. Whatever the cause—and the demographic antecedents are, indeed, rather uncertain—the Thai population definitely was expanding during the late nineteenth and early twentieth centuries, and the influx of Chinese was a truly major contributor. Rice exports have continued to be important to the national economy, and any threat to the rice trade is still regarded with great fear.

### **Population After the Census**

The first official census was taken in 1911. The first two censuses required two years to complete, but thereafter, more rapid, complete and accurate enumeration became usual. Mechanical tabulation using punched cards was introduced in the 1947 census and a census of housing was added in 1970. Table I reports the national totals for all the censuses ever taken. The accuracy could not have been high in the early censuses, and even the latest is hardly free from error. The broad portrait does, however, supply the correct impression that the nation has been growing not only rapidly, but at an increasing rate.

The first census reported a total of 8 million which took a multientured history to achieve. The subsequent, multiples, however, were remarkably quick in attainment. Sixteen million was reached in an additional 32 years (approximately), 24 million took another 15 years, 32 million required only 9 more years, 40 million is expected to be attained in only 7 years, and 48 million will (if present growth rates continue) be reached in only 6 years

thereafter. As in nearly all other developing countries, this remarkably rapid rate was due to, natural increase rather than the excess of immigrants over emigrants. The natural increase, also as in other countries, is attributed to the decline of mortality rather than to increased fertility. Natality indeed, appears not to have increased. The annual rate of inter-censal increase since 1911 has generally been accelerating. During 1937-1947, the rate which seems somewhat irregular may be explained by the poor social, economic and political conditions connected with the second world war and its end. Certainly it affected the quality of data of the census. The decrease in the growth rate between 1960-1970 is difficult to interpret. On the one hand it is possible that part of the apparent decrease results from a greater extent of undercounting in the 1970 than the 1960 census and does not represent a genuine lowering of the growth rate. On the other hand some reduction in fertility and hence the growth rate in response to the social and economic progress of the country during the decade and the beginning of the family planning program which was introduced to public at this time may have had some impact on births.

Besides censuses the registration system is another source of population data, but the accuracy remains questionable. A quasi-census taken in 1956 by the Ministry of Interior, the total population, as of 31 May, was declared to be 22, 811, 701; a figure which is slightly more than one-half million smaller than might be expected from linear interpolation between the 1947 and 1960 census. Similarly, the registered population in 1970 was several percentage points above that reported by the 1970 census. There is no way to completely resolve these differences.



## Chapter II

### Components of Growth

#### Current Growth Rates

As stated previously, Thailand's rate of population growth has generally been accelerating. Although the intercensal growth rate between 1960 to 1970 is somewhat lower than was expected, preliminary estimates of the rate of under-enumeration for the 1970 census range between 2.3% and 4.9%, which means that the expected population in 1970 should be between 35 to 36 million rather than the 34 million reported. (NSO, 1970). Analysis of the age-sex distribution based on one percent sample tabulations of the 1970 census also result in an estimated population of about 36 million (Chet and Robinson, 1973). Based on these estimates, the current growth rate of Thailand's population would be about 3 percent per year, in line with the estimated growth rates for earlier periods. This also places Thailand among the countries with the highest growth rates in the world. This high growth rate is due to rapid reductions in mortality and continued high fertility.

#### Fertility

Throughout the twentieth century, Thailand's fertility has remained at traditionally high levels, with the exception of the World War II period. Estimates made by the United Nations (1963) place the gross reproduction rate at 3.2 for 1950-1955, while results of a sample survey conducted by the National Statistical Office in 1964-1965 estimated the gross reproduction rate as 3.1 (NSO, 1969). The birth rate has been estimated to range between 45 to 50 per thousand up to as late as the 1970 census.

Vital registration has been officially compulsory throughout the kingdom since 1917. Heads of households residing in villages are required to report all births and deaths to the Kamnan (tambon headman) who then forwards the documents to the amphoe (district) office which in turn notifies the changwat (province) office and responsible ministry. Residents of municipal areas must report vital events to the municipality office, which then forwards the documents to the provincial office and the ministries. According to the law, births must be registered within 15 days of occurrence and deaths within 24 hours.

Official vital registration statistics show a rising birth rate approaching 40 per thousand in the mid-1960's, but this increase may reflect nothing more than improvements in the level of registration.

There is still significant under-reporting in the vital registration system. Das Gupta (1965) estimated that, in 1960, registration of births covered about 75-76 percent of total births and only 57-61 percent of deaths. In 1964-1965, the National Statistical Office's Survey of Population Change estimated the rates of under registration to be 15 percent for births and 30 percent for deaths (NSO, 1969).

Although the Royal Thai Government issued the first official national population policy statement on March 17, 1970, "supporting family planning through a voluntary system, in order to resolve various problems concerned with the very high rate of population increase, which will constitute an important obstacle to economic and social development of the nation", family planning activities had been in operation since 1968. Several studies have shown that there is considerable interest in family planning and the use of contraceptive methods is increasing. These practices, however, are not yet sufficiently widespread nor of long enough duration to have significantly affected the birth rate. There is as yet no clear evidence of an overall decline in fertility levels in Thailand, and completed family size of women at the end of their reproductive ages probably still averages about 6.5. Recent studies, however, have indicated declines in fertility among urban women, particularly those of the younger generation (Prachuabmoh et al. 1972); this aspect will be covered in more detail in Chapter III on Differential Fertility.

There is also evidence of some inter-regional differentials in fertility in Thailand. The mean number of children ever born alive per married woman, aged 15-44, in 1960 and 1970 show that fertility is highest in the Northeast and lowest in the South with the Northern and Central regions ranking second and third, respectively. Fertility in the capital city of Bangkok appears to be lower than the rest of the country, being 25 percent lower than that of the most rural parts of Thailand, substantiating the significance of the impact of the urban metropolis on fertility.

The association of higher urbanization levels with lower fertility suggests that increased urbanization may become an important factor in reducing the overall levels of fertility in Thailand.

Perhaps the most striking aspect of Thai fertility behavior is its persistence through the older child-bearing ages. (See Table II-1). While the age-specific birth rate for Thai women at all ages are relatively high in comparison with other countries, the greatest differences with those of other countries are found in the age groups 35 through 49. Although the age-specific fertility rate is highest at ages 25-29, as in most other countries, the rate declines slowly thereafter, remaining higher at ages 35-39 than at any age

in industrialized nations and maintains a high level even through ages 40-44. About one-half of all births in Thailand were born to women over age 30, and the birth rate for Thai women aged 45-49 was nearly identical to that for women in the U.S. aged 35-39; indeed the rates for Thai women aged 35-39 and 40-44 were both higher than the rates for women in the U.S. aged 25-29 and 30-34. In summary, it may be said that the most notable characteristic of Thai fertility is the tendency of women to continue having children beyond age 35 until the end of their reproductive periods.

These high levels of fertility persist despite evidence that age at marriages for females has increased. Between 1947 and 1960, census statistics on the percentage evermarried show a decline of almost one-third in the percentage of women married by ages 20-24. In 1970, the age at which half of all females were married was about 21 years; for males the median age was about 24 years.

The number of married women of reproductive age, 15 to 44 years, was reported to be 3.5 million in the 1960 census and increased to 4.8 million in 1970.

## **Mortality**

During the first half of the twentieth century, the crude death rate in Thailand was estimated to be about 50 per thousand (Bourgeois-Pichat, 1960). During this period, malaria, tuberculosis, small pox, parasitic infections and nutritional deficiencies were reported as the major causes of mortality and morbidity. In the first half of the twentieth century, malaria, was one of the leading causes of death, but the widespread use of DDT, drugs and public education programs resulted in a decline in the death rate from malaria from 351 per 100,000 population in 1943 to 14 in 1966. Other diseases also diminished in frequency, and after the Second World War, by the mid-1950's, the crude death rate decreased to below 20 per thousand, and by the mid-1960's was estimated to be about 11 per thousand. The crude death rate calculated from the official vital registration statistics, unadjusted for under-registration, is about 8 per thousand. As stated in the previous section, the NSO Survey of Population Change estimated that the rate of under-registration of deaths in 1964-1965 was about 30 percent for deaths. The results of the same survey also show that while there seemed to be little variation between males and females in underregistration of deaths, there was variation among age groups. Under-registration of deaths was found to be highest among the young — 62 percent for deaths occurring to persons under 1 year of age and 54 percent at ages 1-4, while under-registration of deaths for persons aged 65 and over was estimated to be 43 percent.

Data from the Survey of Population Change which was conducted in the mid-1960's and covered the Whole Kingdom, excluding Bangkok and Thonburi Municipal Areas, indicate that the standardized death rate for municipal areas is almost half that of the non-municipal areas and that the infant mortality rate is three-quarters as high. (See Table II-2). Thus, despite the poor conditions that are often associated with urban life in developing countries, the overall net effect on health, as measured by mortality levels, is favorable.

Infant and maternal mortality rates have declined significantly over the past 30 years, decreasing by two-thirds between 1940 and 1970, but there remains considerable room for improvement in the future. Infant mortality is estimated to be about 85 per thousand live births and maternal mortality about 4 per thousand live births.

The results of the significant reduction in mortality can be seen in the increase in the expectation of life at birth, from an estimated 35 years in 1937 to about 50 years in 1947, and finally to about 56 for males and 64 for females in 1964-65. (See Table II-3).

These data indicate the change, within the last 30 years, from the classic pre-industrial level of life expectancy prevalent in Thailand until shortly before World War II to a 1970 level equivalent to that of the United States in about 1920, resulting from the rapid adoption of modern medical technology and the expansion of health facilities throughout the Kingdom.

### **International Migration**

In contrast to the last half of the nineteenth century, when immigration may have accounted for approximately half of Thailand's population growth, international migration now plays a negligible role, averaging only about 2,000 persons per year in the 1960's. The Immigration Act of 1949 limited immigrants from each country to a maximum of 200 per year, with a maximum of 200 to be admitted without reference to nationality. The number of permanent immigrants, i.e. a person who is granted an official permit for a permanent stay in Thailand, averages between 1,000 to 2,000 persons annually. The most frequent countries of origin are China, India, the United States, Japan and the United Kingdom, all with the same number of immigrants, followed by the Philippines.

Census data also support the contention that there have been very few recent immigrants into Thailand. In 1960, about 11,600 residents of Thailand reported that they had immigrated to Thailand 5 years prior to the census; of these, 2,900 had come from China and the rest from all other countries.

Comparable figures from the 1970 census are somewhat higher, reporting a total of about 29,000 immigrants between 1965 to 1970. Most of the immigrants were male. In 1960, the sex ratios were 202 among the Chinese and 132 for immigrants from all other countries and for 1970, the sex ratio for Chinese was 116 and 121 for immigrants from all other countries.

Although these totals are probably under-reported, they indicate that few persons moved into Thailand during the five year periods preceeding the last two censuses. Place of birth data also support a similar conclusion: according to the 1960 census, 98.1 percent of the population had been born in Thailand; of the remaining 1.9 percent, 1.5 percent had been born in China. In 1970, 98.8 percent of the population reported that they were born in Thailand, and of the 1.2 percent foreign born, about 1 percent reported that they had born in China.

Emigration is even smaller. Although accurate data are lacking, it seems fairly certain that the number of Thai emigrants to other countries is very small.

## Chapter III

### Differential Fertility and Family Planning

#### **Differential Fertility**

In the past, studies of differential fertility in Thailand have been hampered by the lack of the necessary statistical data. Recently this situation has improved considerably and as a result of special tabulations from the 1960 census and several sample surveys, a growing body of information is emerging on the subject. A question on children ever-born was first included in Thai censuses in 1960 and was repeated in 1970. Special tabulations from a one-percent sample of the 1960 Census have served as the basis for several studies of fertility differentials. The Survey of Population Change conducted by the National Statistical Office yielded some data on rural-urban fertility rates. The Longitudinal Study of Social, Economic and Demographic Change conducted by the Institute of Population Studies at Chulalongkorn University collected retrospective pregnancy histories and detailed socio-economic data from a national urban sample in 1969 and again in 1972 and from a national urban sample in 1970 and again in 1973. These data are being used to study various aspects of differential fertility in greater detail than is possible with census data. Finally several local surveys conducted by the National Economic and Social Development Board, the National Research Council and Mahidol University have also yielded some data on fertility differentials.

#### **Rural-Urban Differences**

Annual rural-urban fertility rates have been published previously from two sources. The Survey of Population Change yielded age-specific fertility rates for rural and provincial urban women and the Longitudinal Study yielded age-specific marital fertility rates for rural, provincial urban and Bangkok-Thonburi women (see Table III-1). In each survey urban was defined as officially designated municipal areas. Both sets of data indicate that there are marked rural-urban differences in the level of recent fertility. Rural age-specific fertility rates derived from the Survey of Population Change are higher at every age than the provincial urban rates. The general fertility rate (for women 15-49) is 36 percent lower in provincial urban than in rural areas.

For most ages, marital fertility rates derived from the Longitudinal Study are highest for the rural women and lowest for women residing in the capital metropolis. These differences are clearly reflected in the overall rate of marital fertility for all currently married women aged 15-49; the provincial

urban rate is 29 percent lower than the rural rate, and the rate for Bangkok-Thonburi is 39 percent lower. The differences are quite substantial and, when combined with the lower proportions married that exist among the urban women, imply considerably lower rates of natural increase in the cities than in the countryside. Although the lower fertility rates may be partially offset by lower urban mortality and age distributions more favorable to higher fertility, these factors are surely not sufficient to cancel out the substantial differences in fertility. Nevertheless, it is also clear that both in Bangkok-Thonburi and in provincial urban centers, marital fertility is still well above levels experienced in developed countries and far above replacement levels. Thus, rapid population growth in Thai cities in the foreseeable future is certain even if rural migration is somehow slowed down or eliminated.

The relative differences in the marital fertility rates between the rural and either the provincial urban or the Bangkok-Thonburi women are noticeably greater for the age groups 30-44 than for the younger age groups. This probably reflects more extensive use of contraception among urban women; also, the practice of family planning typically has a greater impact on the fertility rates of older women, the vast majority of whom have already had all the children they want, than among younger wives who are less likely to have achieved or exceeded the number of offspring they desire.

It is also interesting to note the family sizes implied by the rural and urban marital fertility rates. Assuming an age at marriage of 21 for rural women and 22 for urban women (roughly the average ages at first marriage of rural and urban women at the end of the childbearing ages) and assuming further that their marriages remain intact until the end of the reproductive period, the marital fertility rate would result in an average of 7.5 children for rural women, 4.8 children for provincial urban women, and 4.0 children for women living in Bangkok-Thonburi. When these estimates are compared with the data presented in Table II-2 on the number of live births to ever-married women as calculated from their reported pregnancy histories recorded in the Longitudinal Study, the rural estimate is above the completed family size of women at the end of or beyond the reproductive ages, while the urban estimates fall below the comparable figures. Thus rural, ever-married women aged 40 or over report averages of 6.6-6.9 live births in their lifetime, which is below the 7.5 children implied by the recent fertility of currently married women.

Since the data presented on children ever-born in Table III-2 are based on ever-married women, the fact that the completed family size found in the Longitudinal Study falls slightly below the completed family size implied by rates being experienced by currently married women is consistent with the

contention that marital fertility rates have not changed in rural areas over the last generation. The family size implied by the marital fertility rates of currently married women assumes women remain married throughout their reproductive years, whereas some of the ever-married women spent part of their reproductive years either between marital unions (as in the case of divorce followed by remarriage) or following marital unions (as in the case of widowhood, separation, or divorce not followed by remarriage).

In contrast, the Longitudinal Study results show that ever-married women aged 40 or over in provincial urban areas and in Bangkok-Thonburi report, respectively, averages of 5.3-5.8 and 5.2-5.5 children ever born, which exceed considerably the family size implied by the recent marital fertility rates of the currently married women. Unless births during the year prior to the survey were less completely reported than births occurring in the more distant part, which seems unlikely, or unless the data of the more recent births were inaccurately reported, the differences strongly suggest a substantial decline in marital fertility over the last generation among urban women.

The data on children ever born from the Longitudinal Study also suggest a fairly large difference in fertility between the urban and rural categories, although not as large as the recent marital fertility schedules indicated. In comparison with rural ever-married women of all ages, the average number of children ever born is 17 percent fewer for provincial urban women and 22 percent for women residing in the capital. Judging from ever-married women aged 40-44 or 45-49, similar differentials exist in the number of children born by the end of the childbearing ages. In comparison to rural women aged 40-44, provincial urban women bear 16 percent fewer children and Bangkok-Thonburi women bear 23 percent fewer; the comparable figures for women aged 45-49 are 14 percent fewer and 21 percent fewer, respectively. These differences are too large to be accounted for by differences in age at marriage and almost certainly reflect greater use of contraception in the cities than the countryside.

In addition to the results of the Longitudinal Study, Table III-2 presents the mean number of children ever born for the same rural-urban residence categories based on the provisional results of the 1970 census. The fertility levels for women of all ages as indicated by the census are very similar to those found by the Longitudinal Study in each of the three residence categories. Rural-urban differentials are also very similar. In comparison with rural ever-married women of all ages, the average number of children ever born is 11 percent fewer for provincial urban women and 19 percent fewer for women residing in the capital. For women at the end of their childbearing the differences are also very close to those found in the



Longitudinal Study. In comparison to rural women aged 40-44, provincial urban women bear 14 percent fewer children and Bangkok-Thonburi women bear 23 percent fewer; the comparable figures for women aged 45-49 are 13 percent fewer and 22 percent fewer.

For all rural and urban categories in Table III-2, the number of children ever born as calculated from the Longitudinal Study data increases steadily with the age of the women up to ages 40-44 but thereafter shows a slight tendency to decline. For the 1970 census data a similar pattern is evident with the mean number of children ever born increasing up to ages 45-49 and then declining slightly for older women. Such a finding is typical of distributions of children ever born based on censuses or surveys that include questions about past childbearing. It almost certainly reflects the greater tendency among older women to underreport the number of children ever born.

It is worth considering the effect of excluding women with an unknown number of children ever born (as was done for both the Longitudinal Study and the census data) on the results presented in Table III-2. For the census the proportions of women excluded are substantial involving five and a half percent of ever-married women in the whole kingdom (five percent of rural women and about eight percent of ever-married women residing in provincial urban places and Bangkok-Thonburi). It seems likely that for the large majority of those who did not state the number of children born to them had, in fact, borne none and the enumerator either left a blank space or entered only a dash on the interview schedule instead of entering a zero. This is a pattern that has been noted for a number of censuses (El Badry, 1961) as well as the 1960 Thai census (Goldstein, 1970, pp. 327-328). The concentration of these cases among the younger age groups supports such an assumption. It seems less likely that such a process was operating in the Longitudinal Study since detailed pregnancy histories were called for and the few cases of women with an unknown number of children ever born are largely among the older women. In addition, the proportion of ever-married women in this situation is very small among Longitudinal Study respondent involving less than a half of one percent of rural and Bangkok-Thonburi ever-married women and about one percent of provincial urban women. This probably explains that the mean number of children ever born found in the census are somewhat larger than those indicated by the Longitudinal survey for women in younger age groups in equivalent residence categories but not for older women.

A comparison of the mean number of children ever born with the mean number of living children from Longitudinal Study indicates that infant mortality has the greatest impact in reducing family size for rural couples and the least impact among Bangkok-Thonburi families. The ratio of living children

to children ever born is .82 for rural women, .88 for provincial urban women, and .92 for Bangkok-Thonburi women. Therefore, although substantial rural-urban differences persist in the average number of living children, they are less pronounced than for children ever born; in comparison with rural women, provincial urban women have 10 percent fewer living children and Bangkok-Thonburi women have 13 percent fewer. For women over age 40, the decline in the average number of living children is even greater than the decline in the number of children ever born because errors of memory in reporting are often added to the higher cumulative mortality among the children of older women.

### **Educational Attainment and Literacy**

Besides place of residence, perhaps no other social variable has been associated with fertility differentials as frequently as education. It is generally expected not only that at any given point in time fertility and educational level are inversely related but also that improving educational levels of a population in the course of socio-economic development will contribute to declining fertility. Much of the evidence so far accumulated supports these inverse relationships. There is some question, however, about the extent to which these relationships hold either prior to or in the very early stages of the transition from high to low fertility, as well as during the post-transition period. Substantial declines in the national level of fertility have yet to occur in Thailand, although there is some evidence of urban fertility decline. Nevertheless, the available data for Thailand indicate that differentials in fertility by education characterizes both the rural and urban population, although the differences are generally more pronounced for the urbanites.

On the basis of data from the 1960 census, Goldstein (1972) found that illiterate women had higher fertility than literate women and that there was a general inverse relationship between fertility and years of schooling (Table III-3). Both findings are based on comparisons which have been standardized for age. It is important when analysing data from Thailand in fertility differential by education that age be controlled or standardized since the average level of education has been rising rapidly among recent generations.

The inverse relationship between educational attainment and fertility holds for all rural-urban categories. Clearly, women with no education and those with only one to four years of schooling have the highest fertility levels. For women with a secondary education, the number of children ever born drops except in Bangkok, and this decline accentuates in all residence categories among those with a university education. Regardless of location, education in Thailand seems to have a very important impact on fertility levels, suggesting that extending secondary and higher education to increasing proportions of Thai women may significantly reduce fertility levels in the kingdom as a whole.

Comparison along the urban-rural continuum for women with comparable educational achievement indicates a general absence of any clear-cut pattern of differentials. Although in three of the four educational categories Bangkok women have lower fertility than women in any of the other residence groups, residence shows no patterned relation to fertility once education is controlled. It is thus not the urban-rural differentials in fertility level but the quite consistent pattern of educational differentials among each of the urban-rural residence categories which stands out in these comparisons. These data therefore suggest that the particularly high fertility characterizing the rural population is related to the low educational achievement of the large majority of rural women. By contrast, the low fertility of Bangkok women reflects both its higher percentage of women with more education and the concentration in the metropolitan center of women with other social and economic characteristics associated with low fertility.

More recent data on fertility differentials by educational attainment are available from the Longitudinal Study (Table III-4). Within both the rural and urban samples of ever-married women, an inverse relationship is apparent between years of schooling and number of children ever born. After standardizing for age women with five or more years of education in the rural sample bore, on the average, three quarters as many children as women with no schooling; among urban women those with ten or more years of education bore 60 percent as many children as those with no schooling.

It is difficult to compare rural and urban samples on education, since the range of educational levels is much wider for the urban women. Within the 0-4 years of schooling range, the urban differentials are somewhat more striking than the rural differentials. The sharp differences between the mean number of children ever born to women with more than a fourth grade education and women with four years of schooling or less in urban areas suggests that if educational levels rise in the rural areas beyond elementary schooling, stronger fertility differentials with respect to education may become evident there as well.

The data on the mean number of living children also show an inverse relationship with level of education for the total rural and total urban samples. However, since infant mortality is also inversely related to the educational level of the mother, the differences are somewhat less pronounced than for children ever born, especially in the rural sample.

In contrast to the results for the 1960 census, the Longitudinal Study indicates that rural-urban differentials, although lessened, still persist when differences in the educational levels of the populations are controlled. This appears true both when children ever born and when living children are used as the indicator of fertility.

## Other Differentials

Other factors that have been investigated with respect to differential fertility include religion, migration status, female labor force participation, occupation and marital status (Table III-5). Again using the data from the 1960 census, Goldstein (1970) found considerable differentials in fertility among Buddhists, Moslems and Confucianists. Standardizing for age, the number of children ever-born to Moslems averaged well below number born to Buddhists. Confucian fertility was intermediate. Significant urban-rural differentials also exist. For both the Buddhist and the Confucian women fertility is markedly lower in urban than in rural categories. When controlling for both age and urban-rural status, Buddhist and Confucian differences tend to be minimal. By contrast, Moslem fertility was highest in the most urban category-Bangkok but was considerably lower and substantially below the fertility levels of Buddhists and Confucianists in all other urban-rural categories.

A regional study of the rural south of Thailand, also found substantial differences in the completed family size of Buddhists and Moslems, with Buddhist women in the later childbearing ages being characterized by significantly larger numbers of children-ever-born than their Moslem counterparts (Jones and Soonthornthum, 1971). At younger ages, however, the differentials were observed to be in the reverse direction.

The importance of migration for social change in Thailand is illustrated by the fertility differentials which characterize the migrant and non-migrant segments of the population. Compared to non-migrants in their place of destination, the fertility levels of lifetime migrants are not very different; but those of 5-year migrants are considerably lower. In all urban-rural categories, but especially in Bangkok, the fertility levels of migrants (under both definitions of migration) are well below those of the non-migrants in the rural, agricultural category from which most of the migrants probably came. The data do not permit full determination of whether migration operated as cause or effect of lower fertility. Yet this clear association of migration with lower fertility level, coupled with the fact that the fertility level, regardless of migration status, is considerably lower for those living in urban places compared to those in rural places, testifies to the important role of both migration and urbanization in affecting fertility levels in Thailand. This suggests that increasing movement to urban places, while compounding some of the problems associated with rapid urbanization may have the positive by-product of reducing fertility levels for migrant women. At the same time, if there is a considerable movement out of the large city to other parts of Thailand, the migrants may serve as catalysts for affecting fertility levels in the smaller places through the ideas and patterns of behavior which they bring with them after exposure to life in the urban metropolis.

Reflecting Thailand's highly agricultural character, a large majority of Thai women are members of the labor force and most of these are engaged in farming. There appears to be a differential relation between labor force participation and fertility in rural, agricultural places and in the urban centre of Bangkok. In the latter, fertility of women in the labor force is lower than that of housewives. In rural, agricultural places the fertility of employed women is higher, although minimally so. This pattern suggests that the greater separation of work and family roles among employed women in the urban centre lowers the fertility of urban working women, whereas the general absence of such conflict in rural society results in a minimum effect of labor force participation on fertility.

The analysis of occupational differentials similarly shows that women engaged in farming have a higher average number of children than those in other occupation groups, but the trends among the latter are not consistent. Perhaps most notable is the fact that regardless of labor force status and occupation, urban residence is clearly associated with lower fertility.

The effect of time lost during the reproductive period as a result of broken marriage is clearly evident in the fertility differentials by marital status. In all rural-urban categories, currently married women with their spouse present experienced high cumulative fertility than women in any other marital status situation. In addition, widowed women consistently averaged more children ever born than divorced and separated women probably reflecting the likelihood that the former had longer exposure to childbearing before widowhood, whereas divorce most likely begins earlier in the life cycle and therefore reduces marital fertility to a greater extent during the reproductive period. The consistently lower fertility of currently married women with spouse absent compared to that of married women with spouse present suggests that the separations are not short-term but are long enough to substantially reduce fertility.

Continuing analysis of data, particularly from the Longitudinal Study and new analysis from the 1970 census will add greatly to our knowledge of fertility differentials in Thailand. At this point, however it seems safe to conclude that despite Thailand's high overall level of fertility, there appear to be a number of significant social, economic and cultural differentials. The direction of these differentials with respect to rural-urban residence, education, migration, labor force participation and occupation support to the view that adoption of policies expressly related to family roles and opportunities for legitimate alternative satisfactions and activities holds promise of reduction in family size. Policies directed at fostering high rates of educational enrolment of women, greater participation in the non-agricultural labor force, and greater exposure to the urban way of life should be considered as part of any programme designed to achieve reductions in fertility.

## **Knowledge, Attitude and Practice of Family Planning in Thailand**

Until recently Thailand's official stance on population was predominantly pronatalist under the assumption that quantity could be equated with strength. Although there was awareness on the population problem existed among scholars, it was not considered as a serious problem by high level government officials. A change in the view point on the part of the government was accelerated by a World Bank Economic Commission report in 1959, which warned of the adverse effects of an excessively high population growth rate on Thailand's economic and social development. A series of committees and seminars on population were established. The first national seminar on population was held in Bangkok in 1963 in which in both pro and con opinions were expressed on this matter. Nevertheless, the majority agreed that a family health pilot project should be initiated to test the response to family planning services. According to the authorization of the cabinet for a demonstration project on family health, a National Committee on the Family Health was established and a medical field operation started in November, 1964. To help evaluate the effects of the program on population, a scientific research instrument, known as the KAP survey, was introduced.

The first KAP (meaning Knowledge of, Attitude toward and Practice of family planning) survey in Thailand was inspired by Amos H. Hawley of the Population Council, designed by Hawley and Visid Prachuabmoh and later directed by Visid Prachuabmoh and James T. Fawcett. The first field survey, known as Potharam Study, took place under the auspices of the National Research Council and the Ministry of Public Health, with financial sponsorship from the Population Council, in August 1964 in order to get baseline data. A series of 7 surveys were done continuously. Besides the Potharam Study, several other local and regional KAP surveys were conducted. There include a study of a suburban area adjacent to Bangkok conducted by Mahidol University (The Bangkhen Study), a pilot study of family health in Thai Muslim Communities in the South of Thailand conducted by the National Economic Development Board in the rural North and Rural South of Thailand. In addition national data on KAP in both rural and urban areas was provided by the Longitudinal Study of Social, Economic, and Demographic Change conducted by the Institute of Population Studies of Chulalongkorn University. Since the latter study is the only one providing national data on KAP, most information presented in this report will be drawn from it.

### **Desire for Additional Children**

One of the basic purposes of the KAP survey is to assess the information on the desire for additional children because of its determination in the need for family planning service. Table III-6 shows the proportion not wanting

more children among married men. All except the Yala Study agree in showing that more than half of these men questioned said they want no more children. The results from Yala Study suggest that the Thai Muslim may be unique in their attitude toward family building. In all studies including the Yala Study these proportion not wanting additional children increases with the number of living children.

Table III-7 shows that the proportion not wanting more children among married women in reproductive ages is also very high; that is, over half of them say they want no more children except among women in the Yala Study. The proportion not wanting more children of these women compared with men is not strikingly different except in the results of the Yala Study where women are more likely than men not to want more children. The proportions not wanting more children increase rapidly with the number of living children so that the overwhelming majority of both men and women with four or more children indicate they wish to stop their family building. The only exception is among men in the Yala Study. The low percentage of men in the Yala Study which say they wished no more children is particularly surprising in view of the finding that Muslim family size is distinctly lower than the average for Thailand.

### **Knowledge of Family Planning**

Although topics related to sex are rather sensitive in Thai culture and KAP surveys are related to that topic, most respondents cooperated readily in answering these questions. Prior to the KAP surveys many assumed that Thai women were somewhat indifferent and unknowledgeable toward family planning. The results from the surveys revealed a different picture which helped lead to the formation of the National Family Planning Project. By asking women "Do you know any method to prevent too frequent pregnancy?", the Longitudinal Study showed that three-fourth of urban women reported that they knew at least one method and almost half of rural women knew at least one method. This difference is perhaps attributable to differences in education and exposure to mass media that characterize rural and urban areas. Thai women in the midreproductive ages (25-39) seem to be the most familiar with contraceptive methods. Knowledge of contraceptive methods curvilinearly relate with age. (See Table III-8).

The results of the Rural North and the Rural South Studies revealed a strikingly difference between rural men (husband) in those two regions. Among men questioned in the north, 51 percent indicated they knew some method whereas only 22 percent of southern men reported they did. The result of the Yala Study indicated that only 18 percent of the men had some

knowledges of family planning, which is consistent with the rural south findings.

Overall, it is reasonable to say that the majority of both rural and urban Thai women know at least one method. A notable exception, however, are the Muslim women of the Yala Study among whom only 2 percent acknowledged knowing some method.

### **Attitude Towards Family Planning**

In order to estimate the extent to which Thai women approved of the idea of birth control they were asked "If you knew of a simple and harmless way to avoid becoming pregnant too often, or having too many children (more than you want), or having children too close together, would you be in favor of a married couple using such a method?" The majority of currently married women aged 15-44 (and living with husband) indicated a positive response. The proportion indicating approval was very similar in all three rural-urban categories. However, explicit disapproval was expressed by a larger proportion of rural than urban women. Also of interest is the fact that a substantial minority of respondents expressed neither explicit approval nor disapproval of family planning. In urban areas, one out of seven indicated that approval would depend on circumstances. Although only five percent of the rural women are reported as giving a similar response, an additional ten percent indicated they either did not have an opinion or did not answer the question at all. (See Table III-9).

Women of the Bangkhen Study and Yala Study were more favorable toward family planning than women of the Longitudinal Study. That is 71 and 79 percent of women of the Bangkhen Study and the Yala Study approved family planning compared with slightly over half of women from the Longitudinal Study.

Overall, it is legitimate to conclude that the majority of Thai women are favorable towards family planning.

### **Practice of Family Planning**

Before early 1960, family planning was something new to most of the Thai population although knowledge and practice of some contraceptive methods may have existed among the well-educated and well-to-do. The evidences from the Longitudinal Survey revealed that only few women use contraception to avoid becoming pregnant. This is considerably less true of city women but even in Bangkok-Thonburi, over half of currently married women 15-44 and living with their husband reported never practicing any



form contraception. Unless abortion is common, and essentially no reliable data is available on this, most married women are not using effective means to control their fertility. This appears to be least so in Bangkok-Thonburi and most common in the rural areas. (See Table III-10).

The proportion of rural women using some form of birth control from other studies are quite close to what was found in the Longitudinal Study. For example only 10.4 percent of women in the rural north study reported using contraception as did 9.4 percent of the Buddhist women and 4.2 percent of the Muslim women in rural south study. Among semi-urban women in the Bangkhen Study, the proportion currently using was slightly higher (41 percent) than their urban counterparts in Bangkok-Thonburi. The difference between these urban women might be due to the intensive health program provided as part of the Bangkhen Study.

To summarize, it is not an overstatement to say that the majority of Thai women (except those in Muslim communities) want no more children and know and approve family planning but only a minority of them actually use family planning. The majority of men also seem to want no more children and approve of contraception. The reasons behind the lack of family planning use in these circumstances still remains to be determined and more research into this matter as well as some practical measures such as improving and expanding family planning services education and communication are in order.

## Chapter IV

### Population Composition

#### **Age and Sex Distribution**

Table IV-1, indicating the age and sex distributions of the population as reported in the 1970 census, shows a general decline in the proportion of the total population at successive ages which is characteristic of populations subject to stable levels of mortality or fertility in the past and relatively unaffected by excessive external migration.

In 1970, about 45 percent of the population was under 15 years of age, and 3 percent were 65 and over. The youth dependency ratio was, therefore, 87 and the aged dependency ratio was 6. Comparable figures for 1960 were 43 percent under 15 years of age, 3 percent aged 65 and over, with the youth and aged dependency ratios being 80 and 5, respectively.

Differences also existed between the municipal and non-municipal areas with respect to the major age groups. The non-municipal areas considered to largely rural in characteristics had higher proportions under 15 years of age for both sexes and lower proportions in the productive ages of 15 to 64.

While the proportions of the population under 5 years of age is somewhat higher than those aged 5 to 9 years of age for the whole kingdom and regions, in municipal areas in 1970, however, the reverse is true. For both males and females in the municipal areas, there is no evident decline between the 5 to 9 and 10 to 14 age groups. Since the predominant trend of internal migration within Thailand is from the countryside into the cities and towns, migration quite likely plays some part in explaining this finding.

The data from the latest census in 1970, show about the same proportion of population in the pre-school ages of 0 to 6 years of age and those of school age from 7 to 14 years for the whole kingdom, being approximately 22 percent for each group. About 45 percent of all Thai women were in the reproductive ages of 15 to 49 years of age.

In both municipal and non-municipal areas, Thailand's population is young. The median ages of the population for the whole kingdom and municipal areas were 17 and 19 years, respectively, in 1970. Even in the Bangkok-Thonburi municipal area, the most urbanized center of Thailand, the median age was only 19 years for males and 20 years for females.

Comparison of the sex ratios show that there were slightly more females than males; the sex ratio in 1970 being 99.1 as compared to 100.4 in 1960. In 1970, males were more numerous at ages younger than 15 years, the sex ratio then declines to about 97 males per 100 females between ages 15 to 34 years, suggesting under-enumeration of males at these ages, then approximates 100 between ages 35 to 49 years, after which females become more numerous after age 50 years.

### **Marital Status**

Although marriage is nearly universal in Thailand, for both men and women, there has been a decline in the proportion of both males and females who reported themselves as being ever-married between 1960 and 1970. Whereas in 1960, about 64 percent of males and 81 percent of females 13 years of age and over reported that they had been married at least once, in 1970, these proportions decreased to 59 percent and 68 percent, respectively. In 1970, the median age at marriage for males was 24 years of age and for females, 21 years.

The marital distributions for both sexes show a relatively smooth and expected relation with age. Proportions single decline rapidly and steadily with age until they reach quite low levels. (See Table IV-2).

An accurate picture of how these marital unions persist, dissolve or otherwise change through time, is made difficult by the lack of reliable data and also by the relatively loosely-structured social and cultural context of marriage. Thus, many marriages are not registered with civil authorities and marriage may or may not have a religious significance to the couple.

In the Longitudinal Study of Social, Economic, and Demographic Change in Thailand, conducted by the Institute of Population Studies, Chulalongkorn University, data on marriage and mate selection was obtained at the national level through retrospective questions on age at marriage, number of marriages and other items.

The study shows that marriage takes place earlier on the average among men and women in the rural areas and latest among residents of the Bangkok-Thonburi areas. Among married women, the highest proportion who are married for the second or third time are found in the rural population and the lowest proportion for residents of Bangkok-Thonburi.

This study also found that in both the rural and urban populations, the proportion of women who are widowed and divorced at almost every age and particularly at the older ages is substantially higher than for men. This

in part reflects higher male mortality and also the fact that Thai women usually marry men at least several years their senior. Perhaps an even more important factor, however, is the greater likelihood that men have of remarrying, particularly at older ages, than women.

Interesting differences in the marital status distributions of the rural-urban groups also emerge from the findings of the study. For most adult ages, there were lower proportions single among both males and females in the rural areas than among those in the urban areas, and within the urban population, lower proportions single prevail in the other provinces than in the capital city of Bangkok-Thonburi. More specifically, for males in every age group between 15 and 50, the proportions single are lowest for the rural population and highest for Bangkok-Thonburi residents; for females in these same age groups the proportions single are higher in the urban areas and lower for the rural residents and within the urban population only at ages 35 to 44 are the proportions single greater in the provinces than the capital. These contrasts probably result from a combination of rural-urban differences in marriage patterns and differential migration among persons of different marital statuses. On the one hand, persons enter into marriage at younger ages in the countryside than in the cities and at higher ages in Bangkok-Thonburi. On the other hand, migration to the cities from the rural areas probably occurs disproportionately among unmarried individuals. In addition, marriage appears to be more universal in rural areas than in urban municipalities, judging from the proportions remaining single above age 50. Although the proportion of persons who have never been married in the older age groups is not high, there is, however, a larger proportion of such persons in the urban areas than in the rural areas.

### **Household and Family**

Household size in Thailand tends to be large, averaging about 6 persons per household. The 1970 Census reported about 5.9 million households. Household size tended to be larger in the municipal areas, although for the northeastern and northern regions of Thailand, the reverse is true. (See Table IV-3).

Studies on household structure were conducted as part of the Longitudinal Study mentioned previously. Four basic types of households were defined, in addition to the single person household, on the basis of family composition of the members as follows:

**Nuclear:** Husband and/or wife with unmarried children, if any, as well as unmarried relatives at the generation level of the children or unrelated persons.

**Stem:** Husband and/or wife with one married child and/or one married grandchild and possibly other unmarried children and grandchildren. Unmarried relatives at the generation level of the children or grandchildren as well as unrelated persons may also present.

**Joint:** Husband and/or wife and at least one other married or unmarried relative (usually sibling) at the same generation level. Unmarried children or grandchildren may be present as well as unrelated persons.

**Stem-Joint:** Husband and/or wife with two or more married children and/or two or more married grandchildren. Also included in this type are husband and/or wife with at least one married or unmarried relative (usually sibling) at the same generation level and at least one married child or grandchild.

According to this classification, the majority of households in Thailand can be considered nuclear; this holds true for both the rural and urban populations. The study found, however, that the actual residence pattern and the pattern of preferred residence were found to be substantially differ. Some evidence has also indicated that the types of family composition of the household change with the life cycle stage of the household head. Newly wed couples in the urban areas were much more likely than those in rural areas to live separately from parents or relatives, although a majority of married couples in both rural and urban areas reported living with their parents immediately following their first marriage.

The study also showed that the distribution of households according to the family structure of the members did not differ greatly between the rural and urban population. Among the extended family types of households, the stem type was found to be the most common. The most striking differences were found with respect to single persons households and those which were included in the residual category of "other", both of which were more common in the urban areas than in the rural areas. A sizeable proportion of the "other" category was found to have been made up of households in which unmarried siblings were living together. Joint family households, although not common in general, were found to be more common in the urban areas whereas households with stem-joint families, also not frequently found, were more common in the rural areas. Perhaps the most important point was that only a minority of households in either the rural or urban areas were characterized by "traditional" forms of extended family structure and although a smaller proportion of urban than rural households feel in these combined categories, the differences were not large.

Differences in the size of urban and rural households were not large. However, one and two person households are more common in the urban than in the rural areas. The higher incidence of such small households in the urban areas is due largely to the greater frequency of single person households which may reflect the movement of younger unmarried persons from the rural areas into the cities to look for work. Large households of over nine persons are most common in Bangkok-Thonburi, where the practice of having servants in the household is probably more common and may be a contributing factor. In addition, it may also reflect a tendency of in-migrants to move in with relatives.

### **Ethnicity**

Thailand is homogeneous with respect to the nationality and citizenship of its population. In 1970, 99.5 percent of the population reported that they had been born in Thailand, and almost 99 percent were Thai citizens. Another 1 percent were born in China, and only 0.2 percent were born in all other countries. The distribution of persons who reported that they had been born in other countries in 1970 was as follows: 180,000 persons born in China; 53,000 persons had been born in other Asian countries, of which about half reported that they had been born in Laos or Burma; about 9,300 persons were born in Europe, North America, Australia or New Zealand and 3,400 persons had been born in all other countries, including "unknown". (See Table IV-4).

In the Longitudinal Study of the Institute of Population Studies, the urban sample was drawn from the universe of all Thai, Chinese and Indian households, purposely excluding other Asian, European and American households as well as other foreigners. The data on foreign born in this study therefore referred only to Chinese, Indians or Thais and not to the foreign community in general. That there is a large Chinese component of Thailand's urban population is evident from the survey results; one-tenth of household heads in urban areas of other provinces and one-fifth of those in Bangkok-Thonburi are of Chinese origin. Large differences exist in the proportion that are Chinese when age groups are compared. A much greater fraction of older household heads were born in Chinese areas than of younger ones. Almost none of the household heads below age 30 were Chinese by birth whereas sizeable proportions of household heads 45 years of age or older were. In recent years, as has been mentioned, there has been only a small number of immigrants to Thailand due to legal restrictions beginning in 1949. The younger urban dwellers of Chinese origin are mainly second or later generation Chinese with only a few having been born outside of Thailand themselves. Among rural households heads only 1 percent reported having been born in

Taiwan, Hong Kong or mainland China. Thus the native born Chinese live predominantly in the cities and constitute only a very negligible proportion of the population in the rural areas.

The Indians constitute a numerically much less important minority and like the Chinese, they are more frequently found in Bangkok-Thonburi than in the urban areas of other provinces.

The same study used several approaches to determine the ethnic distribution of the Thai population. In addition to the data on place of birth mentioned above, the interviewers were instructed to observe and record the presence of certain items in the house which are considered typically Chinese. The identification of first and family names as Chinese, Thai or other was also made. Information on the language spoken in the household was recorded.

The study found that all of the typical Chinese items were most frequently present in Bangkok-Thonburi households and least frequently present in rural households. Only five percent of rural households had any of the characteristic Chinese items at all, while almost a third of the households in Bangkok-Thonburi had at least one Chinese characteristic and about half as many urban households in other provinces did.

Heads of households with names that are at least in part Chinese were also about twice as common in Bangkok-Thonburi as in the urban areas of other provinces and occurred infrequently among rural household heads. The proportion of household heads with at least one Chinese name in Bangkok-Thonburi was smaller than the proportion of households in which at least one Chinese item was observed, suggesting that later generation Chinese may change their original names to Thai ones.

The most meaningful and useful single indicator of Chinese ethnic affiliation was found to be language spoken at home. In a recent study of the assimilation of the Chinese in Bangkok, persons were identified as Chinese if they were raised in a family in which the parents spoke any Chinese dialect as their native language, the assumption being that the language spoken at home was a reliable indicator of a person's ethnic identification and frame of reference. The data from the Longitudinal Study in response to the question, "what language is used in this household in speaking together" show similar differences between the rural-urban categories as suggested by the other indicators of Chinese ethnicity.

The proportion of households in which only Chinese was spoken was found to be small. A much more substantial proportion were bilingual with both Chinese and Thai spoken at home. The study suggests that bilingual households may often be composed of an older generation which speaks primarily Chinese and a younger generation which is truly bilingual. When households in which a Chinese dialect is the only language spoken are combined with households in which both Thai and Chinese are spoken, the proportions of ethnic Chinese households in the population indicated by this index was found to agree closely with the proportion of households in which at least one Chinese item was observed.

On the basis of the data collected in the Longitudinal Study, it appears that about one third of the households in Bangkok-Thonburi can be considered Chinese to at least some extent and about one in six are Chinese in the urban areas of other provinces, while in the rural areas, almost the entire population is composed of ethnic Thais.

After the Thais and the Chinese, the third largest group is the Malay-speaking Muslims who reside almost entirely in four provinces in the southern region.

### **Religion**

The Thai population is predominantly Buddhist. In 1970, 95.3 percent of the population reported themselves as Buddhists, 3.8 percent were Islam, 0.6 percent Christians, 0.2 percent other religions and 0.1 percent unknown. About 54 percent of the 1.3 million Muslims are concentrated in four southern provinces: Yala, Narathiwat, Pattani and Satun. In Bangkok-Thonburi, 3.4 percent of the population are Muslim and 1.5 percent Christians.

### **Literacy**

In the 1970 Census, literate persons were defined as persons 10 years of age and over who were able to read and write in any language. The literacy rate for males was 89 percent and for females was 75 percent in 1970. In general, literacy is higher among males, and for both sexes declines with increasing age. The literacy rate is lowest for the population in the northern region, where 83 percent of the males and 66 percent of the females are literate. The proportion of literate persons was higher in the municipal areas for all regions, and highest in the provinces of Bangkok-Thonburi, being 95 percent for males and 85 percent for females. (See Table IV-5).

### **Education**

Elementary education was made compulsory in Thailand in 1921. At that time, elementary education consisted of only 4 years, and all persons 7



years of age were required to attend school until they had completed Grade 4 or until the age of 14, whichever came first. Under the National Scheme of Education promulgated in 1960, however, elementary education was extended to seven years, but the implementation of this decision was intended to be gradual, depending on the economic ability of the country and the readiness of each locality. (See Table IV-6).

Before the 1960 National Scheme of Education came into force, secondary schools had been organized into two distinct streams: academic and vocational. Graduates from vocation schools were prepared for a definite occupation, but often lacked general education. The re-organization in 1960, while retaining the traditional division between the academic and the vocational, introduced a common strong core program of general education for both streams, supplemented in each case with appropriate specialized subjects. At the secondary level, the academic stream consists of Grades 8-10, in the lower secondary school, and Grades 11-12 in the upper secondary school. Thus Grade 10 and Grade 12 are terminal grades. The vocational stream consists of Grades 8-10 and Grades 11-13 in the lower and upper schools, respectively. Grade 10 and Grade 13 are terminal grades, although in certain areas of vocational training, Grade 12 is considered terminal.

In 1970, 45 percent of the population 6 years of age and over had completed Grade 4 or lower primary school. The census tabulation, however, includes those currently enrolled in school; about 32 percent of persons 6-29 years reported that they were still attending school as of January 1970. Of the population 6 years of age and over, 26 percent reported that they had no education, 62 percent had completed one to four years, 4 percent had completed five to seven years, 5 percent had attended secondary school, and 0.4 percent had attended university. Among persons who had ever attended university, 40 percent had completed four years and 3 percent had graduate degrees. At every level, educational attainment is higher for males; 31 percent of all females 6 years of age and over had never attended school.

Turning now to the Longitudinal Study which obtained information on highest level of educational attainment of each household member, it was found that there were substantial differences between the rural and urban groups, between males and females and between broad age groups. For each sex and age group, persons living in Bangkok-Thonburi show the highest average educational attainment and rural residents the lowest. Within each age group and each rural-urban category, younger adults are clearly better educated than their parent's generation.

It was also found that the influence of the urban environment was stronger than the effect of either age or sex. Women residing both in

provincial urban places and in Bangkok-Thonburi tend to be more educated than rural males. It was found that, to some extent, an urban setting was a more powerful influence on education past the elementary level than sex and age combined: up to ages 35 to 44, urban women are more likely to have an education past the fourth grade than rural men in the 15 to 24 age group.

In contrast, it was found that age appeared to exert the greatest influence on the proportion who had never had any schooling or stopped their education before the fourth grade. Among the young adults, the minimum four year level of compulsory education has been widely achieved both in rural and urban areas. In the rural areas, however, only a small minority of either sex had continued past this level whereas among urban men, a substantial majority had continued their education beyond the lower primary level. Among urban women, slightly less than half had gone beyond the lower primary level in the other provinces, while slightly more than half of the women in Bangkok-Thonburi had continued their education. The proportion of the population with no schooling is highest for the older generation. The large majority of women aged 45 or over in all urban-rural categories had never attended school and sizeable minorities of men in those ages also lacked any formal education.

In sum, the data on educational attainment suggest that illiteracy or lack of an elementary education is rapidly disappearing in Thailand among the young generations in both the cities and the rural areas, but there is still a substantial gap remaining between rural and urban residents to the extent that they receive more than a primary education. For the rural population, which comprises the vast majority of Thailand's people, the educational pyramid narrows very sharply after the first four grades of compulsory education for the younger as well as the older generation. Even in Bangkok-Thonburi, only small proportions go beyond secondary school. Although Thailand compares favorably with many other less developed countries with respect to education, it is still clear that there remains a long way to go before educational levels which can be considered sufficient for the functioning of a modern, economically advanced society will be achieved

## Chaper V

### Distribution and Internal Migration

The density of Thailand as a whole in mid 1973 was estimated to the 77.4 persons per square kilometer. The density of two out of four geographical regions approximate the national average. The population are most concentrated in the central region (central plain surrounding the Bangkok Metropolitan Area) and least concentrated in the South, a narrow peninsula. The central region with 103,579 square kilometer contains 30.4 percent of 1970 population. The North, with 170,006 square kilometer, its 7.5 million population constitutes 21.9 percent of the country's populations. The Northeast, the largest geographic region of 170,226 square kilometer contains 35.2 percent of 1970 population. The smallest region, the South, with 70,189 square kilometers accounts for about 2.5 percent of the total population.

There is a sharp contrast of approximately 40 times between the size of the largest urban area and the second largest urban area in Thailand. The Bangkok Metropolitan Area accounts for 3,793,763, people at the end of 1972 while the second largest city, Chiangmai, contains only 93,353 people. Bangkok Metropolitan Area accounts for more than three quaters of all the population living in the cities of 20,000 and over.

The level of urbanization, urban population or municipal area population, increased from 9.9 percent in 1947 to 12.5 percent in 1960. According to the civil registration as of December 31, 1972, the urban population accounted for 16.3 percent of the country's population. During 1960's the urban population growth rate was approximately 6.5 per annum. Economic development investment including rapid expansion of the country's infrastructures and to a certain extent the military investment helped accelerate the growth of a number of urban centers especially in the Northeast.

A municipality is an administrative area set up Royal Decree under the Municipal Act of B.E. 2496 (1953). The law on the incorporated urban areas was introduced for the first time in 1908 and the division of three types of municipalities was introduced by the Municipality Act of B.E. 2476 (1933). There are three types of municipalities: "nakorn" (city), "muang" (town), and "tambon" (small town). In order to obtain the status of nakorn or muang municipality, a place must have a minimum number of inhabitants required and a minimum population density by law (a total of 50,000 or more inhabitants with a population density of not less than 3,000 inhabitants per square kilometer for nakorn municipality and a minimum of 10,000 inhabitants with a population density of not less than 3,000 inhabitants per square

kilometer for muang municipality). No specific numerical criteria exist for places designated as tambon municipality. They achieve this status through official decrees prepared by the Ministry of Interior. To be so classified, such places must have urban characteristics and adequate income to provide the services needed for an urban location. In 1971 the size of a tambon municipality ranged from 4,815 to 23,673.

A place which is the seat of the provincial administration where the governor's office, provincial assembly, court, offices of the central government agencies working at the provincial level, provincial police headquarters, local administration offices, etc. are located is also required by law to be incorporated as a muang municipality regardless of population size or density. At present not all places of this kind have a population size larger than the minimum figure required for the muang municipality. In 1971, 16 muang municipalities which were provincial capitals were below 10,000 in population. The local government consists of an elected executive branch consisting of a mayor and several deputy-mayors; the legislative branch consisting of an elected assembly; and the administrative and service units of the municipalities including the career officials and employees attached to them. A municipality is required to perform certain functions and provide services for its inhabitants such as lighting, piped water supply, market, streets, sewerage, slaughter house, health services, educational services, etc. However, the compulsory and suggestive functions of the municipalities as outlined by the law vary among the three types of municipalities. Each municipality is also responsible for maintaining the local population registration. Each municipality has its own budget, relying mainly on local revenue and a subsidy from the central government.

Although certain localities may reach the minimum size specified to qualify as a municipality, the Ministry of Interior may, upon review of the local situation, decide that the locality has not yet developed those characteristics generally associated with urbanism. In such instances, the Ministry may alternatively designate the area as a "sanitary district" rather than as a municipality. Sometimes, after once having been designated as a "sanitary district," a locality may retain this designation for a considerable time after it has developed further and actually achieved the urban characteristics to qualify it as a municipality. Administrative considerations, including the added costs of services which need to be provided to a municipality, generally explain this delay in a change in status. Both in the 1960 Thai census and in the Longitudinal Survey, sanitary districts have been included in the rural population. The 1970 census, however, treats sanitary districts as a separate category.

From the 1960 census, the number of people who resided in a province other than the province of birth was 2.8 million out of the total population of

26.3 million. This lifetime migration rate of 11 percent is approximately 3.5 times that of the 5-year migration rate for the period between 1955-1960. The number of the population who, five years prior to the 1960 census, resided elsewhere than the province of residence at the time of the 1960 census was 0.8 million. Preliminary data of 1970 census indicates that the number of 5-years migrants is relatively very high 2.25 million or 7.8 percent of 28.74 million population 5 years and older.

A majority of the population movement across provincial boundaries is confined within the same geographic as well as administration regions. Thailand consists of 71 provinces and 9 administrative regions. Geographically, the country is divided into four regions: North, Northeast, South, and Central. The 1960 census data indicated that 76 percent of the lifetime migrants and 74 percent of 5-year migrants, moved within their respective geographic regions. The proportion of migrants who moved within the same region was found to be highest for the Northeast and lowest for the Central Region. The percent of lifetime intra-regional migration for the North, Northeast, South, and Central Regions were 93, 79, 69, and 51 respectively, and such percentages for five-year migration were found to be 87, 69, 74, and 58. The particularly low percentage of intra-regional migrants in the Central region reflects the fact that it contains Bangkok-Thonburi which heavily attracts migrants from other parts of Thailand. Approximately one-third of the intra-regional movements in the South and about one-quarter in the North were across more than one provincial boundary, the rest of the movements were toward the neighboring provinces.

A similar pattern of short distance move was also indicated by the data collected four years earlier. Based on the 1956 National Demographic and Economic Survey, it was estimated that of all 7-year (1948-1956) migrants 92.5 percent moved within the same administrative region. This pattern was also confirmed by the preliminary data of 1970 census.

Major streams of 5-year migration during 1955-1960 were evident only in the Central and the Northeast. Five of the top ten provinces with the highest rates of in-migration and nine out of the top ten provinces with the highest rate of out-migration were within the Central region. Pranakorn Province of which the city of Bangkok<sup>(1)</sup> is a part, ranked tenth with the in-migration rate of 77.8 per thousand. Pranakorn's two adjacent province, Thonburi and Nontaburi ranked second and seventh with the rate of in-migration of 134.6 and 92.3 per thousand respectively. The average migration rate was 37.5 during the period.

(1) The twin cities of Bangkok and Thonburi were parts of Pranakorn Province and Thonburi Province. In 1972, the two provinces were merged to be a single metropolitan area "Bangkok Metropolitan Area". The provincial and city administrations were replaced by a single local government.

The pattern of intra-regional was founded to be a very interesting one. It was found that the top seven provinces with the highest rates of out-migration including Pranakorn Province were contiguously located next to each other in the heart of the Central Plain along the most important river of the country, the Chao Phya River. After the replacement by in-migration was considered, four of these provinces still retained their positions among the top ten provinces with the highest rate of net-loss. Two other provinces and Pranakorn had rates of net-loss at the lower levels. It was found that three metropolitan provinces: Pranakorn, Thonburi, and Nontaburi were gaining population. Thonburi ranked second and Nontaburi ranked as the ninth provinces with the highest rate of net in-migration.

It was found that only 20 inter-regional migration streams were composed of 5,000 or more migrants. Most of these main streams were associated with the few adjacent provinces around Bangkok.

A little more than half of 5-year inter-regional migration into the Central region originated from the Northeast. Approximately three-fourths or more of the in-migration into the Northeast and the South came from the Central Region.

More than two-thirds of lifetime migrants and about half of 5-year inter-regional migration of the total out-migrants from the Central region moved to the North. One fourth of the 5-year migrants moved into the Northeast and South each. From the North, three-fifths of the inter-regional migration both lifetime and 5-year moved into the Central region. About 94 percent of lifetime migration and 87 percent of 5-year inter-regional migration of the total out-migration from the South moved into the Central region.

Pranakorn was the province with the largest numbers of lifetime net-migrants which amounted to 214,000 migrants. Udonthani, in the Northeast received 163,000 net in-migrants. Roi-et, in the Northeast, lost 116,000 of her population through the exchange of lifetime migrants.

The capital and Bangkok Metropolitan Area were the most important center of both intra- and inter-regional migration. In 1960, 25 percent of the total Metropolitan population of 1.9 million were born elsewhere. At the same time, 9 percent of the Metropolitan native born were residing elsewhere. During 1955-1960, 1969, 802 migrants moved into the Metropolis and 101,750 persons left the Metropolis for other provinces.

The census data suggested that many of the lifetime migrants came to the metropolis in earlier decades. In the city of Bangkok, about half or more

of the population, both males and females in all age groups 25 and over were born outside the city. The proportion of migrants in the city increases from about 10 percent of population under 13 years of age over 80 percent for the males 50 years old and over and to about 70 percent for the females 50 years old and over.

Majority of moves are short distance in character for both lifetime and 5-year migration to Bangkok. In the 1960 census, of the 486,500 residents reported as born in a province outside of the province of Pranakorn-Thonburi, 69.7 percent were born in other provinces in the same central region. Almost 15 percent were born in the Northeast, the region with poorest economic conditions. The North and the South accounted for 10 and 5 percent respectively.

About a quarter of the total registered movers associated with the Metropolis during 1956-60 were moving within the Metropolitan boundary. The population register also recorded a heavy influx of migrants from Pranakorn to Thonburi and the adjacent province of Nontaburi.

In Thailand, as in most nations, the most important migratory motives are economic. Economic factors not only pushed the population from their native communities but also helped to pull them to the new communities. The expansion of non-rice crops seemed to be one of the major factors encouraging moves into other rural places. The expansion of industries and commercial activity was also believed to be the main reason for a large flow of migrants into the Bangkok-Thonburi Metropolis.

Some social factors also affect migratory behaviour. The uneven distribution of education facilities in different parts of the country make it necessary for those who want to seek better education to move to other provinces where such educational facilities are available. And after being highly educated or trained, a person would find it very difficult for him to return home where the jobs which required his skills are not generally available.

Family formation and dissolution are also believed to be one of the key factors affecting migration. After marriage either the husband or wife, in many cases both of them, will have to move to stay with his or her spouse's family.

Data from the Longitudinal Study of Social, Economic and Demographic Change by Chulalongkorn University indicate that 56 percent of migrants in urban places gave economic reasons as the primary reason for mov-

ing. Another, major primary reason is the educational factor which was cited by 11 percent of migrants. About 15 percent stated family factors, including marriage, following relatives or friends, and return home.

Although a significantly large proportion of migrants moved because economic factors in both Bangkok-Thonburi Metropolis and Provincial Urban Places, the proportion is lower for the former, 50 percent compared to 63 percent for the latter. And whereas only 8 percent of the male heads who moved to the Metropolis were required to do so by their employers, this was true of 23 percent of those who moved to Provincial Urban Places.

In general, in both Bangkok-Thonburi and Provincial Urban Places a higher proportion of migrants from rural than from urban places move because they are looking for work or taking a job. Those who moved because of employer's requirement, on the other hand, show the reverse pattern in relation to rural-urban place of origin, but the proportion giving this reason is far greater for those moving to Provincial Urban Places than to Bangkok-Thonburi, regardless of place of origin. For example, while 17 and 29 percent of migrants from rural and urban places, respectively, to Provincial Urban Places were required to move by their employers, only 5 and 9 percent of migrants from rural and smaller urban places to Bangkok-Thonburi fall into this category. Quite clearly, such job transfers are heavily intra-urban in character and occur disproportionately among migrants to Provincial Urban Places. Multiple-move migrants, regardless of place of origin, have a higher proportion whose move was economically motivated than single movers. Again, moves required by employers were more frequent among multiple movers than single movers, especially among urban-to-urban migrants.

At the most general level, higher educational facilities in Bangkok-Thonburi is marked; in fact, it was not until 1964 that a university was established outside the capital city. It is not only the availability of more educational facilities, however, that encourages youth in rural and smaller urban places to go to Bangkok-Thonburi to obtain further or better quality education. They are also attracted because education is recognized as a relatively important symbol of high status, because it plays a major role in upward mobility and because opportunities for education for higher prestige occupations are relatively greater in Bangkok-Thonburi.

In both Bangkok-Thonburi and Provincial Urban Places, a higher proportion of migrants from urban than from rural areas cited educational reasons for moving. However, a significantly lower proportion of migrants to Provincial Urban gave educational reasons for moving than did those who moved to Bangkok-Thonburi. For example, one out of five single-move



migrants from rural and one out of three from smaller urban places to Bangkok-Thonburi gave this as the reason for the move, while not more than 8 percent of the migrants from rural areas and none of those from urban places to Provincial Urban Places gave such a reason.

Reasons for moving also reflects age at move and numbers of moves. As one might expect, marriage as the reason for moving reaches a peak in 20-29 age group, accounting for 63.9 percent of the single-move migrants, and 19.5 and 29.1 percent of the first and the last move respectively of the multiple move migrants. Regardless of migration status, the proportion of those whose moves were due to economic reason generally increase with age; simultaneously following relatives as a reason for movement decreases with age.

The proportion of lifetime migrants to Bangkok-Thonburi peaks in the 15-19 age group regardless of the rural or urban origin of the last move. For Provincial Urban Places this proportion is concentrated in the 20-34 age group for migrants from rural places. Those from urban places are more concentrated in the 25-29 year group. When number of moves is taken into consideration, however, the pattern changes. For both Bangkok-Thonburi and Provincial Urban Places, single-move migrants were heavily concentrated in the 20-24 year age group. Multiple movers, on the other hand, tended to be more heavily represented in the 25-29 year group, with the exception of those who moved from urban places to Bangkok-Thonburi.

From the 1960 census data, it was found that females are attracted to Bangkok at earlier ages than males; their peak in-migration rates occur at age 15-19, whereas these for males are highest at age 20-24. At all ages, the female out-migration rates from the capital are lower than males, and the differences tend to become increasingly greater with age.

The data show clearly that migrants who moved directly from their place of birth to Bangkok-Thonburi moved there at a very early age: fifty-five percent and 57 percent of migrants from rural and smaller urban places, respectively, arrived in Bangkok-Thonburi before they were 20 years of age; in contrast, only a quarter of those from rural places and 16 percent of those from other urban places to Provincial Urban Places are in this age range. This suggest as mentioned earlier that Bangkok-Thonburi not only attracts migrants because of its role as the hub of Thailand, but also because it serves as an educational center. A large majority of those who moved before age 20 may have moved with their parents and/or to obtain a higher education in the metropolis. Provincial Urban Places, on the other hand, provide more limited opportunities for higher education, and most of the migrants they gain are already in the labor force at the time of the move.

In a study of internal migration in 1957, 62 percent of the interviewed male migrants were married compared to 83 percent of the interviewed female migrants. But the Longitudinal Study data, collected in 1969, indicate a much higher percent (46%) of male migrants are single at their first move. Among the one-fourth of the male migrants whose migration and marriage occurred in the same year, as high as 82 percent gave marriage as their reason for move.

About 10 percent of male heads of household migrants in rural Thailand have 7 or more years of school, compared to only less than 2 percent of the non-migrants. The multiple-movers have a higher proportion of those who completed 7 or more years of school than the single-move migrants, 17 percent compared to 6 percent.

Data from the rural phase of the Longitudinal Study show clearly that, those who are employed in lower occupational levels (manual workers) are less likely to move than those in higher levels (non-manual). About 48 percent of farmers are non-migrants, compared to 15 percent of the government officials and teachers. And only 18 percent of the farmers, but 58 percent of the government officials and teachers are multiple-move migrants. Obviously, being a farmer and owning land ties one to a given place of residence more than if one is engaged in another type of livelihood.

The data show that no matter whether they are non-migrants or migrants, those who are government officials and teachers have a significant higher level of education than those who are engaged in other occupations. Nevertheless, migrants have higher level of education than non-migrants in every type of occupation.

It is found that a higher proportion of the villagers who are more exposed to the outside world indicated that they have definite plans to move away from their villages than those who were less exposed to the outside world. Those who are more exposed to the outside world, mostly through visits but sometimes only through communication media, have better knowledge of the opportunities available elsewhere and are attracted by them.

By using the one-percent sample data from the 1960 census, it is found out that there is no significant difference in fertility between lifetime migrants and non-migrants. It is pointed out that the similarity may be due to the lack of statistical control for length of residence in the place of destination and for timing of birth of children in relation to time of migration.

Also, reflecting longer residence, greater opportunities may exist for lifetime migrants to assimilate the fertility values of the non-migrant population living

in the place of destination. By contrast, the fertility levels of 5-year migrants are considerably lower than that of non-migrants, especially in Bangkok. The differential pattern between the lifetime and 5-year migrants may reflect possibility that the more recent migration in Thailand is more innovative compared to earlier migration which may have been more conservative. Improved communication, more education, higher levels of modernization, and greater rationality may all help to explain the lower fertility among recent migrants. Also, although census data do not permit testing this directly, they do suggest greater separation of spouses at the early stage of migration and greater female labor force participation, both of which would contribute to lower fertility.

But equally important, in all urban-rural categories, especially in Bangkok, the fertility levels of both lifetime and 5-year migrants are well below those of the corresponding non-migrant groups in the rural, agricultural residence category in which most of the migrants originated. Whether migration operated as a cause or effect of lower fertility cannot be ascertained. By using data from the 1960 Population Census and the 1963 agricultural census, it is found that each of the following variables is directly associated with the in-and out-net-migration rate: Proportion of population living in municipal areas of each province, literacy rate of the population 10 years and older, and proportion of employed and experienced workers in the percentage of population having secondary or higher education. The rates of in-, out-, and net-migration were found to be correlated with the following variables: percent of employed population engaged in agriculture, youth dependency ratio, child-woman ratio, proportion of children under 15 years of age, and proportion of age, and proportion of employed and experienced workers in primary industry.

## Chapter VI

### Employment and Labour Force

#### Introduction

This chapter will focus on the employment and labour force picture in Thailand as reported by the most recent available data, the 1970 Census. It will also look at the changes in these aspects of the population which have occurred since the 1960 Census. There have also been numerous labour force surveys conducted in Thailand since 1960 and data from these will be introduced and discussed as seems useful in this chapter. However, since these surveys have covered different populations and different regions and since the 1971 survey results are not yet fully available, main reliance will be placed on the two censuses, 1960 and 1970.

The definitions used in this chapter are as follows:

#### (1) Economically active population

All persons 11 years of age and over who were employed on the census date, or who had worked on any day during the 7 days preceeding the census date as well as experienced workers who were looking for work and those waiting for the farm season were counted as the economically active population.

#### (2) Work status

Work status refers to the status of an economically active person with respect to his employment. Work status is classified as follows:

(a) **Employer:** A person who operates his own economic enterprise or engages independently in a profession or trade, and hires one or more employees.

(b) **Employee:** A person who works for a public or private employer and receives remuneration in wages, salary, commission, tips, piece-rates or pay in kind. Employees are classified as government or private employees.

(c) **Own-account worker:** A person who operates his own economic enterprise or engages independently in a profession or trade, and hires no employees.

(d) **Unpaid family worker:** A person who works, without pay, in an economic enterprise or farm operated by a related person living in the same household.

### (3) Occupation

Occupation refers to the kind of work done during the reference period or performed previously by experienced unemployed persons.

### (4) Industry

Industry refers to the activity of the establishment in which the economically active person worked during the reference period.

The definitions above have been extracted from the NSO, and are more or less standard in international usage.

### **Economically active population by sex and age group**

Table VI-1 shows the economically active population and its relation to the total population by sex and age according to the Population Census conducted in 1970.

Table VI-1 also gives the ratio of the total economically active population to the total population, or the participation rates. For the pre-school and children of school age, (i.e. below 15 years), Thailand has a very high activity rate, 10.9% which is consistent with the known average educational attainment of only six years. In the child-bearing age (15-49), the female population has a higher activity rate than other countries in Asia, presumably because of the substantial numbers family workers in Agriculture and Services, but perhaps also because of a broader definition of "economic activity" employed by the Thai Census. There is, moreover, less sex differentiation of employment roles and tasks in Thailand than in many other Asian countries and this presumably encourages full and accurate reporting of all economic activity.

Participation rates in the upper age groups, 60 and over, also remain high, reflecting the absence of any clear-cut retirement age for persons engaged in mostly agriculture, services and other family-oriented economic activity.

The overall picture is one of relatively high participation rates, particularly for females, as compared to even other countries of the Southeast Asian Region. (For a comparative analysis of countries in this region, see: John Durand, "Population Growth and Changing Structure of Economic Activity", especially Table 3, in: *Interrelations Between Population and Manpower Problems*, Asian Population Studies Series, No. 7, ECAFE/UN, 1971).

Table VI-2 compares the age-and-sex-specific participation rates for 1960 and 1970, revealing that some interesting changes have occurred. The ratio

of population which is economically active to total population seems to have fallen from 1960 to 1970.

Looking at the age-specific rates for males, one finds a slight increase in the rate for all ages below 15, no real change for ages 15 to 50, a slight drop in the rate for age group 50 to 59 and a more pronounced, if still moderate, drop for age group 60 and over. Overall, the male participation for all ages fell slightly due presumably to a growing practice of slightly earlier retirements.

For females, the overall participation rate fell more sharply between 1960 and 1970. The fall was pretty much across the entire age-span with the exception of the under 15 group which, like the male rate for this age group, rose slightly. The greatest percentage reduction in the rates occurred for age-groups 15-19 and 50-59, reflecting presumably a growing tendency for females to stay in school an extra year or two plus earlier retirements for women at the upper end of the age schedule. As noted before, we can not rule out the possibility that a subtle difference in the definitions employed in the two censuses might explain apart of the apparent decline in female economic activity. There is, however, no evidence of any such bias.

### **Structure of the economically active population**

Tables VI-3 and VI-4 show the distribution of the economically active population according to *Status* (as employers, workers on own account, employees, etc.) cross-classified by *Industry* (branch of economic activity) (Table 3) and by *Occupational Group* (Table 4) between 1960 and 1970.

The distribution by both Industry and Occupational Group between 1960 and 1970 of Thailand is pretty much the same, except for an increase in construction, a decline in commerce, and an increase in services. Agriculture employs about 78% of employed persons with a lot of female workers as well as male, due to the family workers on the farms. Of special interest will be the fact that persons seeking work for the first time is double the 1960 figure. Persons seeking work for the first time of male population also seems to have tripled during the decade.

Still looking at both sexes combined in Table VI-3, agriculture has fallen slightly as a percentage of the total between 1960 and 1970 but services rose slightly and commerce remained about constant. Thus, the "traditional" economic sectors—agriculture, services and trade—declined only very slightly, 92.3 to 90.5, during the decade. The same trend appears in the male and female distributions considered separately. Females are more heavily engaged in agriculture than males in 1970 although the female percentage in

did rise between 1960 and 1970. Females in 1970 were about 92 percent in the traditional sectors while only about 87 percent of the males were so engaged.

A similar picture emerges in Table VI-4 which looks at occupational groups by status of work. For both sexes combined only 4.3 percent of the economically active were classified as "white collar"—professional, technical, administrative, executive, managerial or clerical. The figure was up sharply, however, from the 2.6 percent recorded for 1960. For females, as would be expected, the comparable "white collar" share of the employed was lower than the male percent—2.5 against 5.9 in 1970. For both sexes the occupations of farmers, craftsman and salespersons constituted the overwhelming part of the employed persons. Slight changes, only, can be noted between 1960 and 1970 in the distribution.

One final breakdown which may be of interest is presented in Table VI-5 This is the economically active, total, male and female, by status of work (as defined previously). Some of the structural characteristics which this table reveals are quite striking.

Between 1960 and 1970 "Employers and Own-Account Workers" share of the total remained nearly constant, with the male figure falling slightly and the female figure rising slightly. Family workers represented almost 60 percent of the economically active of both sexes in 1960 and still over 50 percent in 1970. About 3 out of every 4 economically active females in 1970 were in this category but only about 30 percent of males, with both showing declines since 1960.

"Salaried Employees and Wage Earners", the truly modern work status, represented only about 15 percent of the economically active of both sexes in 1970. For males it was about 20 percent and for females about 10 percent. Between 1960 and 1970 the figure rose for both sexes with females registering the larger absolute and relative increase.

### **Unemployment**

In Table VI-4 there appears also figures for 1960 and 1970 on "persons seeking work for the first time". As will be seen this figure constituted 1.2 percent of the economically active in 1970. To this must be added those "experienced" workers who are looking for work but altogether in 1970 the total open unemployment rate was under 2 percent for the Whole Kingdom. In Bangkok-Thonburi, the modern metropolis, the rate is typically higher and in 1970 was about 5 percent. Much of this is undoubtedly caused by the higher, but still normal, labor turnover in the non-agricultural sectors which are centered there.

There is also some structural under-utilization of labor in the rural sectors and also in services and trade. Economic activity centering around the household tends to find work for all available hands rather than hiring only the minimum labor needed. Thus, some "hidden unemployment" may be created. The high female employment levels in Thailand may indeed be a partial reflection of this phenomenon. However, existing survey and other statistical techniques are not adequate for measuring such unemployment and no reliable estimates exist for Thailand. The degree of seasonal unemployment in agriculture is more measurable but also less clearly a major social or economic problem.

### Summary

The picture which emerges from the tables and the above discussion may now be summarized briefly:

(1) The Thai population shows high rates of economic activity, particularly for females which are, indeed, among the highest in the world.

(2) The overwhelming share of the economically active of both sexes are in the "traditional" sectors—agriculture, services and trade—and the corresponding occupations—farming, fishing, craftsman service workers, etc. Similarly, over half the economically active of both sexes are classified as "family workers", and less than one-fifth are "salary or wage earners".

(3) The female economically actives typically are less "modern" than the males; that is, show an even greater share in agriculture and the traditional sectors, have over 75 percent classified as "family workers" and very low percentages in the "modern" sectors or occupations. (The high female participation rate is thus mainly a function of the continuing fact that Thai women assume a major share of the burden on the small family-owned and operated farms which make up the backbone of Thai agriculture).

(4) There seem to be changes occurring suggesting a growing modernization of the labor force, a decline in female participation rates—especially in the very young adult and the older adult age groups. However, for the foreseeable future traditional sectors, occupations and division of labor seem certain to continue dominant.



## Chapter VII

### Population Projections

#### Introduction

Future plans for economic, social and regional development as well as in political and military fields should be based on the needs and resources of the country. The most important resource is the population. The development should take account of the population size, structure, composition and distribution not only of the present period but also for some time in the future.

Fertility, mortality and migration are the main components affecting the size and age structure of the population. (National Statistical Office 1973). As international immigration and emigration in Thailand are negligible, the size of future Thai population will depend upon the extent to which mortality declines further, and the success and speed with which the currently-high birth rates are reduced. And the speed of the fertility decline will depend in considerable part on the success of national family planning and population activities. (National Economic and Social Development Board 1972).

#### Official Population Projection for Thailand

Several projections of the Thai population based on various assumptions have been made. A set of alternative official population projections for Thailand has been constructed in 1970 by the National Statistical Office in close collaboration with the National Economic and Social Development Board and the Institute of Population Studies of Chulalongkorn University. The main purposes of the projection are for the use of the Third Five Year Economic and Social Development Plan (1972-1976); as the basis for the population analysis, research and planning programs. It has been prepared showing population trends in the short run and the longer perspective period, from 1960 to 2000. Projections for the whole nation presented in this chapter has been prepared on the basis of the age and sex distribution of the 1960 population. A somewhat revised total population figure was used (25.6 million) because of underenumeration of some certain age groups.

#### Assumptions

The various assumptions which have been used in preparing the projections of future population are as follows:

**Assumptions regarding future course of fertility.** The future course of Thai fertility is assumed to three series as follows:

**Projection I:** High fertility—fertility would begin to decline by 2.5 percent for each five year interval between 1965-1975. It would thereafter decline by 1/4 within 30 years.

**Projection II:** Medium fertility—fertility would decline slowly in the 1970-1975 period, but thereafter the decline accelerates, the total decline being 47.5 percent by 1995-2000.

**Projection III:** Low fertility—fertility decline more rapidly (by about one-half in 30 years). The decline in the 1970-1976 period is consistent with the target of the family planning program.

**Assumptions regarding future course of mortality.** The level of mortality is an important determinant of the future size of the older age groups, however, especially at the more distant dates. The same mortality assumption—a continued steady decline is used in all projections. It has been assumed that the expectation of life at birth would increase about one-half year annually during 1960-1965. The decline in mortality level is assumed to slow down in the period 1965 through 2000, life expectancy would increase at a slower rate—about one-third year annually.

### **Future Population Size and Composition**

**Total population.** Detailed results of the official projections are illustrated in the Appendix. Summary results of the projections based on declining mortality and alternative assumptions about the future course of fertility are shown in Table VII-1. It appears that in Thai population will continue to increase rapidly from 36.2 million in 1970 to around 88.0 million at the end of century, if future course of fertility remains high (Projection I). Projection II and Projection III indicate a 2000 population at 76.6 and 70.6 million, respectively. A rapid fertility decline would limit the population increase to around 17.5 million. However, it is estimated that the actual Thai population will most likely fall into the range of 70 to 76 million in the year 2000. It should be pointed out here that Projection II is the most conservative projection for the economic and social planning purposes. Projections of total Thai population by various assumptions are shown in Figure VII-1.

**Sex Composition.** The three series of population projections generally indicate a further increase in both the absolute and relative excess of males over females in the population. The number of Thai males exceeded the number of Thai females, and the disparity has been growing wider since 1970 (Projection I), constant (Projection II), and narrow (Projection III). For every 100 Thai females, there were about 101.1 Thai males in the year 1970, as compared with 101.5 in 2000, if the level of fertility is high. Males out-

number females by 637 thousand in 2000. According to the Projection II, the sex ratios will decline to 101.1; males would outnumber females 411 thousand. The rapid fertility decline would bring sex ratios down to 100.9. Males would outnumber approximately 316 thousand. It should be emphasized that the little variation in the overall sex ratio is introduced by alternative assumptions on future course of fertility.

**Age Composition.** This section will touch on some indicated changes for the functional age groups. Projected changes in the age structure of the Thai people from 1960 to 2000 are shown in Table VII-2. The composition of the population in 1970 and 2000 is also presented as Figure VII-2.

a) Children of pre-school age: According to the Projection I, the number of children under 6 years of age have increased rapidly from 8.51 million in 1970 to 18.24 million in 2000 if fertility remains high. Children age 0-6 will increase slower under projection II and III; they will reach 12.16 and 10.80 million, respectively. It should be pointed out here that such large differences in children of pre-school age size result from the success of national family planning and population activities.

b) Population of school age: The number of children 7-15 years of age or the compulsory school age children will continue to grow very fast. If family planning efforts remain as modest as they are at present, the Thai children in compulsory school age will grow from approximately 7.45 million in 1970 to 17.43 million by the year 2000. According to Projection II, elementary school age children will increase by about 6.07 million between 1970 and 2000. Projection III, on the other hand, presents slower increase, around 4.36 million during the same period. According to these population projections, there will be about 11 to 18 million children of compulsory age in 2000. The absolute increase of the child population will have several important consequences, for example, the dependency burden and school enrolment problems.

c) Population in working ages: In 1960 there were 13.7 million population ages between 15 and 64 or about 52 percent of the total population. A reduction in the rate of population increase would have no significant effect on working age population size until after 1985, as those entering this age group for the next fifteen years have already been born (National Economic and Social Development Board 1972). Under the assumption of high fertility, the number of population in working ages will increase considerably to 48.9 million in 2000. According to Projection II and Projection III calculations, the working age population will reach 47.4 and 44.5 million. The total number of population will more than double in the period 1970-2000 in all

cases. It should be emphasized that the proportion of population in the working age which is an important factor in national development, under high fertility assumption is smaller than under declining fertility.

d) Population in the child bearing ages: The number of women in the child bearing ages (15-49) is expected to reach 20.86 million by 2000 of fertility after 1965-1970 declines by 1/4 within 30 years. The range of the medium and low fertility projections in the year 2000 is 20.13 to 18.68 million.

e) Older population: People ages 65 and over constitute one of the more rapidly growing segments in Thailand's population. (K.S. Gnasekaran 1959). Between 1970 and 2000 elder population are expected to increase about 2.22 million for all assumptions. This means that larger number of old persons to be supported and the ratio of population 65 and over to the working age population will also increase. However, this does not represent an extremely high burden when compared with the ratio and number of child dependents.

### **Regional and Urban Population Projections**

The national planner and the administrator therefore are required to study each of the small areas for its different characteristics among which the living population, its recent growth and the future prospects form the most important part. In order to meet this demand, the future population of regions within a country must be estimated after a thorough study of all factors involved.

Although the estimation of the regional population component in Thailand is very difficult because of the very limited accurate information available on migration pattern, the Manpower Planning Division of the National Economic and Social Development Board has attempted to work on the regional population projection and its urban population (in municipal areas) for the need of regional development planning.

The "ratio" method was selected from the several possible methods of projecting population for sub-national and also urban areas after consideration had been given to the availability of demographic data and also the degree of precision. The projections are interim and subject to much change in the future. They are mainly an effort to develop methodology by given Kingdom total population projection. This methodology has been applied to the medium projections contained in the Third Five Year Plan (Manpower Planning Division, National Economic and Social Development Board, 1973).

The summary results of the regional projections and its urban population for 1970, 1975 and 1980 are presented in Table VII-3. These estimates are based on a simple continuation of the 1970 regional distribution with the medium future course of fertility assumption. The proportion of population in the Central Region will increase gradually from 30.40 percent in 1970 to 30.56 and 30.85 in 1975 and 1980, respectively. The biggest but most isolated region of the country is the Northeast. Its population comprised 12.75 million in 1970. It is estimated that the Northeastern people will increase to 17.02 million in 1980. The population in the North will increase slowly around 2.77 million in 10 years. The South is the smallest region; its population is estimated to be 6.08 million in 1980.

Thailand is characterized by rapid population growth and urbanization. The rate of urban growth in Thailand increased considerably during the past few decades; it has become one of the most important problems which the country faces in its efforts to achieve greater development. The level of urbanization of the nation as a whole is low; 13.89 percent of population lived in urban areas in 1970. This percent will increase to 14.74 percent in 1980. The percentage of urban population in the Central Region is the highest among the four major regions; will increase from 31.85 percent in 1970 to 33.41 in 1980. This larger results from the location of Greater Bangkok in this region. The South is the second most highly urbanized region with 10.56 percent in 1970, this will increase to 11.19 percent by 1980. The Northeast and the North have lower percentages of their population in urban places but have become more urbanized, although only slight so.

### **Labor Force Projection**

In economic and social development planning, the size and structure of the labor force and its technical abilities will play an important part. Projections of labor force thus become very useful to the planners. They need to know the probable number of people at various future dates to fix the targets of the planning especially the size of the labor force to create sufficient employment opportunities. (K.V. Ramachandran 1960).

Thailand is in the period of the Third Five Year Economic and Social Development Plan (1972-1976). Labor force projections have been prepared for this Third Plan period by applying estimates of the proportions economically active in each age group to the detailed population projections. The medium fertility projection figures have been used. Projected activity rates during the 1960's as revealed by comparison between the 1960 census and the various labor force survey conducted by the National Statistical Office. (National Economic and Social Development Board).

Table VII-4 illustrated that the labor force of Thailand is expected to increase during the Plan period by more than 2.73 million workers, from around 17.04 million to 19.78 million. The rate of increase will be more than 3 percent per annum. During the 1971-1990 period, the labor force will increase by more than 12.57 million. Growth of the labor force will slow down, thereafter if the planned decline in the course of fertility during the Plan period and thereafter materializes.

It should be emphasized here again that a reduction in the rate of population increase would have no significant effect on labor force after 1985, as those entering labor force for the next fifteen years have already been born. A gradual reduction in the growth rate beginning in 1970 would have an effect after 1985 because there would then begin to be some what fewer new entrants into the labor market each year than there would have been in the absence of such a reduction of growth rate (National Economic and Social Development Board 1972).

It is projected that by 1976 the Plan will have generated employment for almost 19.50 million persons. Of the total employment in 1976 the agricultural sector's share will be about 14.61 million, or about 75 percent. The additional absolute numbers, 1.53 million persons are expected to be employed in agriculture. (National Economic and Social Development Board).

## Chapter VIII

### Socio-Economic Implications and Policy

#### (A) Economic Implications

**Principal Economic and Social Targets:** The major objective of the Third Plan is to restructure the economic and social system to suit the changing economic situation. This cannot be achieved by the simple method of "pump-priming", since a higher level of public expenditure will result in a higher level of aggregate demand and thus is likely to spill over into imports which will worsen the balance of payments position. On the other hand, severe restriction of public expenditure will result in the level of aggregate demand so low that the overall growth rate and the rate of employment will be affected. The basic strategy for the Third Plan, therefore, is to maintain public expenditure at a level compatible with economic growth and stability. To achieve the major objective, close co-operation between the public and private sectors is required.

Major objectives of the Third Plan are:

1. to restructure the economic system and to promote economic growth;
2. to maintain a reasonable level of foreign exchange reserves and price stability and to overcome immediate problems, particularly the decline in the overall economic growth rate;
3. to promote economic growth in the rural areas and to reduce the income disparities;
4. to promote social justice;
5. to develop manpower resources and to create employment;
6. to promote the role of the private sector in economic development.

By moving towards the development path described above, the economic and social system of Thailand will be moved forward with more stability and equality, both serving to contribute to greater security. Moreover, the implementation of the Third Plan will strengthen the economic foundation for long run sustained growth. In this respect, rich natural resources and high quality manpower provide a strong basis for Thailand's future economic growth. However, in order to move the economy toward the development path as described in the Plan, the following steps are required:

a. Policy and strategy formulated in the Third Plan must be followed. At the same time, with the changing economic, social and political environment changes in the plan formulation through the annual plan may be required. However, unlike its predecessors, the new annual plans will

concentrate on the evaluation of the plan performance and the analyses of the progress and short-comings of plan implementation which will permit the government to adjust the economic instruments in appropriate ways.

b. The private sector must be encouraged to play a more important role in the country's development process. This role, however, must be kept within certain limits determined by the public interest.

c. Various organizational weaknesses and administrative inefficiencies in the public sector must be corrected.

**General Relationships:** The population projections discussed earlier indicate that the high dependency burden in Thailand, with about 44 percent of the population under 15 years of age, will gradually fall to 36 percent in 1990 if the low projection obtains. This would foster more rapid economic development in a number of ways: most importantly, it would facilitate a rise in the proportion of income saved and invested, and hence in the amount of capital per worker; it would reduce the investment needed to maintain current levels of "social services" per head of population and thus release funds for more directly productive investments; it would make it easier to keep a higher proportion of children in school for more years, and thus result in a more rapid improvement in the quality of the labor force.

**Gross Product and Income:** Even if these advantages do not result in a faster growth in national income when fertility declines, they will lead to higher per capita income because of the smaller number of dependents. For example, a reduction of one percentage point in the annual rate of population increase (i.e., from 3 percent to 2 percent per year) would result in over a 40 percent difference in per capita income in thirty-five years, and a 100 percent difference in seventy years.

A detailed macroeconomic simulation model for Thailand indicates that Gross Domestic Product may increase slightly more slowly between 1970 and the year 2000 if population growth follows the low rather than the constant fertility projection, but because of the slower population growth, per capita G.D.P. would be 30 percent higher with the lower population. Actual G.D.P. per capita (in 1962 prices) would rise from Bht. 3,356 in 1970 to Bht. 9,927 in the year 2000 in the constant fertility projection, and to Bht. 12,946 in the low projection.\* The difference is equal to half the per capita income in 1970. The population living in poverty (defined as those with annual incomes below Bht. 1,500) would fall from more than 7 million in 1970 to a year 2000 figure of 2.5 million in the constant fertility projection or 0.6 million in the low projection.

\* Bht. 19.70 = U.S. \$1 as of January 1974.



**Trends in Sectoral Output:** As noted, Thailand is still a predominantly agricultural country. In 1971 some 30 percent of its Gross Domestic Product originated in agriculture, with industry accounting for about 17 percent, trade 16 percent and services 10 percent. However, these relative proportions have been changing due to growth rates of the non-agricultural sectors 10 percent per annum and better while agriculture has grown at about 4 percent per annum. These aggregate growth rates reflect higher non-agricultural productivity but also shifts in the percentage of the labor force employed in agriculture. These trends reflect, in turn, the basic structural transformation which has been occurring in the nation's economy. These trends are expected to continue and agriculture is projected in the Third Plan (ending in 1976) as falling to 27 percent of total GDP, and some 75 percent of the labor force. (See Table VIII-1)

**Capital Formation and Investment:** In order to achieve the target, development expenditure during the Third Plan period will total 100,275 million baht, 13,845 from the revenue of state enterprises and local authorities and 69,500 million baht of which will come from the government budget while 16,930 million baht from foreign loans and grants.

Development expenditure will be financed in such a way as to maintain the rate of monetary expansion at no more than 10 percent per year.

During the Third Plan period, the tax structure and administration will be improved with the aim of raising additional revenue to compensate for the revenue loss from reduced increases of foreign trade tax on the one hand, and to increase the general level of government revenue on the other. Total revenue from taxation and others during the Third Plan including tax improvement will amount to about 127,400 million baht. The tax improvement program will be designed in such a way that social justice will be enhanced while unnecessary spending on imports will be curbed so as to reduce the drain on foreign exchange reserves. Apart from revenue from taxation and others, the revenue of other types of government organization, particularly state enterprises, will be mobilized to finance activities which are beneficial to the overall economy.

Domestic borrowing will aim at the minimization of interest payment on debt while maintaining price stability. In order to achieve this aim, the government will diversify the sources of borrowing and will keep the amount of borrowing from the Bank of Thailand within reasonable limit. Domestic borrowing during the Third Plan period will amount to 34,235 million baht.

Expenditure of state enterprises' revenue will be encouraged only on useful projects. Furthermore, State Enterprises' projects which are suitable

for financing through foreign loans will be encouraged to borrow from abroad, which will help strengthen the financial condition of state enterprises and more importantly, will enable state enterprises to contribute more to the government budget. As regards the revenue of local authorities, the problem of expanding the scope of the authority to tax will be considered so that transfers from the budget can be reduced.

In order to achieve the plan's targets, 11,930 million baht of foreign loans is required, 4,770 million baht of which will be borrowings by government agencies while 7,160 million baht will be on a government guarantee basis. The Government will give greater emphasis to foreign loans project preparation, including feasibility studies in order that the delay in loan negotiation can be reduced. Priorities will be given to education and agriculture. Preliminary estimates indicate that foreign grants during the Third Plan period will amount to 5,000 million baht.

Since economic, social and defense expenditures are likely to be at a higher level while revenue appears to be increasing at a lower rate, the government needs to find ways and means to increase tax revenue. Furthermore, better scrutiny and better efficiency of government operations are required so that the goals of the Plan will be achieved.

Priorities of government expenditure can be listed as follows:

- 1) Acceleration of production of goods and services, particularly those for exports.
- 2) Development of education, human resources and technology.
- 3) Better utilization of existing construction facilities.
- 4) Regional, urban and community development.
- 5) Investment in support of economic preparedness.

## **(B) Social Implications**

**Education-Progress and Problems:** During the past decade, national education made progress both in quantity and quality. There was an improvement at every level. However, even if the state had been able to expand the number of entering children at every level by a total of at least 250,000 students a year, it still could not have met the targets; therefore, greater efforts will be made during the Third Plan (1972-1976). Attempts have been made to improve the overall educational system and its administrative structure. For the first time, systematic analysis was undertaken to deal with manpower problems especially in the rural areas. Emphasis was placed on the production of qualified personnel to fulfill manpower requirements at each level; consequently, efforts were made to increase the number of students in sciences and technology and teacher training.

Despite the satisfactory development during the Second Plan there were several problems left to be solved. The most pressing one was the wastage due to dropouts, failure to pass examinations and the increasing number of repeating students. In primary and secondary education, examination failure rates were 20% and 40% respectively. Another problem was that most of the pupils from primary and secondary schools lacked experience and skills to find suitable jobs, after their leaving school, and the need for manpower with high qualifications in every field became very urgent, therefore, the government finds it necessary to improve education at all levels not only in quality but also in quantity as well, in order to provide for the increasing number of school-age children and to meet the government's commitment to make education more widely available. Limited capital resources and shortage of qualified teachers render this task even more difficult.

Even though progress in education has been achieved, there are still some problems which cannot be solved within a short period, e.g. the National Economic and Social Development Plan has placed emphasis upon agriculture and rural development but less consideration has been given either for curriculum improvement or method of teaching or allocation of sufficient funds for educational development. It appears that the existing educational system is still unable to provide suitable schemes to meet the national objectives.

The funds allocated are mainly used for the education of children and youth. Although the importance of continuing education throughout the human lifetime is realized, continuing and adult education have not been given reasonable priority. In addition to the lack of emphasis, the responsibility for providing continuing and adult education was given to several ministries and agencies and lack of coordination among them caused serious setbacks. Therefore, the full realization of these objectives is very difficult to attain.

**(1) Lack of qualified teachers:** The basic problem which hampers the expansion and improvement of quality of education at all levels is the shortage of qualified teachers.

Despite the increasing number of qualified teachers during the Second Plan, shortages are still acute in remote areas where it is very difficult to recruit teachers because of low salaries, severe living conditions and security problems. For higher education in the regions, in the fields such as medical science and agriculture, there are very limited numbers of instructors available, though great efforts have been made to produce more personnel in these fields during the Second Plan period.

(2) **Lack of targets for Adult and other Special Education :** During the Second Plan, no definite target was set for the expansion of adult and other special education. At the end of the Plan, the total number of students was 44,440 of which 33,250 were students of short vocational courses and mobile occupational training, 990 were physical education students, 8,480 welfare education students and 1,720 drama and art students.

**Education Summary:** As already mentioned, the rate of increase in the number of students of all types and levels was more rapid than the increase in the school-age population with the exception of vocational school students at M.S. 1-3 levels, whose gradual elimination has been scheduled and of students at lower primary level where the compulsory education program had been implemented before the Second Plan.

Measures to increase the number of students at vocational secondary school level as well as teacher training were emphasized. The main objective was to increase the supply of middle level manpower to meet the demand. Rapid expansion was achieved especially in teacher training, where the number enrolled has increased 3 fold compared with the initial stage of the Second Plan. At undergraduate level the number has increased 7 fold. This expansion not only produced enough teachers to meet the increasing number of students in the plan period but also helped to lessen the problem of teacher shortage and upgrade the academic standard in schools.

At the higher education level, although the number of students did not expand as much as at other levels, several important branches of education were promoted such as medical science, education, engineering and agriculture. Many new faculties were set up during the Second Plan, these faculties being a medical science faculty, an agriculture faculty, five education faculties and four engineering faculties. In addition the Pra Chomklao Institute of Technology was established to train higher level technical students and the Ram Kamhaeng University was opened for new enrollment in 1971.

**Health Progress and Problems:** In the past decade the policy for public health development can be divided into two stages: The first stage (1961-1963) aimed at improving medical care by increases in staff, number of hospital beds, and equipment. During the Second Stage (1964-1966) the objectives shifted towards prevention of diseases, and particularly at expansion of health services available to remote rural areas and locations which lacked easy access to hospitals. In addition, training of various categories of medical personnel was expanded. (See Table VIII-2)

The results of the work performed are:-

(1) **Health Promotion and Expansion of Public Health Service:** Improvement and expansion of activities in the first and second class centres and midwife centres; construction during the First Development Plan of 70 first class health centres, 216 second class health centres, and 647 midwife centres. During the Second Development Plan another 73 first class health centres, 1,054 second class health centres, and 600 midwife centres were established. There will be by the end of the Second Plan period 290 first class health centres, 1,936 second class health centres, and 2,003 midwife centres.

To improve sanitation and environment during the Second Plan period 23,800 villages have been developed, approximately 300 small scale water supply units and 4,370 units of water supply to schools have been installed. A rural nutrition project initiated in 1971 in the North-Eastern region has been expanded to other regions, totalling 19 provinces.

Projects for the prevention and control of contagious disease such as plague, smallpox; and cholera have been conducted and have so far been successful, while other programmes to fight communicable diseases, such as tuberculosis (medical examination and treatment, and B.C.G. vaccination) have been expanded to the rural areas. It is apparent that the tuberculosis mortality rate per hundred thousand population has been reduced in 1961 from 31.5 to 27.2 in 1969.

With regards to the malaria the mortality rate has been reduced from 24.5 per hundred thousand population in 1961 to 10.4 in 1969.

(2) **Expansion and Improvement of Medical Care:** Ratio of physicians, nurses, and hospital beds to population has been improved from 1961 to 1969 as follows:

Year	Physicians	Nurses	Hospital Beds
1961	1:7,786	1:2,693	1:2,078
1969	1:6,569	1:2,195	1:1,691

(3) **Training of Different Categories of Medical Personnel:** During the First and Second Plan periods, increases in the number of personnel of different categories is as follows:

Physicians—totalled approximately 1,450. After the completion of the Second Plan it will be possible to train annually approximately 360 physicians.

Nurses—2,125 were trained by seven hospitals under the control of the Ministry of Public Health, and approximately 2,625 more were trained by other institutions, including both the military and private sectors.

Practical nurses—approximately 410 were trained annually by six hospitals under the control of the Ministry of Public Health. A total of 2,000 persons were trained.

Midwives—the rate of training by the Ministry of Public Health expanded to 3,000.

(4) **Studies and Research Work:** During the First and Second Plan period, studies and research have been carried out as follows:

- (1) Medical studies and research work in the fields of viruses, Thai indigenous medicinal herbs, and drug standardization and control.
- (2) During the Second Plan period, improvement of 40 public health laboratories in 40 provinces facilitated studies. Research work has been included both at the centre and the regions in the activities of the Medical Sciences Department through the combined public health and medical laboratory services.

**Technical Problems concerned with diseases:** After consideration of the data on the cause-specific death rate and the number of patients admitted in 60 regional hospitals and 9 hospitals in Bangkok and Thonburi, it may be concluded that various diseases are a public health problem. Their priority is as follows:

- (1) Certain diseases of early infancy and ill-defined diseases of children under 1 year of age, and diseases of pregnancy, childbirth and postpartum.
- (2) Diseases of the digestive system.
- (3) Tuberculosis.
- (4) Malaria.

**Factors involved in aggravating the severity of diseases:**

- (1) The rapid increase of population, at a rate of 3.1% annually (one of the highest birth rate in the world).
- (2) Most of the people in rural areas lack knowledge and understanding of disease prevention methods and are likely to neglect and ignore hygiene and health.

(3) People do not cooperate with various Government health projects and lack a sense of belonging to those projects.

**Nutrition, Treatment of Malnutrition and Rural Nutrition Project:** It is intended through education campaigns to inform the public of the importance of sound nutrition. During the Plan period (1972-1976) 47 units will be set up to deal with malnutrition diseases, an attempt will be made to control goitre in the areas where it is prevalent and research work will be undertaken to find ways to remedy such problems as Vitamin A deficiencies, berri-berri and anemia.

As regards nutrition in rural areas, the programme will be expanded to cover all 71 provinces. 75 nutrition centres for pre-school children will be established each year, reaching a total of 275, in an attempt to solve nutrition problems of that age group regarded as a high priority. Moreover it is hoped that these centres will help people to understand the value of sound nutrition and encourage them to cooperate in the organisation of such centers for school age children. Experiments in cheap and nutritious lunch programmes at the primary school level will be carried out in cooperation with the Ministry of Education and Provincial Administrative Authorities. The objective of this experiment is to come up with information and guidelines useful to the institutions concerned with the carrying out of such programmes. It is intended to carry out one such test programmes in one province each in the South, North East, and Central regions.

**Guidelines in Nutrition Programmes:**

1. Encourage the consumption of high protein food and production of cheap high protein foods.
2. Improve nutrition, especially of pre-school children in rural areas by establishing nutrition centres for them.
3. Improve nutrition of school children through cooperation with concerned official institutions in setting up nutrition projects in schools.
4. Control of various categories of malnutrition, including the relief or elimination of simple goitre.

Progress in the field of health will continue in the present Five Year Plan. (See Table VIII-3)

**Housing and Housing Conditions:** The population growth rate in Thailand has been very high, about 3.1% annually. The very high rate of about 5.5% annually has prevailed in Bangkok Metropolitan area and the lack of legal enforcement of land use has resulted in a number of problems in the

field of housing. There are shortages of housing accommodation and lack of construction and sanitary standards. This creates slums and squatter settlements.

It is estimated that, at the end of the Second Plan period, there is a housing shortage of 100,000 units. If the present trend of public and private housing construction programmes were to continue, this shortage would increase to 170,000 units in 10 years time. It is also estimated that, out of this shortage, housing shortfall for the lowest income group, with a family monthly income of less than 1,500 baht will be about 60,000 units.

Slum and squatter settlements are to be found scattered all over the city. The largest is at Klong Toey Port area. There are about 4,300 families or 25,000 persons living in this slum area as squatters. In all of these slums and squatter areas there is a serious lack of public utilities such as electricity, water supply, and educational facilities. This leads to a number of serious social problems.

In an attempt to solve this problem, the Government has built public housing to be rented or sold, particularly in the densely populated areas, so that low and middle income families can be provide with adequate and sanitary housing facilities.

However, the past performance of the government's public housing programme has been most inadequate compared with the demand of housing, particularly in the high density urban areas like Bangkok Metropolitan area. The rate of population increase has exceeded the rate of increase in the number of housing units built during the last ten years. During this period, there were 150,000 units of housing built while the population increased by about 1.1 million persons. If an average size of family is 5.5 persons it can be computed that the shortfall in number of house built during the decade has been approximately 170,000 units or 17,000 units annually.

During the Third Plan period, the existing complex problems of Metropolitan development will be alleviated by the following actions.

A central housing agency will be established to replace the various agencies with similar functions in the Second Plan period. The establishment of this new single central agency will be undertaken in stages. The first stage would be the appointment of a housing coordinating committee with its own secretariat, assigned the responsibility of formulating an overall housing plan and coordinating the work of other existing implementing agencies. Future housing construction programmes of the various government agencies will



have to be integrated with the general principles set up by the Committee. Housing programmes within this framework shall not be restricted to new construction but shall also include redevelopment and urban renewal programmes. Slums and squatter settlements which are now scattered all over the area will be redeveloped.

With regard to financing, studies will be undertaken and housing finance institutions will be established. These financial institutions will assist in the housing construction, urban renewal and slum clearance programmes. Sources of finance will be sought both domestically and from abroad. Domestic savings for housing purposes will be promoted. Foreign finance, in the form of both loans and grants will be sought to improve the housing conditions of the Bangkok Metropolitan area.

The target set for housing construction and urban redevelopment for the Third Plan shall be that within a period of 10 years, there should be no more housing shortage in the Bangkok Metropolitan area. Housing for low income families which is the direct responsibility of the Government will be built in various parts of the metropolitan area, both in the central districts and in the suburbs. During the Third Plan, the target has been set for developing slum areas housing 30,000 families, building 5,073 units of flats and 780 units of row housing for low income housing projects. Promotional privileges will also be granted to the private sector to induce investment capital into the field of middle income housing in the metropolitan area.

Studies and recommendations will also be made on standards of housing and building materials, and these will be useful to builders both government and private. The study, research, planning, design and setting up of standards of construction and building materials shall be undertaken jointly by the various agencies concerned. Most of the work in this field will be performed by the center for building research and development of the Applied Science Research Corporation of Thailand. The center for building research and development shall be expanded to be able to cope with the amount and quality of work that is expected to be performed during the Third Plan period.

With the aim of providing information which is useful for future planning activities, data collection in the field of housing will also be regularly undertaken and its coverage will extend much beyond what has been done during the Second Plan period.

It can generally be said that housing problems, both in terms of quality and quantity, are mostly felt in the Bangkok Metropolitan area. The problems have been accumulating for a long time and urgent action must be undertaken to the Third Plan period.

**Transportation and Communication :** The development of transportation and communication during the previous plans was geared to the completion of the main transportation and communication systems to lay down a good foundation for economic and social development. The development of the main transportation and communication systems has made tremendous progress and has, by and large, achieved the targets of the plans.

The Third Plan will carry on the above policy. Highway development still has very high priority and will receive the greatest share of the sector's development budget. However, the emphasis will be on provincial highway and villages roads or feeder roads, and on land transport improvement particularly around the metropolitan area to decrease traffic congestion in Bangkok. The development project that receives the second largest share of the sector's development budget is telephone and telecommunications development to meet the increasing demands arising from the expansion of the economy. Air and water transportation will be increasingly more important. However, the projects for these modes of transportation e.g. the construction of the Second International Commercial airport, the construction of the deep sea harbour and the development of inland-water transportation are still in the stage of preparation of economic and engineering feasibility reports at the start of the Third Plan. As for railway development, emphasis will be on the improvement of services; survey and planning for new rail-way lines will be made only for those which have high economic returns and those which meet the government policy. Coordination among various modes of transport will be an important measure in the Third Plan to save development budget and to yield the highest returns to the overall economy.

**Vocational Training Programs:** During the Third Plan efforts will be made to improve the 25 agricultural and industrial vocational schools which were financed under the World Bank loan project during the Second Plan. Another 15 agricultural and industrial vocational schools will also be improved to meet required standards. This will be carried out with foreign assistance. It is expected that during the Third Plan period the number of vocational stream lower secondary level students will decrease since they will be combined with the changwat secondary comprehensive schools. The higher secondary level vocational schools of the Department of Vocational Education can take 74,800 students or an increase of 26.35% from the present number.

At the end of the Third Plan, the enrollment of higher level vocational students of all branches will reach 22,200 students or an increase of 55.24% from the present level. Emphasis will be given to improvement of the quality of five provincial technical colleges.

Teacher training in the vocational stream according to the Third Plan, is to reach 4,500 students or an increase of 87.50% from the end of the Second Plan. Of this number, some were trained abroad under the loan projects of the Second Plan.

Training for teachers at the Bachelor's degree level, the higher certificate level and certificate level teacher training will reach 80,000 students by the end of the Third Plan. This includes 43,000 students at the certificate level, 26,000 students at the higher certificate level and 11,000 students at the Bachelor's degree level. This excludes the non-degrees students who merely seek additional knowledge.

The nine universities of the country have as a target to increase the present 45,100 university students to 63,520 students by the end of the Third Plan—an increase of 40.83%. The students will be increased in the fields of medicine, agriculture, engineering, science, and education. The budget will be aimed largely towards the upgrading of universities. Kasetsart University will complete its World Bank loan project at the beginning of the Third Plan. Ram Kam Haeng University will be able to absorb approximately 10,000 students annually.

King Mongkut Institute of Technology will be producing middle level and high level manpower. It is expected that at the end of the Third Plan, the Institute with its three branches—the Northern Bangkok Technical College, the Thonburi Technical College and the Nonthaburi Technical College, will be able to produce technical graduates, including technical teachers and factories trainers. The number of students will then be 3,800, or 52% higher than the present number.

Adult education programmes will be closely coordinated to provide vocational training for all at all levels. The Community Development Department's Youth Training Centre will put emphasis on vocational training in agriculture, industry and various short term training courses. It is expected that there will be 237,500 persons under this training programme or twice the number reached during the Second Plan.

The Third National Economic and Social Development Plan stresses on the importance of vocational training activities—particularly out-of-school training so that those who seek employment will have the necessary qualifications to meet the labour market requirements. At present there are different ministries undertaking such training activities in rural areas. Their effort needs to be and will be integrated into the National Vocational Training Plan which will represent an integral part of the next National Plan.

### **(C) Evolution of Population Policy as an Element in Economic and Social Policy**

During the first half of the present century, Thailand's official stance on population was predominantly pronatalist. When health services were first established in the early part of the twentieth century, part of the justification stated was to lower mortality in order to increase the size of the population. During the Second World War, the Prime Minister declared that 100 million people were needed to make the country a real power and early marriages were encouraged to "make the nation prosper". As late as 1956, bonuses were offered for large families.

The Government did, however, begin sending young scholars abroad for training in Demography and related fields and in 1958 a World Bank economic mission recommended that the government seriously consider the adverse effects of the population growth rate on economic development. The Office of the Prime Minister established a series of committees to study the problem and to make recommendations to the Cabinet. In addition, between 1963 and 1968, three National Population Seminars were held.

The reports of nearly all these various committees and seminars warned of the dangers of a too rapid population growth. During the 1960's, the cabinet received a long series of recommendations about the population issue, but it was after receiving the recommendations of the Third Population Seminar in 1968 that the Cabinet referred the question to the National Economic Development Board to prepare a set of final recommendations. During the period prior to an actual population policy declaration, the Cabinet did agree that the voluntary practice of family planning was permissible and, in 1967, the Prime Minister affixed his signature to the United Nations World Leader's Statement on Population. Beginning in 1968, the cabinet sanctioned the development of family planning services by the Ministry of Public Health on a research basis.

In late 1969 and early 1970, the National Economic Development Board, together with the Ministry of Public Health and the Institute of Population Studies, prepared a comprehensive report for the cabinet on the adverse effects of the high rate of population growth on economic and social development and strongly recommended the adoption of a population policy. In March, 1970, the cabinet accepted the report and declared: "The Thai Government has the policy to support voluntary family planning in order to resolve various problems concerned with the very high rate of population growth, which constitutes an important obstacle to the economic and social development of the nation".

After the Thai Government announced a National Population Policy, the Ministry of Public Health established the National Family Planning Program (NFPP). A five-year proposal has been drawn up for inclusion in the Five-Year Social and Economic Plan (1972-1976) of the National Economic Development Board (NEDB). The specific objectives of the NFPP are as follows:

- To reduce the population growth rate from over 3 percent to about 2.5 percent by the end of 1976.
- To inform and motivate eligible women, particularly those living in rural and remote areas, about concepts of family planning and to make services readily available throughout the country.
- To integrate family planning activities with overall maternal and child health services and thus to mutually strengthen the activities in these closely related fields.

The five-year plan for family planning relates primarily to activities directly under the jurisdiction of the Ministry of Public Health, including general services, training, public information and program research and evaluation. Performance thus far and future acceptor targets for the years 1971-1976 are shown in Table 7. Based on performances to date these targets are realistic and based on calculations of women years of protection and number of births prevented by this program, the objective to lower the growth rate from over 3.0% to 2.5% by 1976 is thought to be reachable.

The Cabinet, at the time of the declaration of the population policy, established a National Population Policy Committee which is chaired by the Ministry of Public Health with the Secretary General of the NEDB and the Deputy Minister of Public Health as the Deputy Chairman. Members include the under-secretaries of all ministries (the undersecretaries being the highest civil servant in each ministry), and the directors of all pertinent specialized agencies, such as the National Research Council, the National Statistical Office, and the Institute of Population Studies.

#### **(D) Population Program and Targets**

The primary responsibility for the implementation of a national family planning program was assigned by the Cabinet to the MOPH, which serves, together with the NEDB, as coordinator of all population activities. The MOPH provides curative and preventive health services throughout Thailand, particularly in the rural areas (health facilities, however in the larger urban areas, particularly in Bangkok and Thonburi, are operated by the individual

municipalities, which are responsible to the Ministry of Interior. Other agencies, such as the Ministry of Defense (military hospitals), also provide health care.

The NFPP has been established as an integrated project of the MOPH, with services provided at the provincial hospitals and rural health centers. The MCH Division serves as the central secretariat for the NFPP, responsible for general administration, research and evaluation, and training.

From the start of activities in 1968, the decision was made that family planning activities would be integrated into the existing health services of the MOPH and other governmental agencies providing health care. It was decided that no separate infrastructure was to be created specially for family planning. Thus use was to be made of 84 provincial hospitals, over 3,700 rural health centers, municipal health centers in the larger municipalities, and other governmental hospitals and clinics. The emphasis was placed on the provision of services to women living in the rural area, where over 85% of the population reside, since services had already been growing in the large urban centers since 1965.

The program, to date, has emphasized three methods of contraception: the IUD, oral contraceptives and female sterilization. In 1962, the MOPH rescinded a 1957 regulation which had prohibited female sterilization in MOPH hospitals for women who had less than five children and which had required concurrence of a board of three physicians for the procedure to be done. It has only been in recent years, however, that this change has had an effect. At present, depending on the policy of individual hospital directors, female sterilization may be justified by the socio-economic condition of the couple. Male sterilization is also encouraged, but there have been few acceptors through the national program; it is estimated, however that a significant number are done by physicians in their private practice.

Traditional methods have not been widely used in Thailand. Condoms were offered, for example, in the Potharam Project in 1964-1966, but there were few acceptors. A study is presently being considered to reevaluate the acceptability and effectiveness of the condom in Thailand. KAP studies reveal that a very small percentage of couples have used methods such as withdrawal, rhythm, etc.

Abortion is illegal in Thailand except under limited circumstances; the Penal Code of Thailand stipulates that such an operation may be performed by a medical practitioner on a woman whose health necessitates it or whose

pregnancy resulted from rape. Because of the Buddhist injunction against the taking of life, however, most doctors are reluctant to perform abortions even in these situation when it would be technically legal.

Since there was no official population policy when this program began, there were no funds specifically allocated for family planning in the national budget. Nonetheless, because the activities were integrated into existing health services, utilizing existing facilities and personnel of the former MCH and Rural Health Divisions of the Department of Health and the Provincial Hospital Division of the Department of Medical Services, it has been possible to make rough estimates of the indirect costs of the program, borne by the budgets of these three divisions. These estimates suggest that over US\$1.5 million were used for the family planning program during the three year period, rising from \$ 179,000 in 1968 to \$ 862,000 in 1970. In addition, a total of \$145,000 was made available by the Thai Budget Bureau for family planning during the three year period as a counterpart to USAID assistance (these funds come from the Thai budget rather than from locally generated PL 480 funds, as exist in many countries). While these sums are quite large, it is estimated that the direct costs would have been significantly higher had a separate family planning organization been established, rather than the integrated approach that was used. The U.S. Government, UNICEF and the Population Council, Inc. (of the U.S.A.) have also provided some financial support to the program. Total foreign assistance during the three years 1968-1971 approached \$3.5 million.

In 1972, for the first time, the Thai Government allocated funds specifically for the family planning program, the amount being slightly more than \$600,000, while the indirect costs remained at about \$1,000,000. Foreign donor support also increased and in 1972 some \$4,450,000 was spent from all sources.

The total cost per acceptor has been calculated from the total direct expenditures, both Thai and foreign, and from the estimates of the indirect costs covered by existing budgets. These calculations reveal that the cost per acceptor was \$17.91 in 1968, \$11.70 in 1969, \$10.60 in 1970, \$7.55 in 1971 and \$9.92 in 1972. Another measure of cost is possible, cost per women year of protection generated (which relates to the protection generated by acceptance for the present and several future years). By this measure that the Thai program cost \$3.71 per women year of protection generated in 1968, \$3.91 in 1969, and \$4.20 in 1970. These various cost measures compare favorably with similar estimates made in Korea and Taiwan during the early years of their programs.

The Family Planning Association of Thailand has been in existence since 1955 with its operations chiefly in the Bangkok-Thonburi area. During 1970 a new group, the Planned Parenthood Association of Thailand, was founded under the patronage of her royal highness, the Princess Mother. Both groups cooperate with the Family Planning Project in the Ministry of Public Health. A substantial volume of contraceptives are also distributed through regular commercial channels. It has been estimated that during 1970 and average of 250,000 oral cycles per month were sold by private market outlets.

There is no official policy regarding migration and no effort is made to restrict the free movement of the people to wherever they wish to go. However, it is recognized that the very rapid growth of Bangkok-Thonburi has created severe economic strains and difficulties. Thus, policy in the next five to ten years aims at creating alternative urban "growth poles" particularly in the Northeast Region, from which migration has been heavy due to inadequate non-agricultural employment opportunities. This is to be done by deliberate build-up of the infra-structure (electric power, water supply, etc.) in the leading urban centers and by encouraging location of new industry there.

Regional developmental study groups are also developing similar master plans for other regions of the country.

It should also be noted that the family planning program itself is viewed as one measure to deal with growth of the urban areas. The greater Bangkok Master Plan prepared by the Ministry of Interior calls attention explicitly to the growth caused by internal natural increase (as well as migration) and proposed family planning services as a remedial program.



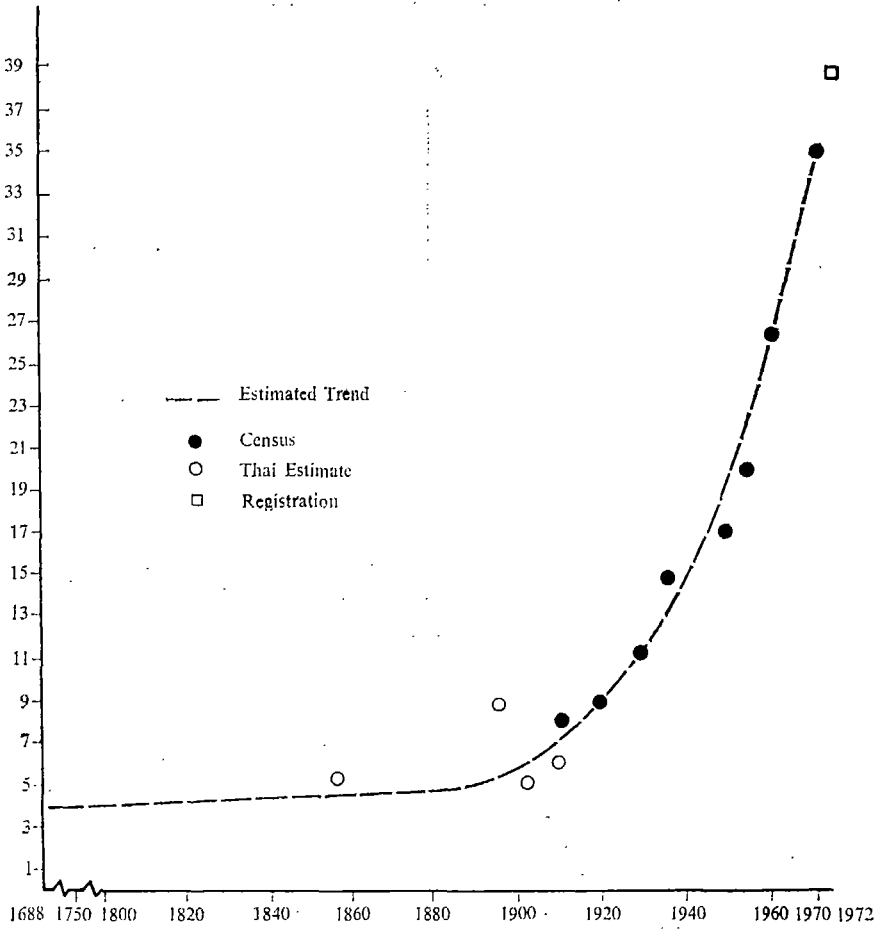
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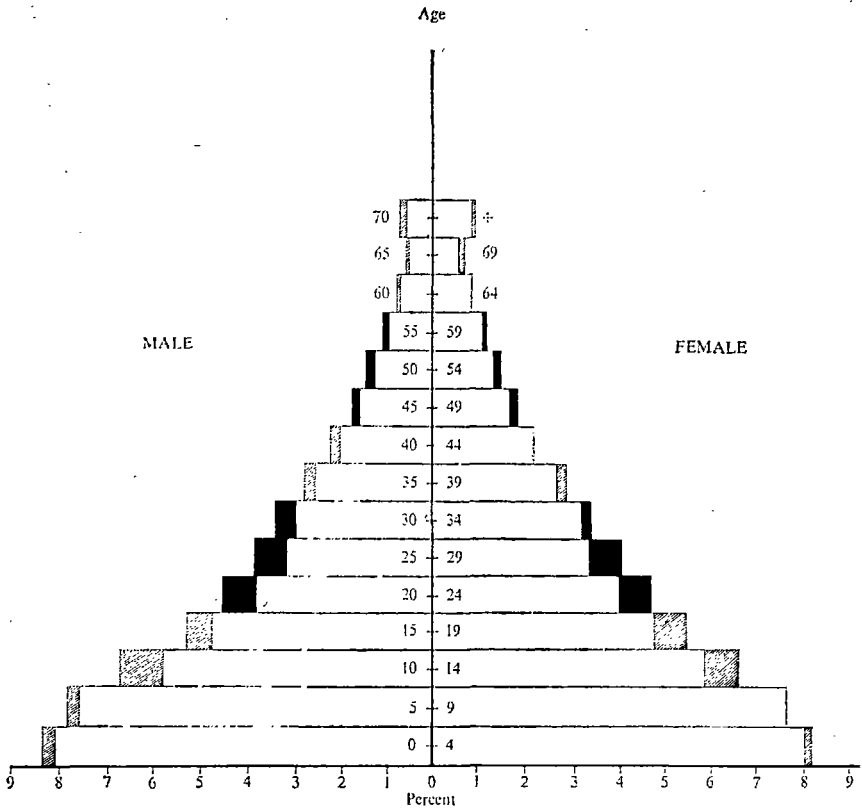
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**Figure I - 1**  
**Growth of the Thai Population, 1688 - 1960**



Source: Redrawn from Larry Sternstein, "A Critique of Thai Population Data", *Pacific Viewpoint*, Vol. VI, May 1965, page 17.

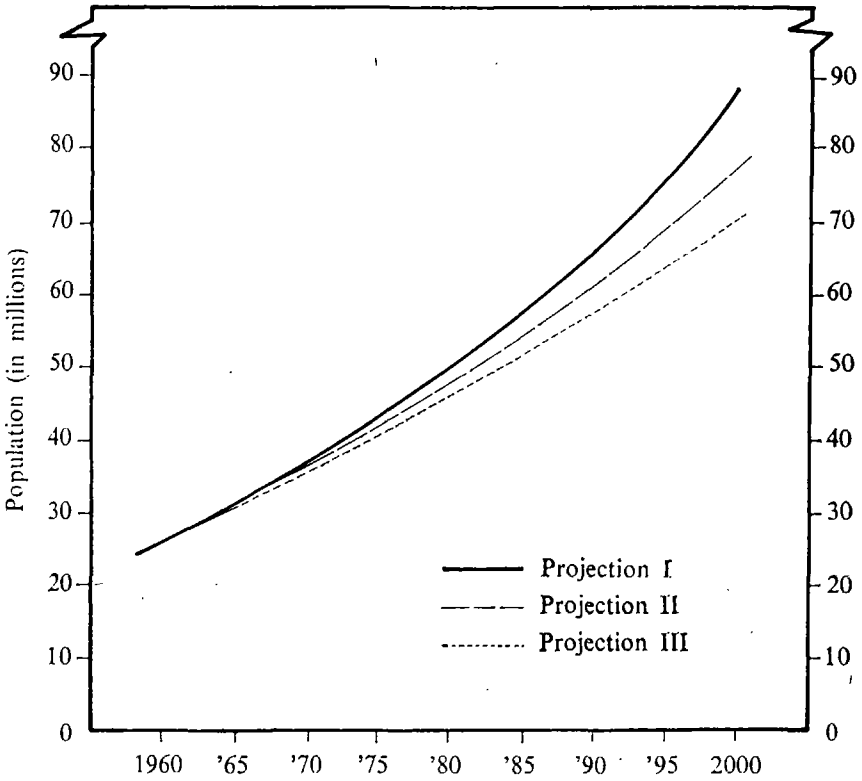
**Figure IV - 1**  
**Population Pyramid of Thailand 1960 and 1970**



1970 more than 1960
  1960 more than 1970

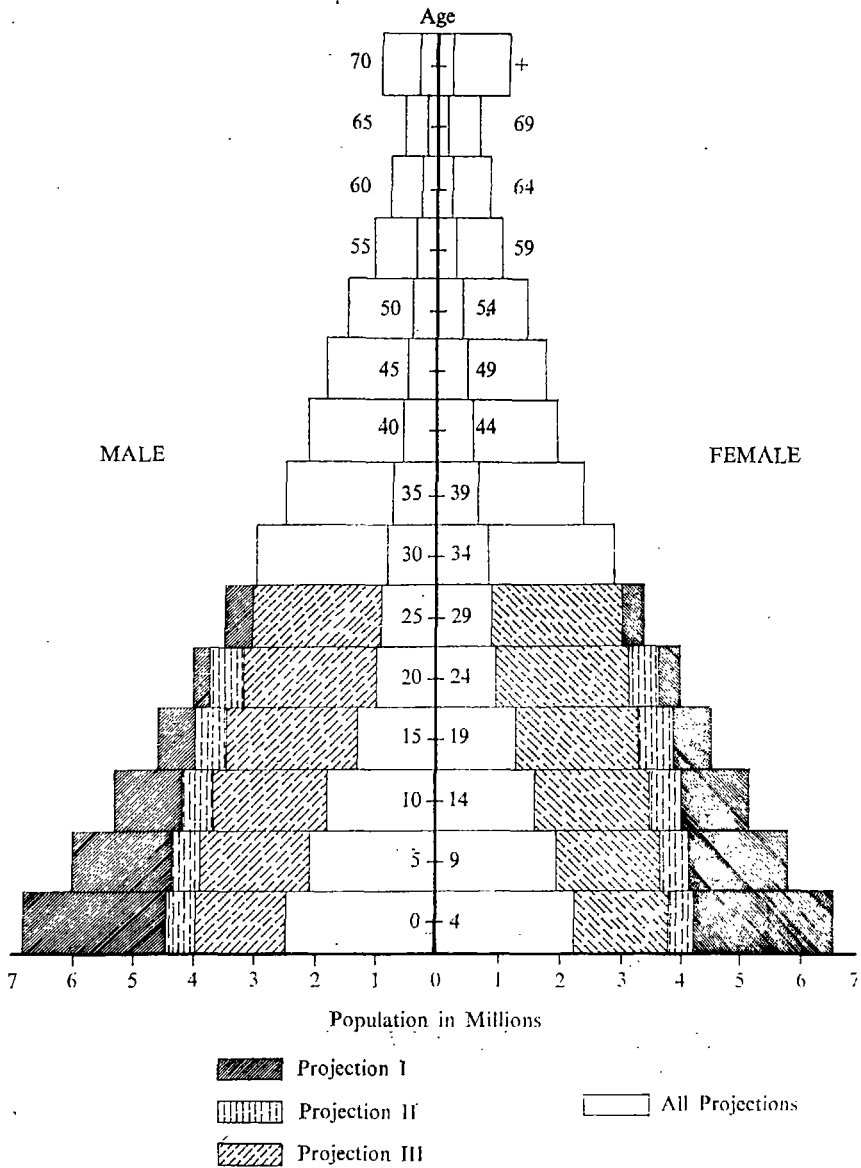
**Source:** 1. National Statistical Office, *1970 Population and Housing Census, Whole Kingdom.*  
 2. Thailand Statistical Office, *Statistical Yearbook, Volume 29, 1970 - 71.*

**Figure VII - 1**  
**Projections of the Population of Thailand 1960 - 2000**



Source: *Population Projections of Thailand, 1960 - 2000*, National Statistical Office, Bangkok, 1973.

**Figure VII - 2**  
**Projection of the Population of Thailand by Age and Sex: 1960-2000**



Source: See Figure VII-1.

**Table I - 1****Census Counts of Population and Inter-Censal Increases, 1911-70**

Day, month, and year of census	Total population	Increase since the previous census	Year and months since the previous census	Annual Percentage inter- censal increase
1 April 1911	8,266,408	-	-	-
1 April 1919	9,207,355	940,447	8.0	1.4
15 July 1929	11,506,207	2,298,952	10.3	2.2
23 May 1937	14,464,105	2,957,898	7.8	3.0
23 May 1947	17,442,689	2,978,584	10.0	1.9
25 April 1960	26,257,916	11,467,727	12.1	3.2
1 April 1970	34,397,374	11,860,542	9.9	2.7



**Table II - 1**  
**Age-specific Fertility Rates and Related Measures of Fertility for Thailand, by Regions and Urban and Rural, 1964-1965**

Regions and Municipal Area	Crude Birth rate (CBR) (2)	Gross Fertility rate (GFR) (3)	Gross Fertility rate(a) (STD) (4)	Total Fertility rate (TFR) (5)	Gross Repro- duction rate (GRR) (6)	Net Repro- duction rate (NRR) (7)	Age-specific Fertility Rates							
							15-19 (8)	20-24 (9)	25-29 (10)	30-34 (11)	35-39 (12)	40-44 (13)	45-49 (14)	50-54 <sup>(b)</sup> (15)
Whole Kingdom	42.2	188.8	188.8	6,299	3.07	2.56	66.4	258.9	302.6	237.1	222.0	112.3	24.1	6.7
North	43.7	201.1	198.1	6,475	3.15	2.64	94.5	232.7	304.3	277.5	221.2	96.2	18.5	9.6
Northeast	43.5	193.6	196.0	6,611	3.22	2.68	62.3	257.9	318.0	292.6	231.9	123.1	36.6	4.3
Central	39.7	174.4	175.7	5,901	2.87	2.40	47.4	241.4	305.4	237.6	218.8	108.1	21.6	9.3
South	40.9	184.1	180.9	6,020	2.93	2.45	71.6	256.6	256.5	279.8	208.0	121.8	10.4	5.9
Municipal Area	29.9	117.2	125.2	4,233	2.1	1.7	47.8	164.4	223.3	171.8	142.5	89.2	7.7	0.4
Non Municipal Area	43.2	182.5	194.7	6,489	3.2	2.6	68.2	267.7	309.5	282.9	229.4	114.5	25.6	6.7

(a) Standardized by using age composition of Whole Kingdom population

(b) Rates in cols. 3-7 do not include specific rates for age group 50-54

Based on: *Report on the Survey of Population Change, 1964-1965*, National Statistical Office, Bangkok. (The Sample on which these data are based excluded the Bangkok-Thonburi Municipal Area)

**Table II-2**  
**Age-specific Death Rate and Related Measures of Mortality for Thailand by Regions and Urban and Rural, 1964-1965**

Regions and Municipal Area	Crude Death Rate	Crude Death Rate <sup>(a)</sup> (STD)	Infant Mortality Rate	Under 1 yr.	Age-Specific Death Rates						60 yrs. & over
					1-9	10-19	20-29	30-39	40-49	50-59	
Whole Kingdom	10.9	10.9	84.3	89.3	6.9	2.4	3.8	4.7	8.0	11.6	49.4
North	12.4	12.3	96.5	103.4	8.6	2.6	3.7	5.5	10.5	13.1	49.9
Northeast	11.4	11.6	83.4	83.8	7.8	3.1	4.8	5.1	7.5	14.9	51.9
Center	10.4	10.3	94.0	107.8	3.7	1.1	3.1	3.9	8.7	8.7	52.6
South	8.6	7.9	48.5	50.2	7.2	2.3	2.9	3.7	8.4	6.6	37.0
Municipal Area	5.6	5.4	67.6	65.3	-	-	-	-	5.4	7.8	38.6
Non-Municipal Area	11.3	9.6	88.5	90.8	1.3	2.5	4.1	5.0	8.2	11.9	50.4

(a) Standardized by using age composition of Whole Kingdom populations.

Source: *Report on the Survey of Population Change, 1964-1965*, National Statistical Office, Bangkok.  
 (The sample on which these data are based excluded the Bangkok-Thonburi Municipal Area)

Table II-3

## Part A

## Abridged Life Table for Males, Thailand, 1964-1965

Age Interval	of 100,000 Born Alive		Stationary Population		Average Remaining Life Time	
	Proportion of Persons Alive at Beginning of Age Interval Dying During Interval	Number Alive at Beginning of Age Interval	Number Dying During Age Interval	In the Age Interval		In This and All Subsequent Age Intervals
Period of Life Between Two Exact Ages Stated in Years	$n^0x$	$l^x$	$n^d x$	$n^1 x$	$T^x$	Average Number of Years of Life Remaining at Beginning of Age Interval
x to x + n						$e^x$
Under 1 year	.09539	100,000	9,539	95,228	5,611,647	56.12
1-4 "	.03235	90,461	2,926	355,992	5,516,419	60.93
5-9 "	.01898	87,535	1,661	433,681	5,160,427	58.95
10-14 "	.01169	85,874	1,004	427,234	4,726,746	55.04
15-19 "	.01238	84,870	1,051	422,088	4,299,512	50.66
20-24 "	.01731	83,819	1,451	415,759	3,877,424	46.26
25-29 "	.02021	82,368	1,665	408,088	3,461,665	42.03
30-34 "	.02339	80,703	1,888	399,154	3,053,577	37.84
35-39 "	.03095	78,815	2,439	388,376	2,654,423	33.68
40-44 "	.04814	76,376	3,677	373,299	2,266,047	29.67
45-49 "	.04791	72,699	3,483	355,408	1,892,748	26.04
50-54 "	.06482	69,216	4,487	335,602	1,537,340	22.21
55-59 "	.07525	64,729	4,871	312,244	1,201,738	18.57
60-64 "	.10817	59,858	6,693	276,154	889,494	14.86
65-69 "	.16143	50,165	8,098	231,504	613,340	12.23
70-74 "	.27643	42,067	11,629	181,902	381,836	9.08
75 years and over	1.00000	30,438	30,438	199,934	199,934	6.52

(Based on : Report of the Survey of Population Changes, 1964-1965, National Statistical Office, Bangkok. Small adjustments have been made to correct typographical errors in the original.)

Table II-3  
Part B  
Abridged Life Table for Females, Thailand, 1964-1965

Age Interval	Proportion of Persons Dying	of 100,000 Born Alive	Stationary Population	Average Remaining Life Time
Period of Life Between Two Exact Ages Stated in Years	Proportion of Persons Alive at Beginning of Age Interval Dying During Interval	Number Alive at Beginning of Age Interval	In the Age Interval	Number of Years Remaining at Beginning of Age Interval
$x$ to $x + n$	$n^0x$	$lx$	$l^1x$	$ex$
			In This and All Subsequent Age Intervals	
			$T_x$	
Under		100,000	96,234	64.38
1-4	.07534	92,466	364,024	66.77
5-9	.03158	89,546	444,667	64.88
10-14	.01490	88,212	430,290	60.82
15-19	.01337	87,033	433,155	56.61
20-24	.00931	86,223	427,114	52.12
25-29	.01991	84,506	418,956	48.13
30-34	.01805	82,981	410,755	43.96
35-39	.02163	81,186	402,601	39.87
40-44	.01716	79,793	393,643	35.52
45-49	.02871	77,502	381,639	31.49
50-54	.03245	74,987	369,414	27.46
55-59	.03109	72,656	323,344	23.26
60-64	.05817	68,430	339,545	19.53
65-69	.07840	63,065	297,038	15.97
70-74	.12246	55,342	244,644	12.83
75 years and over	.23893	42,119	465,300	11.05
	1.00000			

(Based on : Report of the Survey of Population Changes, 1964-1965, National Statistical Office, Bangkok. Small adjustments have been made to correct typographical errors in the original.)

**Table III - 1**  
**Rural-Urban Age-specific Fertility Rates and Age-specific Marital Fertility Rates**

Age of Woman	Age-specific Fertility from Survey of Population Change		Age-specific Marital Fertility from Longitudinal Study		
	Rural 1964-65	Provincial Urban 1964-65	Rural 1968	Provincial Urban 1969	Bangkok-Thonburi 1969
15-19	68	48	421	281	320
20-24	268	164	463	352	342
25-29	310	223	353	325	267
30-34	283	172	297	166	169
35-39	229	143	237	124	89
40-44	115	89	210	140	29
45-49	26	8	42	0	43
15-49	195	125	272	193	165
Total number of women	n.a.	n.a.	1,128	689	933

*Notes:* All rates expressed in terms of per 1000 women  
n.a. = not available

*Sources:* National Statistical Office, Report of the Survey of Population Change, 1964 - 65, 1968

J. Knodel and P. Pitaktesombati; "Thailand: Fertility and Family Planning among Rural and Urban Women," *Studies in Family Planning*, September 1973.

Table III - 2

## Mean Number of Children Ever Born and Living Children by Age and Residence—Ever-married Women

Age	From Longitudinal Survey															
	Rural (1969)					Provincial Urban Bangkok-Thonburi (1970)					From 1970 Census					
	Children Ever Born (1969)		Living Children (1969)		Children Ever Born (1970)		Living Children (1970)		Rural		Provincial Urban		Bangkok-Thonburi		Whole Kingdom	
	Ever Born	Living	Ever Born	Living	Ever Born	Living	Ever Born	Living	Ever Born	Living	Ever Born	Living	Ever Born	Living	Ever Born	Living
15-19	0.69	0.55	0.64	0.60	0.65	0.62	0.62	0.74	0.75	0.80	0.74	0.74	0.74	0.74	0.74	0.74
20-24	1.41	1.30	1.41	1.30	1.42	1.34	1.84	1.84	1.73	1.60	1.81	1.81	1.81	1.81	1.81	1.81
25-29	2.82	2.57	2.61	2.51	2.20	2.11	3.10	3.10	2.73	2.50	3.03	3.03	3.03	3.03	3.03	3.03
30-34	4.22	3.68	3.78	3.57	3.39	3.25	4.42	4.42	3.86	3.52	4.31	4.31	4.31	4.31	4.31	4.31
35-39	5.80	4.92	4.66	4.13	4.29	4.10	5.68	5.68	4.90	4.41	5.54	5.54	5.54	5.54	5.54	5.54
40-44	6.89	5.63	5.82	5.21	5.32	4.95	6.52	6.52	5.59	4.99	6.36	6.36	6.36	6.36	6.36	6.36
45-49	6.69	5.08	5.72	4.96	5.26	4.63	6.70	6.70	5.82	5.21	6.54	6.54	6.54	6.54	6.54	6.54
50-54	6.64	5.09	5.66	4.81	5.47	5.00	6.53	6.53	5.65	5.09	6.37	6.37	6.37	6.37	6.37	6.37
55-59	6.62	4.96	5.30	4.06	5.24	4.24	6.39	6.39	5.45	4.92	6.23	6.23	6.23	6.23	6.23	6.23
60 and over	4.98	4.06	4.15	3.66	3.87	3.56	4.78	4.78	5.01	4.51	5.89	5.89	5.89	5.89	5.89	5.89
Total Number of Women	1,481	1,481	929	930	1,266	1,266	5,922,245	5,922,245	382,429	449,290	6,753,964	6,753,964	6,753,964	6,753,964	6,753,964	6,753,964

Note : Women with an unknown number of children ever born or living children are excluded. Data from the 1970 Census are provisional.

Source : J. Knodel and P. Pitakpombati ; "Thailand: Fertility and Family Planning among Rural and Urban Women." *Studies in Family Planning, September 1973* and National Statistical Office.

Table III-3

Number of Children Ever Born (Standardized for Age of Woman) by Literacy Status and Educational Attainment and Place of Residence, 1960.

Literacy Status or Educational Attainment	Residence					Total King- dom
	Rural Agricul- tural	Rural Non- Agric.	Urban Agricul- tural	Provin- cial Urban Non- Agric.	Bang- kok	
Literate	4.23	3.87	3.72	3.73	3.07	3.99
Illiterate	4.59	4.06	4.21	3.92	3.80	4.40
No schooling	4.03	3.87	4.49	4.23	3.64	
Grades 1-4	3.75	3.87	4.37	3.81	3.36	
Grades 5-10	3.66	3.64	3.62	3.31	3.39	
Higher education	.b	1.87	2.01	2.73	1.70	

Note : a) Limited to women aged 20-44 because of small number of women under 20 years and 45 years and over who have had a higher education.  
b) Less than 10 women.

Source : Sidney Goldstein, Alice Goldstein and Penporn Tirasawat. *The Influence of Labor Force Participation and Education on Fertility in Thailand*, Institute of Population Studies, Research Report No. 8, 1972.

Table III-4

Mean Number of Children Ever Born and Living Children (Standardized for Age) by Residence and Educational Attainment-Ever-married Women.

Educational Attainment	Children Ever Born		Living Children	
	Rural (1969)	Urban (1970)	Rural (1969)	Urban (1970)
No school	5.06	4.54	4.04	4.10
1-3 years	4.95	4.41	4.02	3.85
4 years	4.73	3.97	3.91	3.57
5-9 years	} 3.80	3.61	} 3.70	3.37
10 or more years		2.68		2.32

Notes : The age-distribution of ever-married women for the entire kingdom as given in the preliminary results of the 1970 Census was used as the age-standardization schedule. Because of the small number of respondents in rural areas with more than 4 years of schooling, the categories 5-9 and 10 or more year have been combined for the rural sample.

Source : Institute of Population Studies.

Table III-5

Mean Number of Children Ever Born (Standardized for Age) by Selected Variables and Residence-Ever-married Women, 1960.

Selected Variables	Rural Agricultural	Rural Non-Agric.	Urban Agricultural	Provincial Urban Non-Agric.	Bangkok	Total Kingdom
<i>Religion</i>						
Buddhist	4.52	4.02	4.01	3.81	3.32	4.37
Confucian	4.71	4.27	4.05	3.88	3.52	3.84
Moslem	3.41	3.61	3.61	2.80	3.90	3.39
<i>Lifetime Migration Status</i>						
Migrant	4.71	4.04	3.67	3.73	3.34	4.21
Non-migrant	4.43	4.00	4.11	3.81	3.44	4.34
<i>Migration Status 5 years Prior to</i>						
<i>Census</i>						
Migrant	4.24	3.74	3.06	3.59	2.98	3.88
Non-migrant	4.47	4.03	4.03	4.45	3.42	4.33
<i>Labor Force Status</i>						
In the labor force	4.51	3.96	4.04	3.78	3.26	4.41
Housewife	4.35	4.18	4.12	3.85	3.68	4.02
<i>Occupation of Woman</i>						
Farmer and miners	4.53	4.06	4.13	3.98	2.66	4.50
Craftworkers	3.60	3.92	2.23	3.07	2.83	3.63
Professional and administrative	3.94	3.42	2.18	3.08	2.42	3.51
Service and transport	3.74	4.11	3.28	3.82	2.88	3.51
Sales workers	3.78	3.92	4.13	3.99	3.72	3.89
<i>Marital Status</i>						
Married, spouse present	4.68	4.19	4.31	4.08	3.68	4.56
Married, spouse absent	3.54	3.38	3.16	3.04	3.22	3.34
Widowed	3.79	3.63	3.45	3.13	2.97	3.70
Divorced and separated	2.74	2.96	2.76	2.79	2.27	2.74

Source : S. Goldstein, "Religious Fertility Differentials in Thailand," *Population Studies*, November 1970; S. Goldstein, *Interrrelations between Migration and Fertility in Population Redistribution in Thailand*, Institute of Population Studies, Research Report No. 5, 1971; S. Goldstein, A. Goldstein, and Penporn Tiraswat, *The Influence of Labor Force Participation and Education on Fertility in Thailand*, Institute of Population Studies, Research Report No. 9, 1972; S. Goldstein, A. Goldstein and Sauvaluck Plampitt, "The Effect of Broken Marriages on Fertility Levels in Thailand," *Journal of Social Sciences 10 (1973) : 47-87.*



**Table III - 6**

**Percent not Wanting Additional Children by Number of Living Children-Husbands**

Number of Living Children	Longitudinal Survey			Yala (1969)	Rural North (1969)	Rural South (1969)
	Rural (1969)	Provincial urban (1970)	Bangkok-Thonburi (1970)			
0	17.4	17.5	19.0	0	13	4
1	40.0	18.5	27.7	4	33	15
2	50.0	40.9	42.6	25	66	36
3	64.6	65.8	78.0	21	78	63
4	75.5	70.0	82.4	32	76	77
5	81.5	69.2	93.0	32	87	82
6 or more	90.2	79.0	86.0	22	95	90
Total	67.8	54.3	62.7	19	71	66
N	720	449	569	153	538	820

- Source* : 1. Visid, Prachuabmoh, et. al., *The Rural and Urban Population of Thailand : Comparative Profiles*. Research Report No. 8, The Institute of Population Studies, Chulalongkorn University, Bangkok, 1972.
2. Gavin, Jones and Yanee Soonthornthum, *Fertility and Contraception in the Rural South of Thailand*. Bangkok: Manpower Planning Division, National Economic Development Board, 1971.

**Table III - 7**

**Percent not Wanting Additional Children by Number of Living Children-Marrried Women in Reproductive Age**

Number of Living Children	Longitudinal Survey			Photharam		Yala	Bangkhen
	Rural (1969)	Provincial urban (1970)	Bangkok-Thonburi (1970)	1964	1965	1969	1969
0	11.2	7.1	5.7	12	10	3	11
1	25.5	13.0	18.6	30	24	12	30
2	46.7	43.3	38.3	48	44	39	56
3	64.6	57.7	59.4	71	61	48	80
4	74.6	79.5	74.5	85	76	64	88
5	84.3	83.3	80.9	94	81	71	96
6 or more	91.7	90.5	88.6	97	86	80	98
Total	61.5	54.9	52.1	72	66	42	68
N	918	623	850	1205	1337	500	934

*Source* : Same as Table II-6.

Table III - 8  
**Percent Distribution of Knowledge about Contraceptive Method by Age among Currently Married-women Aged 15-44**

Age	Rural			Provincial Urban			Bangkok - Thonburi			
	Yes	No	Dk/Na	Yes	No	Dk/Na	Yes	No	Dk/Na	Number of Women
15-19	43.5	54.4	2.2	52.0	48.0	0.0	57.7	38.5	3.8	26
20-24	39.7	60.3	0.0	74.3	24.8	0.9	69.5	30.5	0.0	118
25-29	51.7	47.7	0.6	77.1	22.9	0.0	74.9	23.4	1.7	175
30-34	52.3	47.7	0.0	84.0	16.0	0.0	77.4	22.2	0.5	212
35-39	52.0	47.1	0.9	69.7	28.0	2.3	75.0	24.5	0.0	188
40-44	44.7	54.8	0.5	67.4	31.5	1.1	69.9	30.1	0.0	133
Average	48.4	51.1	0.5	74.3	24.9	0.8	73.5	25.8	0.7	852

Source : John Knodel and Pichit Pitaktepsombati, "Thailand : Fertility and Family Planning among Rural and Urban Women." *Studies in Family Planning*, Vol. 4, No. 9 (September): 243.

Table III - 9

## Percentage Distribution of Attitude towards Family Planning by Age and Place of Residence among Currently Women Aged 15-44

Age	Rural			Provincial Urban			Bangkok - Thonburi				
	Yes	No	Depends Dk/Na	Yes	No	Depends Dk/Na	Yes	No	Depends Dk/Na		
15-19	60.9	28.3	4.4	6.5	32.0	8.0	4.0	38.5	34.6	7.7	19.2
20-24	53.2	31.2	5.0	10.6	28.4	10.1	3.7	61.9	17.8	13.6	6.8
25-29	57.5	32.2	3.5	6.9	18.3	16.5	1.8	56.8	22.2	15.3	5.7
30-34	57.3	27.1	3.7	12.0	26.9	13.5	3.2	54.9	22.1	17.4	5.6
35-39	55.6	30.1	6.3	8.1	29.5	15.9	6.8	47.3	28.7	14.4	9.6
40-44	50.3	36.4	3.7	9.6	34.8	12.0	1.1	40.3	26.9	17.9	14.9
Average	55.1	31.2	4.5	9.2	27.6	13.5	3.5	51.8	24.1	15.6	8.5

Note : Number of women in each area and category are the same as presented in table III-8.

Dk/Na = Don't know/No answer.

Source : Same as table III-8.

**Table III - 10**

**Percentage Distribution of Practice of Family Planning by Age and Place of Residence among Currently Married-women Aged 15-44**

Place of Residence and Age	Practice					
	Ever			Current		
	Yes	No	Dk/Na	Yes	No	Dk/Na
<b>Rural</b>						
15-19	4.3	95.7	0.0	0.0	100.0	0.0
20-24	6.4	93.6	0.0	5.0	95.0	0.0
25-29	13.2	86.1	0.6	9.8	89.7	0.6
30-34	22.3	77.2	0.5	16.6	82.9	0.5
35-39	15.7	83.9	0.4	13.9	85.7	0.4
40-44	15.4	84.0	0.5	10.1	89.4	0.5
Average	14.6	85.0	0.4	11.0	88.6	0.4
<b>Provincial Urban</b>						
15-19	16.0	84.0	0.0	12.0	88.0	0.0
20-24	20.2	79.8	0.0	11.9	88.1	0.0
25-29	39.4	59.6	0.9	28.4	70.6	0.9
30-34	48.7	50.0	1.3	39.9	58.9	1.3
35-39	41.7	57.6	0.8	33.3	65.9	0.8
40-44	30.4	68.5	1.1	27.2	71.7	1.1
Average	36.6	62.6	0.8	28.6	70.6	0.8
<b>Bangkok-Thonburi</b>						
15-19	12.0	84.0	4.0	12.0	84.0	4.0
20-24	32.2	67.8	0.0	25.4	74.6	0.0
25-29	39.7	58.0	2.3	30.5	67.2	2.3
30-34	52.6	46.0	1.4	46.4	52.1	1.4
35-39	46.8	51.1	2.1	39.9	58.0	2.1
40-44	35.3	63.9	0.8	32.3	66.9	0.8
Average	41.9	56.5	1.5	35.6	62.9	1.5

Source : Same as Table III-9.

**Table IV - 1**  
**Population of Thailand, by Five Year Age Group and Sex, 1970**  
**(Percentage breakdown in parenthesis)**

Age Group	Both Sexes			Male			Female			Male per 100 Females	
	Total	Municipal Area	Total	Municipal Area	Total	Municipal Area	Total	Municipal Area	Total	Municipal Area	Total
Total	34,397,374 (100.0)	4,553,100 (100.0)	17,123,862 (100.0)	2,257,068 (100.0)	17,273,512 (100.0)	2,296,032 (100.0)	99.1	98.3	99.1	98.3	98.3
00-04	5,659,170 (16.5)	573,003 (12.6)	2,862,938 (16.7)	292,476 (13.0)	2,796,232 (16.2)	280,527 (12.2)	102.4	104.3	102.4	104.3	104.3
05-09	5,284,891 (15.4)	601,116 (13.2)	2,679,168 (15.6)	305,733 (13.5)	2,605,723 (15.1)	295,383 (12.9)	102.8	103.5	102.8	103.5	103.5
10-14	4,562,199 (13.3)	604,857 (13.3)	2,309,549 (13.5)	304,352 (13.5)	2,252,650 (13.0)	300,505 (13.1)	102.5	101.3	102.5	101.3	101.3
15-19	3,717,548 (10.8)	579,274 (12.7)	1,832,177 (10.7)	282,273 (12.5)	1,885,371 (10.9)	297,001 (12.9)	97.2	95.0	97.2	95.0	95.0
20-24	2,683,358 (7.8)	445,109 (9.8)	1,321,641 (7.7)	216,655 (9.6)	1,361,717 (7.9)	228,454 (10.0)	97.1	94.8	97.1	94.8	94.8
25-29	2,241,460 (6.5)	349,031 (7.7)	1,098,083 (6.4)	171,532 (7.6)	1,143,377 (6.6)	177,499 (7.7)	96.0	96.6	96.0	96.6	96.6
30-34	1,910,566 (5.6)	318,266 (7.0)	1,047,323 (6.1)	158,304 (7.0)	1,077,088 (6.2)	159,962 (7.0)	97.2	99.0	97.2	99.0	99.0
35-39	1,540,660 (4.5)	265,376 (5.8)	952,959 (5.6)	132,730 (5.9)	957,607 (5.5)	132,646 (5.8)	99.5	100.1	99.5	100.1	100.1
40-44	1,196,572 (3.5)	207,673 (4.6)	774,328 (4.5)	104,966 (4.7)	766,332 (4.4)	102,707 (4.5)	101.0	102.2	101.0	102.2	102.2
45-49	961,979 (2.8)	130,657 (2.9)	472,185 (2.8)	77,069 (3.4)	597,454 (3.5)	77,140 (3.4)	100.3	99.9	100.3	99.9	99.9
50-54	790,039 (2.3)	104,187 (2.3)	388,328 (2.3)	50,453 (2.2)	489,794 (2.8)	66,230 (2.9)	96.4	97.3	96.4	97.3	97.3
55-59	625,024 (1.8)	79,590 (1.7)	300,801 (1.8)	37,410 (1.2)	324,273 (1.9)	53,734 (2.3)	96.7	93.9	96.7	93.9	93.9
60-64	451,858 (1.3)	56,092 (1.2)	212,957 (1.2)	25,205 (1.1)	238,901 (1.4)	42,180 (1.8)	92.8	88.7	92.8	88.7	88.7
65-69	604,142 (1.8)	79,014 (1.7)	250,656 (1.5)	30,573 (1.4)	353,486 (2.0)	48,441 (2.1)	70.9	63.1	70.9	63.1	63.1
70 and over	43,477 (0.1)	5,646 (0.1)	21,651 (0.1)	2,910 (0.1)	21,826 (0.1)	2,736 (0.1)	99.2	106.4	99.2	106.4	106.4

Source : National Statistical Office, 1970 Population and Housing Census, Whole Kingdom, National Statistical Office, Office of the Prime Minister Bangkok, 1973.

Table IV - 2A

## Marital Status of the Population 13 Years of Age and Over, by Age Group and Sex, for the Whole Kingdom, 1970

Sex, Age Group	Total	Marital Status							Un- known	
		Single	Ever- Married	Ever Married			Priest	Un- known		
				Married	Widowed	Divorced				Sepa- rated
Male	10,148,217	3,834,220	6,062,776	5,738,048	218,489	33,104	71,858	1,277	210,471	40,750
13-14	876,010	837,586	-	-	-	-	-	-	34,715	3,709
15-19	1,832,177	1,706,380	67,776	65,534	374	795	950	123	53,900	4,121
20-24	1,321,641	810,143	460,170	449,560	1,841	3,300	5,304	165	47,421	3,907
25-29	1,098,083	259,941	822,105	805,137	3,877	4,478	8,515	98	12,983	3,054
30-34	1,047,323	102,737	934,985	914,413	6,521	4,573	9,372	106	7,801	1,800
35-39	952,959	48,983	895,531	872,740	9,385	4,621	8,699	86	6,361	2,084
40-44	774,328	23,990	743,480	719,034	12,995	3,819	7,560	72	5,700	1,158
45-49	599,118	13,727	578,914	552,942	16,520	3,012	6,377	63	5,372	1,105
50-54	472,185	8,993	456,667	427,502	20,751	2,395	5,961	58	5,771	754
55-59	388,328	6,523	374,644	342,777	24,439	1,964	5,396	68	6,670	491
60-64	300,801	5,045	287,784	251,786	29,577	1,600	4,734	87	7,096	876
65-69	212,957	3,225	202,603	167,806	29,693	1,128	3,883	93	6,596	533
70 and over	250,656	4,434	234,558	165,848	62,115	1,326	5,016	253	9,667	1,997
Unknown	21,651	2,513	3,559	2,969	401	93	91	5	418	15,161

Source : National Statistical Office, 1970 Population and Housing Census, Whole Kingdom, National Statistical Office, Office of the Prime Minister, Bangkok, 1973.

Table IV - 2A (Contd.)

## Marital Status of the Population 13 Years of Age and Over, by Age Group and Sex, For the Whole Kingdom, 1970

Sex, Age Group	Total	Single	Ever- Married	Marital Status				Priest	Un- known
				Married	Widowed	Ever Married	Sepa- rated		
Female	10,472,659	3,284,751	7,156,909	5,904,090	925,445	118,047	189,121	20,206	30,999
13-14	853,752	840,084	10,459	7,815	402	1,351	286	605	3,209
15-19	1,885,371	1,523,814	357,636	329,313	4,551	10,150	11,510	2,112	3,921
20-24	1,361,717	515,805	843,592	787,145	11,075	18,373	24,931	2,068	2,320
25-29	1,143,377	178,208	963,640	904,810	16,170	16,936	24,278	1,446	1,529
30-34	1,077,088	87,025	989,625	924,060	25,461	14,927	24,180	997	438
35-39	957,607	50,202	906,593	830,222	38,628	14,080	22,851	812	812
40-44	766,332	29,712	736,266	647,599	56,334	11,529	19,951	853	354
45-49	597,454	18,138	578,865	478,323	74,349	9,130	16,199	864	451
50-54	489,794	12,385	477,010	354,861	100,076	6,940	14,098	1,035	399
55-59	401,731	8,997	392,412	260,006	114,529	5,143	11,432	1,302	322
60-64	324,223	6,948	316,566	174,041	128,507	3,854	8,394	1,770	709
65-69	238,901	4,923	233,463	105,665	118,004	2,282	5,619	1,893	515
70 and over	353,486	6,671	345,075	97,061	235,800	2,742	5,228	4,244	1,740
Unknown	21,826	1,839	5,707	3,169	1,559	610	164	205	14,280

Source : National Statistical Office, 1970 Population and Housing Census, Whole Kingdom, National Statistical Office, Office of the Prime Minister, Bangkok, 1973.



**Table IV - 2B**  
**Average Age at First Marriage by Sex and Age at Last Birthday—Ever-Married Rural and Urban Population**

Age At Last Birthday	Males			Females		
	Rural	Provincial Urban	Bangkok- Thonburi	Rural	Provincial Urban	Bangkok- Thonburi
	Under 20	18.9 (17)	18.5 (5)	17.3 (4)	17.6 (84)	17.2 (27)
20-24	21.1 (118)	20.7 (51)	20.7 (54)	19.3 (186)	19.5 (115)	19.5 (132)
25-29	22.8 (161)	24.0 (106)	23.9 (127)	20.6 (212)	21.1 (115)	21.8 (196)
30-34	23.6 (196)	25.2 (134)	25.8 (218)	21.0 (235)	21.7 (167)	22.5 (228)
35-39	24.1 (233)	25.5 (145)	26.2 (207)	20.6 (245)	22.1 (152)	22.2 (212)
40-44	23.7 (188)	26.1 (123)	26.9 (149)	20.4 (205)	21.6 (110)	22.0 (167)
45-49	25.0 (168)	27.2 (83)	27.0 (106)	20.9 (182)	22.1 (94)	22.2 (119)
50-54	25.7 (148)	27.1 (71)	26.6 (90)	21.9 (128)	21.7 (71)	21.8 (110)
55-59	25.3 (94)	26.4 (53)	28.5 (77)	21.2 (100)	20.9 (65)	20.7 (70)
60 & over	26.4 (179)	27.5 (87)	28.3 (106)	21.9 (158)	21.3 (98)	22.1 (133)
Total	23.5 (1506)	25.5 (858)	26.1 (1139)	20.6 (1739)	21.3 (1014)	21.7 (1411)

*Note:* Numbers in parentheses indicate the number of cases in each category. The total includes the following number of respondents of unknown age: rural males - 4, females - 3; Bangkok-Thonburi males - 1.  
*Source:* Visid Prachuabmoh et al., *The Rural and Urban Population of Thailand: Comparative Profiles*. Research Report No. 8, The Institute of Population Studies, Chulalongkorn University, Bangkok, 1972.

**Table IV - 3A**  
**Population in Private Households, by Size of Household for the Whole Kingdom, Regions and Municipal Areas, 1970**

Area	Population	Size of Household													13 & over	
		1	2	3	4	5	6	7	8	9	10	11	12			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Whole Kingdom	33,872,577	5,908,473	5.7	188,659	408,895	648,869	814,572	876,744	848,734	725,795	547,217	366,161	221,456	121,676	68,743	70,952
Municipal Area	4,418,256	762,081	5.8	44,063	66,202	84,248	94,132	96,560	96,198	83,862	64,555	44,524	30,831	20,285	14,587	22,034
Central Region	10,382,658	1,821,558	5.7	82,464	145,441	201,430	241,381	255,287	247,760	212,023	159,287	108,264	69,334	40,693	25,900	32,294
Municipal Area	3,119,618	522,866	6.0	28,543	42,345	54,927	62,599	64,507	66,364	59,269	46,276	31,786	22,417	15,026	11,139	17,668
Northern Region	7,390,680	1,363,041	5.4	39,377	107,021	170,198	207,407	216,398	200,155	161,543	115,172	70,836	38,723	18,805	9,318	8,088
Municipal Area	424,564	81,594	5.2	5,192	8,722	10,573	11,442	11,648	10,521	8,254	5,790	3,733	2,404	1,391	913	1,011
Northeastern Region	11,880,344	1,952,653	6.1	34,705	93,287	183,537	254,074	288,987	294,390	264,754	208,649	144,904	86,335	48,355	25,835	22,841
Municipal Area	432,202	78,403	5.5	5,167	7,702	9,331	9,866	10,118	9,681	8,230	6,289	4,445	3,008	1,882	1,196	1,488
Southern Region	4,218,895	771,221	5.5	32,113	63,146	93,704	111,710	116,072	106,429	87,475	64,109	42,157	25,064	13,823	7,690	7,729
Municipal Area	441,872	79,218	5.6	5,161	7,433	9,417	10,225	10,287	9,632	8,109	6,200	4,560	3,002	1,986	1,339	1,867

Source : National Statistical Office, 1970 Population and Housing Census, Whole Kingdom, National Statistical Office, Office of the Prime Minister, Bangkok, 1973.

**Table IV - 3B**  
**Type and Size of Household**

	Rural		Provincial Urban		Bangkok-Thonburi	
	%	No.	%	No.	%	No.
<b>Type of Household</b>						
Nuclear	63.8	941	63.6	612	56.1	683
Stem	19.5	287	17.2	166	17.5	213
Joint	5.4	79 <sup>a</sup>	6.9	66 <sup>c</sup>	7.0	85 <sup>c</sup>
Stem-joint	9.0	133	1.2	12	3.8	46
Single	1.4	20	5.5	53	5.2	63
Other	0.9	14	5.6	54	10.5	128
Total	100.0	1474	100.0	963	100.0	1218
<b>Size of Household</b>						
1-2 persons	5.7	84	12.6	121	10.6	129
3-4 persons	20.0	294	24.7	237	21.6	263
5-6 persons	28.4	419	28.7	276	21.8	266
7-8 persons	24.8	366	18.4	177	22.1	269
9+	21.0	310	15.7	151	24.0	292
Total	100.0	1473 <sup>b</sup>	100.0	962 <sup>d</sup>	100.0	1219
Mean		6.40		5.67		6.49

Notes : a) May include a few cases which are stem-joint.

b) Excluding one case coded as unknown.

c) May include one case which is stem-joint.

d) Excluding one case coded as no persons in household.

Source : Visid Prachuabmoh et al., *The Rural and Urban Population of Thailand: Comparative Profiles*. Research Report No. 8, The Institute of Population Studies, Chulalongkorn University, Bangkok, 1972.

Table IV-4

Chinese Characteristics, Ethnic Origin of Name and Language Spoken

	Rural		Provincial		Bangkok-Thonburi	
	%	No.	%	No.	%	No.
<b>At Least One Chinese Characteristic</b>						
Yes	3.4	49	16.8	162	31.5	383
No	96.6	1409	83.2	800	68.5	833
Total	100.0	1458	100.0	962	100.0	1216
<b>Ethnic Origin of Name</b>						
Both names Thai	94.0	1386	80.6	776	70.8	861
Both names Chinese	2.7	40	13.5	130	23.5	286
Name Chinese, family name Thai	0.6	9	1.7	16	0.5	6
Name Thai, family name Chinese	0.8	12	2.7	26	2.1	26
Other	1.5	22	1.3	13	1.8	22
Unknown	0.3	5	0.2	2	1.2	15
Total	100.0	1474	100.0	963	100.0	1216
<b>Language Spoken in Home</b>						
Thai	96.7	1426	82.8	797	65.0	790
Chinese	0.5	7	2.3	22	6.2	75
Thai-Chinese	0.9	13	14.0	135	26.2	318
Other	1.6	23	0.7	7	2.6	32
Unknown	0.3	5	0.1	1	0.1	1
Total	100.0	1474	100.0	962	100.0	1216

Note : The presence of Chinese language newspapers was not recorded for the rural sample.

Source : Visid Prachuabmoh et al., *The Rural and Urban Population of Thailand: Comparative Profiles*. Research Report No. 8, The Institute of Population Studies, Chulalongkorn University, Bangkok, 1972.

Table IV - 5

## Literacy Rates for the Population 10 Years of Age and Over, by Age Group and Sex, for the Whole Kingdom, Regions and Municipal Areas

Age Group	Whole Kingdom		Central Region		Northeast Region		North Region		South Region		Municipal Areas									
	Kingdom		Region		Region		Region		Region		Whole Kingdom		Central		Northeast		North		South	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Total	88.9	74.8	93.0	78.2	91.2	80.3	82.5	65.7	83.5	67.1	94.5	84.4	94.7	84.8	96.3	88.4	93.9	82.0	91.5	80.1
10-14	95.9	94.2	97.5	95.5	97.5	96.7	92.2	89.6	93.9	91.8	98.1	96.6	98.2	96.6	98.2	97.1	98.2	97.3	96.9	95.3
15-19	95.8	92.9	97.8	94.9	97.6	96.2	91.5	87.1	93.3	88.2	98.4	96.4	98.7	96.5	98.6	97.4	98.1	96.4	96.9	94.3
20-24	95.1	90.7	97.7	93.4	97.0	94.5	90.5	83.0	90.0	83.5	98.3	95.6	98.6	95.8	98.5	96.9	97.8	95.7	95.4	92.8
25-29	93.2	86.1	96.8	89.9	95.8	91.6	87.2	76.1	86.9	76.1	97.4	92.9	97.8	93.1	98.3	95.9	96.6	92.2	94.5	88.9
30-34	90.3	80.1	94.8	84.1	94.1	88.1	83.1	68.9	82.1	67.4	95.6	87.1	95.8	87.0	97.7	93.7	94.7	87.3	92.6	82.4
35-39	88.4	77.5	93.4	82.7	93.0	85.4	80.0	64.9	80.5	66.6	94.0	84.8	94.1	84.4	97.1	92.2	93.4	85.7	91.0	80.0
40-44	87.5	68.6	93.0	76.9	90.7	74.3	80.3	55.8	79.4	57.0	93.0	81.5	92.9	81.8	96.6	88.1	94.3	81.5	88.9	74.1
45-49	82.1	49.6	89.7	58.7	84.4	55.3	72.7	33.4	75.3	40.4	90.9	71.4	90.9	72.4	94.7	76.9	91.5	67.1	86.9	63.5
50-54	75.0	32.8	83.8	39.5	76.4	37.1	64.0	19.9	68.3	26.6	86.2	56.1	86.0	56.9	90.8	64.6	86.8	51.5	82.6	48.7
55-59	72.1	25.7	80.5	31.9	72.3	27.3	61.5	15.9	68.0	22.2	83.0	47.9	82.3	48.2	88.3	55.9	84.3	45.3	81.4	40.8
60-64	63.6	13.2	74.4	20.2	60.8	10.5	52.7	06.9	62.2	12.6	77.6	36.4	77.4	38.6	81.9	34.5	77.5	29.7	75.1	30.1
65-69	59.2	10.5	70.6	16.9	53.7	06.7	47.7	05.1	61.9	11.0	73.6	31.4	73.5	34.6	77.9	23.6	72.0	23.1	72.8	25.6
70 & over	51.7	08.1	64.0	12.9	40.6	04.7	44.9	04.1	52.0	08.0	67.8	25.4	68.6	28.0	69.7	19.6	65.5	16.9	64.1	21.2
Unknown	28.2	22.2	37.6	29.5	26.1	20.1	22.2	18.1	22.9	19.5	49.2	39.4	57.5	47.3	38.0	24.0	34.5	31.4	28.5	26.7

Source: National Statistical Office, 1970 Population and Housing Census, Whole Kingdom,  
National Statistical Office, Office of the Prime Minister, Bangkok, 1973.

**Table IV - 6****School Grade Attained by Population 6 Years of Age and Over, 1970****Whole Kingdom**

School grade attained	Description	Total		Male		Female	
		Number	%	Number	%	Number	%
0	None	7,145,341	25.9	2,880,028	21.1	2,265,313	30.7
1- 4	Lower primary	17,178,543	62.3	8,786,649	64.2	8,391,894	60.3
5- 7	Upper primary	1,189,219	4.3	715,228	5.2	473,991	3.4
8-12	Secondary	1,336,654	4.8	846,631	6.2	490,023	3.5
13-15	Attended college	106,878	0.4	61,999	0.4	44,879	0.3
16	Completed	72,482	0.3	50,597	0.4	21,885	0.2
17 or more	Graduate degree	5,269	-	3,722	-	1,547	-
	Religious, pre-primary and unknown	561,577	2.0	338,412	2.5	223,165	1.6
<b>Total</b>		<b>27,595,963</b>	<b>100.0</b>	<b>13,683,266</b>	<b>100.0</b>	<b>13,912,697</b>	<b>100.0</b>

Source : National Statistical Office, 1970 Population and Housing Census, Whole Kingdom, National Statistical Office, Office of the Prime Minister, Bangkok, 1973.

**Table V - 1****Population of Thailand by geographical region (1970 preliminary census data)**

Region	Population (thousand)	Population per square kilometre
Whole Kingdom	34,152	66.4
South	4,269	60.8
North	7,468	43.9
Northeastern	12,023	70.6
Central	10,392	100.3

**Table V - 2**  
**Ten Largest Urban Places in Thailand, 1947, 1960, 1970 and 1972**

Rank	1947		1960	
	Place and region	Population	Place and region	Population
1	Bangkok-Thonburi (C)	781,662	Bangkok-Thonburi (C)	1,800,678
2	Chiangmai (N)	38,211	Chiangmai (N)	66,823
3	Lampang (N)	22,952	Korat (NE)	44,630
4	Korat (NE)	22,340	Hat Yai (S)	36,197
5	Nakorn Pathom (C)	22,007	Lampang (N)	36,002
6	Samut Sakorn (C)	20,754	Nakorn Sawan (N)	34,371
7	Phuket (S)	19,550	Ayuthaya (C)	33,547
8	Songkhla (S)	18,662	Chonburi (C)	33,237
9	Ayuthaya (C)	17,807	Phitsanulok (N)	33,233
10	Chonburi (C)	17,671	Songkhla (S)	31,488
Total		981,616	Total	2,150,206

Rank	1970		1972	
	Place and region	Population	Place and region	Population
1	Bangkok-Thonburi (C)	2,913,706	Bangkok Metropolitan Area (C)	3,793,763
2	Chiangmai (N)	89,272	Chiangmai (N)	93,363
3	Nakorn Ratchasima (NE)	82,256	Nakorn Ratchasima (NE)	77,397
4	Pitsanulok (N)	64,979	Pitsanulok (N)	70,649
5	Udorn Thani (NE)	54,869	Udorn Thani (NE)	70,110
6	Hat Yai (S)	54,050	Hat Yai (S)	57,255
7	Nakorn Sawan (N)	48,609	Ubon Ratchatani (NE)	52,171
8	Songkhla (S)	46,322	Nakorn Sawan (C)	51,378
9	Nakorn Sithammarat (S)	45,353	Nakorn Sithammarat (S)	50,761
10	Chonburi (C)	45,127	Songkhla (S)	50,687
Total		3,444,543	Total	4,367,534

**Table V - 3**  
**Distribution of Municipalities in Thailand by Size and Classification,**  
**December 31, 1972**

Population Size	Nakorn	Muang	Tambon	Total
100,000+	1*			1
75,000-99,999	1	1	-	2
50,000-74,999	-	7	-	7
40,000-49,999	-	4	-	4
30,000-39,999	-	10	-	10
20,000-29,999	-	17	2	19
10,000-19,999	-	29	16	45
5,000- 9,999	-	13	12	25
2,500- 4,999	-	2	4	6
<b>Total</b>	<b>2</b>	<b>83</b>	<b>34</b>	<b>119</b>

\* Only Bangkok-Thonburi Municipality with the population of 3,022,244 is in this category

Source : Department of Local Administration, Ministry of Interior, *Official Report on the Number of Population and Households All Over the Kingdom as of December 31, 1972.*

**Table V - 4**  
**Minimum Population Size and Density for Different Types of Municipality**  
**as Required by Previous and Present Laws**

Type of Municipality	Minimum Population Size	Minimum Population Density (Per Square Kilometre)
<b>Muang Municipality</b>		
Municipality Act of 1933	3,000	1,000
Municipality Act of 1938	5,000	2,000
Municipality Act of 1953	10,000	3,000
<b>Nakorn Municipality</b>		
Municipality Act of 1933	30,000	1,000
Municipality Act of 1938	30,000	2,000
Municipality Act of 1953	50,000	3,000



**Table V - 5**  
**Ten Provinces with the Highest Rate of In-Migration, Out-Migration,  
 Net-Gain Migration, and Net-Loss Migration (1955 - 1960)**

Rank	In-Migration Province and Region	Rate Per 1,000 Popu- lation	Rank	Out-Migration Province and Region	Rate Per 1,000 Popu- lation
1	Kamphaeng Phet (N)	135.1	1	Saraburi (C)	70.0
2	Thonburi (C)	134.6	2	Ayuthaya (C)	68.3
3	Lopburi (C)	117.5	3	Chainat (C)	67.7
4	Prachuab Khiri Khan (S)	101.3	4	Singburi (C)	66.4
5	Phetchabun (N)	96.5	5	Anghong (C)	63.6
6	Yala (S)	95.9	6	Bangkok (C)	63.1
7	Nonthaburi (C)	92.3	7	Pathumthani (C)	60.8
8	Nongkai (NE)	86.1	8	Maharakham (NE)	57.6
9	Udonthani (NE)	79.8	9	Samut Songkhram (C)	55.6
10	Bangkok (C)	79.8	10	Chachoengsao (C)	53.6
	Mean = 37.5			Mean = 37.5	
	Range = 7.4 to 135.1			Range = 7.7 to 70.0	
	Net-Gain			Net-Loss	
1	Kamphaeng Phet (N)	111.6	1	Maharakham (NE)	44.5
2	Thonburi (C)	97.4	2	Roi Et (NE)	42.9
3	Phetchabun (N)	81.9	3	Chainat (C)	41.9
4	Lopburi (C)	70.5	4	Anghong (C)	41.5
5	Yala (S)	69.4	5	Ayuthaya (C)	40.9
6	Prachuab Khiri Khan (C)	67.1	6	Singburi (C)	37.3
7	Nongkai (NE)	66.8	7	Chachoengsao (C)	34.7
8	Udonthani (NE)	54.2	8	Samut Songkhram (C)	31.8
9	Nonthaburi (C)	42.5	9	Pattani (S)	29.4
10	Chonburi (C)	32.0	10	Phetchaburi (C)	28.8
	Number of provinces with net-gain = 33			Number of provinces with net-loss = 38	
	Mean = 30.0			Mean = 21.8	

Source : Wiwit Siripak, *Patterns and Correlates*, Table 11, pp. 58-60

Table V - 6

Volume of Inter-Regional, Lifetime, and 5-Year Migration in Thailand in 1960

Region of Distribution	Total In-Migrants	Region of Origin			
		Central	Northeast	North	South
<b>Lifetime Migration</b>					
Total out-migrants	664,841	299,793	248,890	82,539	33,619
Central	246,597	-	144,291	70,587	31,719
Northeast	50,951	39,887	-	10,807	257
North	293,798	203,850	88,305	-	1,643
South	73,495	56,056	16,294	1,145	-
<b>Five-Year Migration</b>					
Total out-migrants	215,984	76,008	85,532	37,832	16,612
Central	98,552	-	52,645	31,445	14,462
Northeast	25,846	19,638	-	4,888	1,320
North	65,830	39,073	25,927	-	830
South	25,756	17,297	6,960	1,499	-

Source : Thailand Population Census, 1960, Changwad Series, Table 5 and 6.

Table V-7

**1970 Population and Housing Census Migration of Population 5 Years of Age and Over  
by Region of Previous Residence and Sex**

Region of Present Residence	Pop. 5 Years of Age & Over				Previous Residence of Migrant							% of Previous Residence of Migrants							
	Total	Number of Migrants	Per-cent	(3)	(4)	C	NE	N	S	Unknown Changwat	Other Country	C	NE	N	S	Unknown	Other	Chang-wat	Other
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Whole Kingdom	28,738,204	2,249,527	7.8	761,883	515,674	309,394	183,557	450,155	28,864	33.9	22.9	13.8	8.2	20.0	1.3				
Central	9,058,148	1,042,709	11.5	592,611	129,749	83,786	44,230	175,528	16,805	56.8	12.4	8.0	4.3	16.8	1.6				
Northeast	9,773,127	565,285	5.8	69,238	330,486	26,130	4,814	128,278	6,339	12.2	58.5	4.6	0.9	22.7	1.1				
North	6,345,184	414,407	6.5	72,681	43,920	195,703	3,430	94,902	3,771	17.5	10.6	47.2	0.8	22.9	0.9				
South	3,561,745	227,126	6.4	27,553	11,519	3,775	131,083	51,447	1,949	12.0	5.1	1.7	57.7	22.7	0.9				
Male, Total	14,260,924	1,200,125	8.4	406,686	279,736	160,193	99,704	238,062	15,744	33.9	23.3	13.3	8.3	19.8	1.3				
Central	4,470,635	547,922	12.3	314,644	66,878	40,671	23,719	92,781	9,229	57.4	12.2	7.4	4.3	16.9	1.7				
Northeast	4,831,825	306,029	6.3	37,901	180,409	13,462	2,641	68,363	3,253	12.4	59.0	4.4	0.9	22.3	1.1				
North	3,173,935	221,548	7.0	39,273	23,848	104,443	1,972	49,887	2,125	17.7	10.8	47.1	0.9	22.5	1.0				
South	1,784,529	124,626	7.0	14,868	8,601	1,617	71,372	27,031	1,137	11.9	6.9	1.3	57.3	21.7	0.9				
Female, Total	14,477,280	1,049,402	7.2	355,197	235,938	149,201	83,853	212,093	13,120	33.8	22.5	14.2	8.0	20.2	1.3				
Central	4,587,513	494,787	10.8	277,967	62,871	43,115	20,511	82,747	7,576	56.2	12.7	8.7	4.1	16.7	1.5				
Northeast	4,941,302	259,256	5.2	31,337	150,077	12,668	2,173	59,915	3,086	12.1	57.9	4.9	0.8	23.1	1.2				
North	3,171,249	192,859	6.1	33,408	20,072	91,260	1,458	45,015	1,646	17.3	10.4	47.3	0.8	23.3	0.9				
South	1,777,216	102,500	5.8	12,485	2,918	2,158	59,711	24,416	812	12.2	2.8	2.1	58.3	23.8	0.8				

**Table VI-1****Total and Economically Active Population by Sex and Age Group, 1970**  
(in thousands)**TOTAL**

Age Group	Total Population	Economically active population	
		Number	%
-15	15,506.3	1,688.3	10.9
15-19	3,717.5	2,874.3	77.3
20-24	2,683.4	2,253.7	84.0
25-29	2,241.5	1,944.6	86.8
30-49	6,772.2	5,958.3	88.0
50-59	1,752.0	1,414.9	80.8
60+	1,681.0	710.8	42.3
Unknown	43.5	5.3	12.1
<b>Total</b>	<b>34,397.4</b>	<b>16,850.2</b>	<b>49.0</b>

**MALE**

-15	7,851.7	790.8	10.1
15-19	1,832.2	1,418.8	77.4
20-24	1,321.6	1,178.3	89.2
25-29	1,098.1	1,047.7	95.4
30-49	3,373.7	3,252.7	96.4
50-59	860.5	788.3	91.6
60+	764.4	431.3	56.4
Unknown	21.6	2.9	13.4
<b>Total</b>	<b>17,123.8</b>	<b>8,910.8</b>	<b>52.0</b>

**FEMALE**

-15	7,654.6	897.5	11.7
15-19	1,885.4	1,455.5	77.2
20-24	1,361.7	1,075.4	79.0
25-29	1,143.4	896.9	78.4
30-49	3,398.5	2,705.6	79.6
50-59	891.5	626.6	70.3
60+	916.6	279.5	30.5
Unknown	21.8	2.4	10.8
<b>Total</b>	<b>17,273.5</b>	<b>7,939.4</b>	<b>46.0</b>

Source : 1970 Census of Population and Housing, National Statistical Office.

**Table VI-2****Economically Active Population and Participation Rates, 1960 and 1970**  
(in thousands)

Age Group	Economically Active		Increment	Participation Rate	
	1960	1970		1960	1970
<b>Total</b>	13,837.0	16,850.2	3,013.2	52.7	49.0
-15	1,079.5	1,688.3	608.8	9.5	10.9
15-19	2,017.1	2,874.3	857.2	90.7	77.3
20-24	2,112.4	2,253.7	141.3	87.4	84.0
25-29	1,873.2	1,944.6	71.4	90.4	86.8
30-49	4,822.4	5,958.3	1,135.9	92.1	88.0
50-59	1,282.2	1,414.9	132.7	87.7	80.8
60+	618.6	710.8	92.2	51.2	42.3
Unknown	31.6	5.3	-26.3	68.5	12.1
<b>Male</b>	7,144.9	8,910.8	1,765.9	54.3	52.0
-15	486.3	790.8	304.5	8.5	10.1
15-19	970.5	1,418.3	448.3	76.9	77.4
20-24	1,069.2	1,178.3	109.1	88.2	89.2
25-29	984.1	1,047.7	63.6	96.0	95.4
30-49	2,575.4	3,252.7	677.3	97.6	96.4
50-59	683.7	788.3	104.6	94.5	91.6
60+	357.2	431.3	74.1	64.4	56.4
Unknown	18.5	2.9	-15.6	72.0	13.4
<b>Female</b>	6,692.1	7,939.4	1,247.3	51.1	46.0
-15	593.2	897.5	304.3	10.6	11.7
15-19	1,046.6	1,455.5	408.9	84.7	77.2
20-24	1,043.2	1,075.4	32.2	86.6	79.0
25-29	889.1	896.9	7.8	85.0	78.4
30-49	2,247.0	2,705.6	458.6	86.5	79.6
50-59	598.5	626.6	28.1	80.9	70.3
60+	261.4	279.5	18.1	40.0	30.5
Unknown	13.1	2.4	-10.7	64.2	10.8

Source : See Table VI-1

Table VI-3

**Structure of the Economically Active Population- Distribution by Status and by Industry**  
(branch of economic activity)

Industry (branch of economic activity)	Total		Employers and workers on own account		Salaried employees and wage earners		Family Workers		Others and status unknown		% of Total	
	1960	1970	1960	1970	1960	1970	1960	1970	1960	1970	1960	1970
Total	13,836,984	16,850,132	4,128,392	4,995,963	1,632,686	2,597,870	7,982,836	8,934,983	93,070	321,316	100.0	100.0
Agriculture, forestry, hunting and fishing	11,334,382	13,201,901	3,455,337	4,107,559	352,853	540,677	7,526,087	8,507,078	105	46,587	82.0	78.3
Mining and quarrying	29,568	86,647	5,061	8,056	18,862	67,504	5,645	7,737	-	3,350	0.2	0.5
Manufacturing	471,027	682,640	154,516	168,352	236,965	428,282	79,446	82,342	100	3,664	3.4	4.0
Construction	68,813	181,477	10,988	34,173	56,561	142,817	1,238	3,753	26	734	0.5	1.1
Electricity, gas, water and sanitary services	15,535	25,287	548	464	14,871	24,694	114	58	2	71	0.1	0.2
Commerce	779,904	875,798	369,264	449,384	96,370	156,453	314,224	260,426	46	9,535	5.6	5.2
Transport, storage and communication	165,939	268,398	52,294	91,737	106,152	169,428	7,461	4,667	32	2,566	1.2	1.6
Services	655,271	1,184,207	78,400	123,927	529,212	973,275	47,540	64,118	119	22,887	4.7	7.0
Activities not adequately described	251,665	145,908	1,984	12,311	220,840	94,740	1,081	4,804	27,760	34,053	1.8	0.9
Persons seeking work for the first time	64,880	197,869	-	-	-	-	-	-	64,880	197,869	0.5	1.2
Male	7,144,796	8,910,757	3,378,325	4,044,464	1,198,412	1,770,734	2,512,667	2,903,394	55,392	192,165	100.0	100.0
Agriculture, forestry, hunting and fishing	5,576,062	6,636,046	2,958,797	3,509,726	229,886	318,393	2,387,320	2,786,768	59	21,159	78.1	74.5
Mining and quarrying	22,114	63,503	3,727	6,263	16,479	51,829	1,908	3,140	-	2,271	0.3	0.7
Manufacturing	293,820	391,430	94,903	94,068	172,634	266,109	26,213	28,827	70	2,426	4.1	4.4
Construction	62,499	155,567	10,605	32,786	50,927	119,369	950	2,838	17	574	0.9	1.8
Electricity, gas, water and sanitary services	14,741	22,075	522	435	14,138	21,540	79	44	2	56	0.2	0.2
Commerce	363,303	403,211	206,570	230,453	77,325	106,717	79,380	62,910	28	3,131	5.1	4.5

Table VI-3 (Continued)

Industry (branch of economic activity)	Total		Employers and workers on own account		Salaried employees and wage earners		Family Workers		Others and status unknown		% of Total	
	1960	1970	1960	1970	1960	1970	1960	1970	1960	1970	1960	1970
Transport, storage and communication	156,833	252,447	51,003	89,339	101,329	157,836	4,469	3,528	32	1,744	2.2	2.8
Services	458,260	753,852	50,661	72,174	395,568	655,775	11,980	13,702	51	12,201	6.4	8.5
Activities not ade- quately described	158,980	106,670	1,537	9,220	140,126	73,166	368	1,637	16,949	22,647	2.2	1.2
Persons seeking work for the first time	38,184	125,956	-	-	-	-	-	-	38,184	125,956	0.5	1.4
Female	6,692,188	7,939,375	750,067	951,499	434,274	827,136	5,470,169	6,031,589	37,678	129,151	100.0	100.0
Agriculture, forestry, hunting and fishing	5,758,320	6,565,855	496,540	597,833	122,967	222,284	5,138,767	5,720,310	46	25,428	86.1	82.7
Mining and quarrying	7,454	23,144	1,334	1,793	2,383	15,675	3,737	4,597	-	1,079	0.1	0.3
Manufacturing	177,207	291,210	59,613	74,284	64,331	162,173	53,233	53,515	30	1,238	2.7	3.7
Construction	6,314	25,910	383	1,387	5,634	23,448	288	915	9	160	0.1	0.3
Electricity, gas, water and sanitary services	794	3,212	26	29	733	3,154	35	14	-	15	0.01	0.1
Commerce	416,601	472,587	162,694	218,931	19,045	49,736	234,844	197,516	18	6,404	6.2	5.9
Transport, storage and Communication	9,106	15,951	1,291	2,398	4,823	11,592	2,992	1,139	-	822	0.1	0.2
Services	197,011	430,355	27,739	51,753	133,644	317,500	35,560	50,416	68	10,686	2.9	5.4
Activities not ade- quately described	92,685	39,238	447	3,091	80,714	21,574	713	3,167	10,811	11,406	1.4	0.5
Persons seeking work for the first time	26,696	71,913	-	-	-	-	-	-	26,696	71,913	0.4	0.9

Table VI - 4

## Structure of the Economically Active Population-Distribution by Status and by Occupational Group

Occupation group	Total		Employers and workers on own account		Salaried employees and wage earners		Family Workers		Others and status unknown		% of Total	
	1960	1970	1960	1970	1960	1970	1960	1970	1960	1970	1960	1970
Total	13,836,984	16,850,136	4,128,392	4,995,963	1,632,686	2,597,870	7,982,836	8,934,983	93,070	321,320	100.0	100.0
Professional, technical and related workers	173,960	284,104	13,049	17,790	158,256	261,966	2,556	-	99	4,348	1.3	1.7
Administrative, executive and managerial workers	26,191	246,591	12,558	12,088	13,613	232,517	-	-	20	1,986	0.2	1.5
Clerical workers	154,303	190,238	301	1	153,448	186,721	440	-	114	3,516	1.1	1.1
Sales workers	735,437	833,607	367,216	454,464	52,072	107,097	316,114	263,359	55	8,687	5.3	5.0
Farmers, fishermen, hunters, loggers and related workers	11,332,489	13,217,416	3,454,779	4,108,918	351,829	552,459	7,525,770	8,508,940	111	47,099	81.9	78.4
Miners, quarrymen and related workers	26,255	42,605	4,825	6,173	15,922	30,476	5,506	5,452	2	504	0.2	0.2
Workers in transport and communication occupations	144,610	225,204	51,550	91,741	85,543	127,490	7,467	4,816	50	1,157	1.0	1.3
Craftsmen prod-process workers and labourers not elsewhere classified	806,205	1,109,943	160,800	199,827	565,537	801,920	79,544	88,856	324	19,340	5.8	6.6
Service, sport and recreation workers	273,375	471,999	62,042	104,961	166,971	297,224	44,303	63,560	59	6,254	2.0	2.8
Workers not classifiable by occupation	99,259	30,560	1,272	-	69,495	-	1,136	-	27,356	30,560	0.7	0.2
Persons seeking work for the first time	64,880	197,869	-	-	-	-	-	-	64,880	197,869	0.5	1.2



Table VI-4 (Continued)

Occupation group	Total		Employers and workers on own account		Salaried employees and wage earners		Family Workers		Others and status unknown		% of Total	
	1960	1970	1960	1970	1960	1970	1960	1970	1960	1970	1960	1970
<b>Male</b>	7,144,796	8,910,760	3,378,325	4,044,464	1,198,412	1,770,734	2,512,667	2,903,394	55,392	192,168	100.0	100.0
Professional, technical and related workers	114,941	166,916	9,679	13,864	104,269	151,005	957	-	36	2,047	1.6	1.9
Administrative, executive and managerial workers	23,643	228,976	10,738	10,552	12,892	217,128	-	-	13	1,296	0.3	2.6
Clerical and related workers	133,716	127,842	231	-	133,166	125,728	239	-	80	2,114	1.9	1.4
Sales workers	325,254	372,815	204,558	233,873	40,698	72,696	79,967	63,634	31	2,612	4.6	4.2
Farmers, fishermen, hunters, loggers and related workers	5,574,571	6,645,322	2,958,350	3,510,760	228,947	325,800	2,387,213	2,787,392	61	21,370	78.0	74.6
Miners, quarrymen and related workers	19,347	32,232	3,513	4,574	13,990	25,181	1,844	2,138	-	339	0.3	0.4
Workers in transport and communication occupations	138,145	218,180	50,431	89,444	83,158	124,324	4,506	3,685	50	727	1.9	2.4
Craftsmen, prod-process workers and labourers not elsewhere classified	539,837	730,503	101,548	123,972	411,230	560,147	26,828	33,029	231	13,355	7.6	8.2
Service, sport and recreation workers	152,310	241,318	38,779	57,425	102,664	168,725	10,831	13,516	36	1,652	2.1	2.7
Workers not classified by occupation	84,848	20,700	498	-	67,398	-	282	-	16,670	20,700	1.2	0.2
Persons seeking work for the first time	38,184	125,956	-	-	-	-	-	-	38,184	125,956	0.5	1.4

Table VI-4 (Continued)

Occupation group	Total		Employers and workers on own account				Salaried employees and wage earners				Family workers				Others and status unknown				% of Total	
	1960	1970	1960	1970	1960	1970	1960	1970	1960	1970	1960	1970	1960	1970	1960	1970	1960	1970	1960	1970
<b>Female</b>	16,692,188	7,939,376	750,067	951,499	434,274	827,136	5,470,169	6,031,589	37,678	129,152	100.0	100.0								
Professional, technical and related workers	59,019	117,188	3,370	3,926	53,987	110,961	1,599	-	63	2,301	0.9	1.5								
Administrative, executive, managerial workers and govt. official n.e.c.	2,548	17,615	1,820	1,536	721	15,389	-	-	7	690	0.04	0.2								
Clerical and related workers	20,587	62,396	70	1	20,282	60,993	201	-	34	1,402	0.3	0.8								
Sales workers	410,203	460,792	162,658	220,591	11,374	34,401	236,147	199,725	24	6,075	6.1	5.8								
Agriculture, animal husbandry and forest workers, fishermen and hunters	5,757,918	6,572,094	496,429	598,158	122,882	226,659	5,138,557	5,721,548	50	25,729	86.1	82.8								
Miners, quarrymen, well drillers and related workers	6,908	10,373	1,312	1,599	1,932	5,295	3,662	3,314	2	165	0.1	0.1								
Transport equipment operators and related workers	6,465	7,024	1,119	2,297	2,385	3,166	2,961	1,131	-	430	0.1	0.1								
Craftsmen, production	266,368	379,440	59,252	75,855	154,307	241,773	52,716	55,827	93	5,985	4.0	4.8								
Services workers	121,065	230,681	23,263	47,536	64,307	128,499	33,472	50,044	23	4,602	1.8	2.9								
Workers not classifiable by occupation or unknown	14,411	9,860	774	-	2,097	-	854	-	10,686	9,860	0.2	0.1								
Persons seeking work for the first time	26,696	71,913	-	-	-	-	-	-	26,696	71,913	0.4	0.9								

**Table VI-5**  
**Percentage Breakdown of Economically Active by**  
**Work Status, 1960 and 1970, by Sex**

	Total			
	1960		1970	
Employers and own-account workers	4,128,392	29.8	4,995,963	29.6
Salaried employees and wage earners	1,632,686	11.8	2,597,870	15.4
Family workers	7,982,836	57.7	8,934,983	53.1
Others and unknown	93,070	.7	321,320	1.9
<b>Total</b>	<b>13,836,984</b>	<b>100.0</b>	<b>16,850,136</b>	<b>100.0</b>

	Males			
	1960		1970	
Employers and own-account workers	3,378,325	47.3	4,044,464	45.4
Salaried employees and wage earners	1,198,412	16.8	1,770,734	19.8
Family workers	2,312,667	35.1	2,903,394	32.6
Others and unknown	55,392	.8	192,168	2.2
<b>Total</b>	<b>7,144,796</b>	<b>100.0</b>	<b>8,910,760</b>	<b>100.0</b>

	Females			
	1960		1970	
Employers and own-account workers	750,067	11.2	951,499	12.0
Salaried employees and wage earners	434,274	6.5	827,136	10.4
Family workers	5,470,169	81.7	6,031,589	76.0
Others and unknown	37,678	.6	129,152	1.6
<b>Total</b>	<b>6,692,188</b>	<b>100.0</b>	<b>7,939,376</b>	<b>100.0</b>

**Table VII-1**  
**Population Projection of Thailand 1960-2000**  
 (as of 1st July)

	<u>1960</u>	<u>1970</u>	<u>1980</u>	<u>1990</u>	<u>2000</u>
	( <sup>0</sup> 000)	( <sup>0</sup> 000)	( <sup>0</sup> 000)	( <sup>0</sup> 000)	( <sup>0</sup> 000)
Projection I	26,634	36,215	49,259	66,402	88,035
Projection II	26,634	36,215	48,868	62,784	76,571
Projection III	26,634	36,215	47,056	58,657	70,574

*Source* : Population Projection of Thailand 1960-2000, National Statistical Office, National Economic and Social Development Board and Institute of Population Studies (Chulalongkorn University).

Table VII - 2

Population Projection for Thailand by Functional Age Groups, 1960-2000

Functional Age Groups	1960 ('000)	1970 ('000)	1980 ('000)	1990 ('000)	2000 ('000)
<b>Projection I</b>					
All ages	26,634	36,215	49,259	66,402	88,035
0-6	6,335	8,510	11,276	14,604	18,241
7-14	5,778	7,451	10,180	13,449	17,429
15-64	13,703	19,014	26,029	35,860	48,904
15-49	5,898	8,215	11,161	15,410	20,855
65 +	818	1,240	1,774	2,489	3,461
<b>Projection II</b>					
All ages	26,634	36,215	48,868	62,784	76,571
0-6	6,335	8,510	10,870	11,930	12,160
7-14	5,778	7,451	10,175	12,505	13,525
15-64	13,703	19,014	26,029	35,860	47,445
15-49	5,898	8,215	11,161	15,410	20,127
65+	818	1,240	1,774	2,489	3,461
<b>Projection III</b>					
All ages	26,634	36,215	47,056	58,657	70,574
0-6	6,335	8,510	9,299	10,314	10,802
7-14	5,778	7,451	9,954	10,528	11,817
15-64	13,703	19,014	26,029	35,326	44,494
15-49	5,898	8,215	11,161	15,147	18,684
65 +	818	1,240	1,774	2,489	3,461

Remarks : Age 0-6 = children of pre school age  
 Age 7-14 = children of school age  
 Age 15-64 = population in working age  
 Age 15-49 = population in child bearing age  
 Age 65 + = aged population

Source : Computed from "Population Projections of Thailand, 1960-2000".

**Table VII - 3**

**Regional Population Projection for Thailand, 1970-1980**

Year	Whole Kingdom	Central	Northeast	North	South
1970					
Total population	36,215,000	11,009,360	12,747,680	7,931,085	4,526,875
Percentage distribution	100.0	30.40	35.20	21.90	12.50
Urban population	13.89	31.85	4.08	6.51	10.86
1975					
Total population	42,277,000	12,923,316	14,824,426	9,249,413	5,279,345
Percentage distribution	100.0	30.56	35.07	21.88	12.49
Urban population	14.31	32.67	4.26	6.66	11.00
1980					
Total population	48,868,000	15,073,705	17,018,707	10,697,484	6,078,104
Percentage distribution	100.0	30.85	34.83	21.89	12.44
Urban population	14.74	33.41	4.44	6.83	11.19

*Remark :* Population in municipal areas are defined as population in urban areas.

*Source :* "Suggested Methodology for Projecting Regional and Provincial Break-down of the Future Population of Thailand, August 1973".

**Table VII - 4**

**Thailand: Labor Force Projections<sup>1</sup> for the Five-Year Plan and Perspective Plan Periods**

	1971 <sup>2</sup> Labor force	1976 <sup>2</sup> Labor force	Increase 1971-76	Rate of Increase	1990 Labor force	Increase 1970-90
	('000)	('000)	('000)	(%)	('000)	(%)
Males	9,352	10,923	1,571	3.15	16,598	87.44
Females	7,693	8,860	1,167	2.87	13,016	80.18
Total	17,045	19,783	2,738	3.03	29,614	84.18

*Remarks :* <sup>1</sup> Based on Medium projection.

<sup>2</sup> In October.

*Sources :* The Third Five Year Economic and Social Development Plan, National Economic and Social Development Board, The Government of Thailand.

Table VII - 5

Projections of the Population of Thailand, by age and sex, 1960—2000 (as of 1st July)  
(in thousands)

## (a) High Projection

Males	1960	1970	1975	1980	1985	1990	1995	2000
Total	13,387	18,199	21,247	24,758	28,785	33,395	38,594	44,336
0-4	2,371	3,211	3,709	4,230	4,819	5,475	6,156	6,803
5-9	2,058	2,665	3,116	3,613	4,135	4,725	5,380	6,060
10-14	1,773	2,244	2,625	3,071	3,565	4,085	4,672	5,326
15-19	1,302	1,992	2,214	2,593	3,037	3,529	4,047	4,634
20-24	1,017	1,719	1,965	2,187	2,564	3,008	3,499	4,017
25-29	946	1,258	1,693	1,938	2,161	2,538	2,981	3,470
30-34	818	976	1,233	1,663	1,907	2,130	2,506	2,948
35-39	714	899	954	1,208	1,632	1,875	2,099	2,474
40-44	549	768	871	926	1,176	1,593	1,835	2,059
45-49	457	649	728	828	884	1,126	1,530	1,768
50-54	416	487	614	692	790	847	1,083	1,479
55-59	337	397	452	572	647	743	801	1,028
60-64	251	348	363	417	530	600	689	743
65-69	173	264	305	323	370	471	533	612
70+	205	321	405	497	568	650	783	915

Table VII-5 (Cont'd)

Females	1960	1970	1975	1980	1985	1990	1995	2000
Total	13,247	18,016	21,030	24,501	28,473	33,007	38,102	43,699
0-4	2,274	3,095	3,572	4,071	4,633	5,257	5,903	6,514
5-9	1,989	2,579	3,012	3,489	3,989	4,553	5,177	5,821
10-14	1,648	2,166	2,550	2,982	3,458	3,958	4,522	5,146
15-19	1,310	1,931	2,135	2,518	2,948	3,423	3,922	4,486
20-24	1,063	1,603	1,913	2,119	2,502	2,932	3,407	3,904
25-29	965	1,267	1,574	1,882	2,088	2,469	2,898	3,372
30-34	838	1,020	1,247	1,551	1,858	2,066	2,446	2,874
35-39	708	923	999	1,224	1,526	1,831	2,039	2,419
40-44	551	801	907	984	1,207	1,508	1,812	2,018
45-49	463	670	777	883	960	1,181	1,479	1,782
50-54	412	512	646	752	857	935	1,154	1,446
55-59	333	428	495	628	730	832	908	1,121
60-64	253	366	398	464	592	694	790	862
65-69	176	276	332	365	427	545	639	728
70+	264	379	473	589	698	823	1,006	1,206

## (b) Medium Projection (as of 1st July)

Males	1960	1970	1975	1980	1985	1990	1995	2000
Total	13,387	18,199	21,247	24,559	28,006	31,551	35,051	38,491
0-4	2,371	3,211	3,709	4,031	4,235	4,396	4,429	4,458
5-9	2,058	2,666	3,116	3,613	3,940	4,152	4,320	4,361
10-14	1,773	2,244	2,625	3,071	3,565	3,893	4,106	4,276
15-19	1,302	1,992	2,214	2,593	3,037	3,529	3,857	4,072
20-24	1,017	1,719	1,965	2,187	2,564	2,008	3,499	3,828
25-29	946	1,258	1,693	1,938	2,161	2,538	2,981	3,470
30-34	818	976	1,233	1,663	1,907	2,130	2,506	2,948
35-39	714	899	954	1,208	1,632	1,875	2,099	2,474
40-44	549	768	871	926	1,176	1,593	1,835	2,059
45-49	457	649	728	828	884	1,126	1,530	1,768
50-54	416	487	614	692	790	847	1,083	1,479
55-59	337	397	452	572	647	743	801	1,028
60-64	251	348	363	417	530	600	689	743
65-69	173	264	305	323	370	471	533	612
70+	205	321	405	497	568	650	783	915





(c) Low Projection (as of 1st July)

Males	1960	1970	1975	1980	1985	1990	1995	2000
Total	13,387	18,199	20,962	23,636	26,469	29,451	32,477	35,440
0-4	2,371	3,211	3,424	3,386	3,602	3,810	3,931	3,956
5-9	2,058	2,666	3,116	3,335	3,310	3,532	3,744	3,870
10-14	1,773	2,244	2,625	3,071	3,291	3,270	3,492	3,706
15-19	1,302	1,992	2,214	2,593	3,037	3,258	3,240	3,463
20-24	1,017	1,719	1,965	2,187	2,564	3,008	3,230	3,216
25-29	946	1,258	1,693	1,938	2,161	2,538	2,981	3,203
30-34	818	976	1,233	1,663	1,907	2,130	2,506	2,948
35-39	714	899	954	1,208	1,632	1,875	2,099	2,474
40-44	549	768	871	926	1,176	1,593	1,835	2,059
45-49	457	649	728	828	884	1,126	1,530	1,768
50-54	416	487	614	692	790	847	1,083	1,479
55-59	337	397	452	572	647	743	901	1,028
60-64	251	348	363	417	530	600	689	743
65-69	173	264	305	323	370	471	533	612
70+	205	321	405	497	568	650	783	915

(c) Low Projection (as of 1st July) (Cont'd)

Females	1960	1970	1975	1980	1985	1990	1995	2000
Total	13,247	18,016	20,756	23,420	26,242	29,206	32,208	35,134
0-4	2,274	3,095	3,298	3,258	3,463	3,659	3,769	3,788
5-9	1,989	2,579	3,012	3,221	3,193	3,403	3,603	3,718
10-14	1,648	2,166	2,550	2,982	3,193	3,168	3,380	3,581
15-19	1,310	1,931	2,135	2,518	2,948	3,160	3,140	3,353
20-24	1,063	1,603	1,913	2,119	2,502	2,932	3,145	3,125
25-29	965	1,267	1,574	1,882	2,088	2,469	2,898	3,113
30-34	838	1,020	1,247	1,551	1,858	2,066	2,446	2,874
35-39	708	923	999	1,224	1,526	1,831	2,039	2,419
40-44	551	801	907	984	1,207	1,508	1,812	2,018
45-49	463	670	777	883	960	1,181	1,479	1,782
50-54	412	512	646	752	857	935	1,154	1,446
55-59	333	428	495	628	730	832	908	1,121
60-64	253	366	398	464	592	694	790	862
65-69	176	276	332	365	427	545	639	728
70+	264	379	473	589	698	823	1,006	1,206

**Table VIII-1**  
**Gross Domestic Product, 1971 and Projected 1976**  
**(Constant 1962 Prices)**

	1971 (estimate)		1976 (target)		Average Annual Growth Rate	
	GDP	%	GDP	%	'67-'71	'72-'76
1. Agriculture	37.3	29.5	47.8	26.8	4.1	5.1
1.1 Crop	26.0	20.5	32.5	18.2	2.7	4.6
1.2 Livestock	3.9	3.1	4.7	2.6	2.7	3.4
1.3 Fishery	4.3	3.4	6.9	3.9	17.3	10.0
1.4 Forestry	3.1	2.5	3.7	2.1	6.5	3.4
2. Mining and Quarrying	2.1	1.7	2.8	1.6	8.1	6.0
3. Industry	21.4	16.9	31.4	17.6	9.2	8.0
3.1 Traditional Industry	6.6	5.2	8.3	4.6	5.1	4.8
3.2 New Industry	14.8	11.7	23.1	13.0	11.4	9.2
4. Construction	8.4	6.6	11.7	6.6	8.4	6.5
5. Electricity and Water Supply	1.9	1.5	3.9	2.2	20.7	15.0
6. Communication and Transportation	8.6	6.8	11.5	6.5	7.5	6.0
7. Trade	20.5	16.2	29.3	16.4	7.7	7.0
8. Banking, Ins. and Real Estate	5.1	4.1	11.0	6.2	14.4	15.0
9. Dwelling	2.4	1.9	2.7	1.5	4.1	2.5
10. Public Admin. and Defense	5.7	4.5	7.6	4.3	10.0	6.0
11. Services	13.0	10.3	18.5	10.3	8.8	7.0
<b>GDP</b>	<b>126.4</b>	<b>100.0</b>	<b>178.2</b>	<b>100.0</b>	<b>7.2</b>	<b>7.0</b>

Table VIII - 2

**Evaluation of Public Health Development Work First and Second Plan  
(1961-1966, 1967-1971)**

Classification	Evaluation of Works in First Plan		Targets and Evaluation of Work in Second Plan										Total Increase Second Plan	
	1966		1967		1968		1969		1970		1971		Tar-gets	Achievement
	Tar-gets	Achievement	Tar-gets	Achievement	Tar-gets	Achievement	Tar-gets	Achievement	Tar-gets	Achievement	Tar-gets	Achievement		
Doctor <sup>1</sup>	2,600	4,100	4,350	4,350	4,600	4,600	4,850	4,850	5,120	5,120	5,444	5,550	1,335	1,450
Nurses <sup>2</sup>	8,280	11,880	12,550	12,663	13,255	13,491	14,065	14,060	14,875	15,488	15,710	16,638	3,830	4,758
Midwives	560	1,400	1,700	1,700	2,020	2,020	2,390	2,390	2,800	2,800	3,210	3,260	1,810	1,860
Practical nurses <sup>3</sup>	2,799	3,020	-	3,400	-	3,200	-	3,700	-	4,300	-	5,170	-	2,150
Hospital-beds <sup>4</sup>	10,095	15,400	16,300	16,650	17,300	18,000	18,300	18,350	19,300	20,550	20,300	21,600	4,900	6,200
1st Class health centers <sup>5</sup>	147	217	227	236	237	254	247	269	257	278	267	290	50	73
2nd Class health centers	666	882	1,032	936	1,182	996	1,332	1,324	1,482	1,835	1,632	1,936	750	1,055
Midwife Centres	756	1,403	1,688	1,486	1,937	1,683	2,258	1,730	2,543	1,887	2,824	2,003	1,425	600

<sup>1</sup> Doctors of all institutions

<sup>2</sup> Nurses supplied from all institutions

<sup>3</sup> Practical nurses supplied from all institutions

<sup>4</sup> Hospital-beds of all state's civilian hospital

<sup>5</sup> Including municipalities health centers

**Table VIII - 3**

**Health Target of the Third Development Plan 1971-1976**

Item	1971	1972	1973	1974	1975	1976	Increase
Physicians <sup>1</sup>	5,550	5,920	6,290	6,660	7,030	7,400	1,850
Nurses <sup>2</sup>							
- Basic Nurses	16,638*	17,890	19,300	20,800	22,470	24,200	7,562
- Post Nurses	-	760	1,530	2,840	4,400	6,100	6,100
Practical Nurses <sup>3</sup>	5,171*	6,011	6,951	7,941	9,081	10,271	5,200
Midwives <sup>4</sup>	3,260*	3,770	4,380	4,970	5,580	6,190	2,950
Hospital-bed <sup>5</sup>	21,600*	23,800	25,900	28,000	30,100	32,200	11,000
First Class H.C. <sup>6</sup>	290	300	310	330	350	370	80
Second Class H.C.	1,936*	2,096	2,388	2,660	2,936	3,212	1,276
Midwife Center	2,003*	2,203	2,403	2,603	2,803	3,003	1,000

\* Cumulative number from the First and Second Development Plan.

<sup>1</sup> Physicians to be trained in all institutions in the country.

<sup>2</sup> Estimated number of nurses to be trained in all institutions.

<sup>3</sup> Estimated number of practical nurses to be trained in 19 institutions, excluding those from the Irrigation Department.

<sup>4</sup> Trained by Department of Health.

<sup>5</sup> From all institutions in the country.

<sup>6</sup> Including another 47 municipal health centres.

**Table VIII - 4**

**Family Planning Acceptors, by Method, 1967-1971 and Performance Targets, 1972-1976, Family Planning Program of Thailand**

Year	Oral pills	I.U.D.	Sterilization	All three methods
1968	10,000	35,300	12,000	57,300
1969	60,459	54,496	15,265	130,220
1970	132,387	74,404	18,648	225,439
1971	294,607	86,034	23,546	404,187
1972	235,000	90,000	25,000	350,000
1973	280,000	90,000	30,000	400,000
1974	280,000	90,000	35,000	405,000
1975	280,000	90,000	40,000	410,000
1976	280,000	90,000	40,000	410,000

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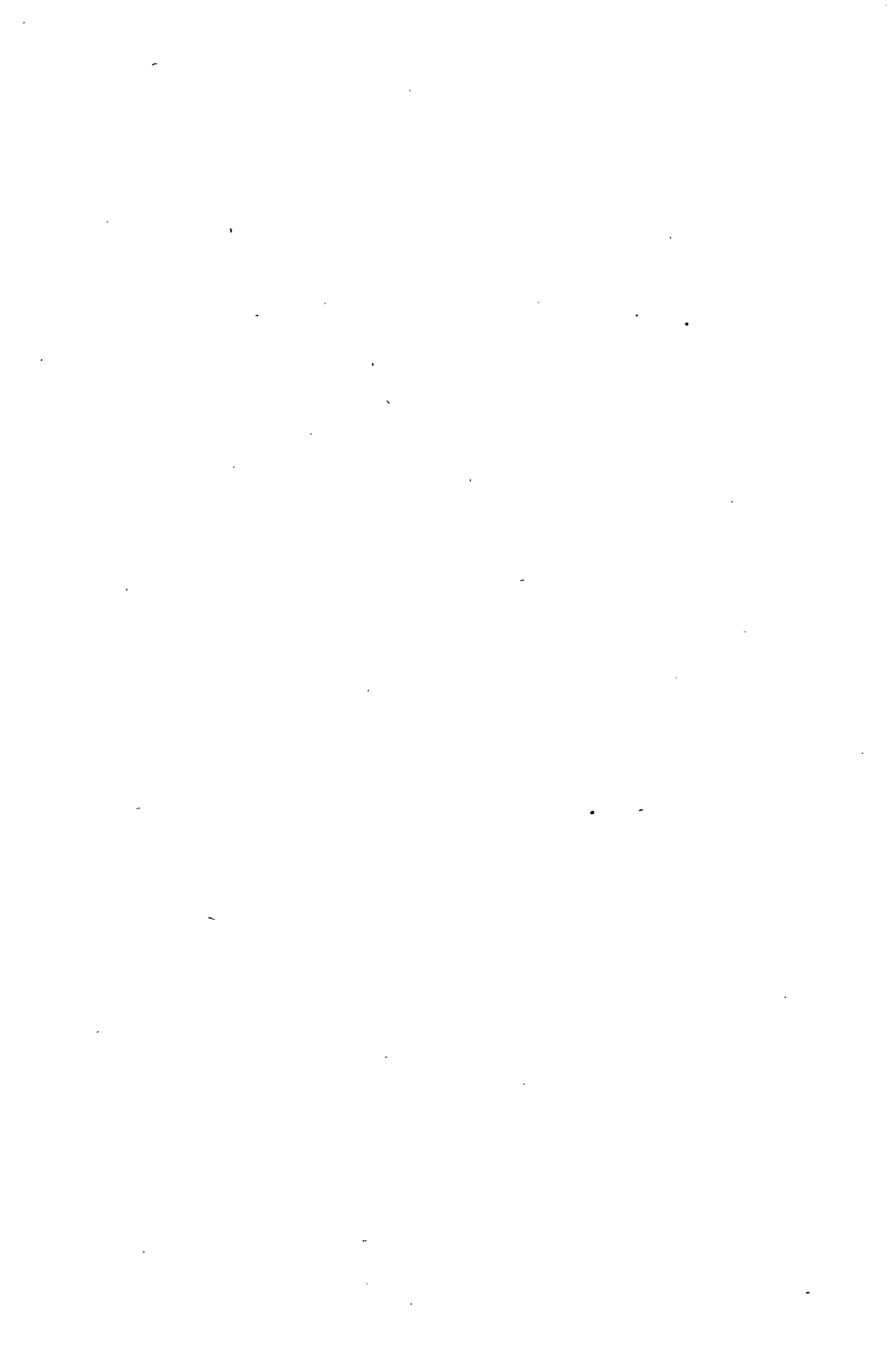
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