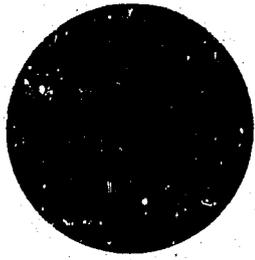


PN-AAM-880
ISN=29375



THAILAND CONTRACEPTIVE PREVALENCE SURVEY:

COUNTRY REPORT 1979

**RESEARCH CENTER
NATIONAL INSTITUTE OF DEVELOPMENT ADMINISTRATION**

**FAMILY HEALTH DIVISION
MINISTRY OF PUBLIC HEALTH**

Westinghouse Health Systems

THAILAND CONTRACEPTIVE PREVALENCE SURVEY:
COUNTRY REPORT 1979

**RESEARCH CENTER
NATIONAL INSTITUTE OF DEVELOPMENT ADMINISTRATION**

**FAMILY HEALTH DIVISION
MINISTRY OF PUBLIC HEALTH**

WESTINGHOUSE HEALTH SYSTEMS

TITAYA SUVANAJATA

PEERASIT KAMNUANSILPA

BANGKOK, THAILAND

1979

FOREWARD

In 1975, a national survey of fertility was carried out in Thailand as part of the World Fertility Survey effort. Conducted by the Institute of Population Studies (Chulalongkorn University) and the Population Survey Division (National Statistical Office) this survey was strategically important to the National Family Planning programme (NFPP). Data on levels of contraceptive practice prevalence and intention to practice in the future aided considerably in the planning for and allocation of resources for family at that time.

As a continuation and refinement of this survey effort, the Contraceptive Prevalence Surveys Project was established and the NFPP subcontracted the Research Center of the National Institute of Development Administration (NIDA) to conduct the field work, data processing and analysis. Because of the close involvement of the NFPP with NIDA on the questionnaire design and plan of analysis, the results are of the utmost interest and import to the NFPP. The data contained in the report will serve as a useful guide to the NFPP in formulating its strategy as it moves toward the most difficult phase in its history: reducing the national growth rate to levels below 2 percent per year.

Further, this survey is the first national survey to distinguish between sources of contraceptive service by public, private and commercial outlets. It is a pioneering effort, successfully and competently carried out, and comes at a most useful time for Ministry of Public Health and national planning agencies.

The prospect of future rounds of the Contraceptive Prevalence Survey is welcomed.

Somsak Varakamin, M.D.
Director
Family Health Division
Ministry of Public Health

Previous page blank

Acknowledgements

The Contraceptive Prevalence Survey in Thailand was carried in November 1978 by the Research Center, National Institute of Development Administration (NIDA). Support for the project was provided by Westinghouse Health Systems under a large international technical support Contract with the Office of Population, Bureau of Population and Humanitarian Assistance, Agency for International Assistance, U.S. Department of State. This report was made possible only through the concern of many persons. The obligations incurred too numerous to be fully acknowledged.

Special thanks are due to Dr. Lawrence Smith, Jr., Dr. Sushill Kumar and Mr. Gary Lewis of the Westinghouse team, who played a major role in the planning and implementation of the Survey. Thanks are also due Dr. Ann Way, Regional Coordinator for the Middle East and Africa, Westinghouse Health System, who carefully reviewed and edited the report.

Appreciation is expressed for the guidance and advice in the sampling design provided by Dr. Prachoom Suwathi, who was at that time Dean of the School of Applied Statistics, NIDA.

Assistance in computer work and time were provided by the Computer Center, National Statistical Office. Programs for computer editing and other programs necessary to complete the tabulation were prepared by Mrs. Subha Kirtibutr from the Research Center, NIDA.

Staff members who contributed to the success of the field supervision and data collection include Miss Tangon Munjaiton, Miss Karavi Srikijkarn, Miss Tipawan Kitivibul, Mrs. Sinee Kamalanavin, Mr. Vichai Rupkomdee and Mr. Prasert Rakthaidee.

Mr. Meechai Veravaithaya, Director of the Community Based Family Planning Services, Dr. Yawarat Porapakkham from the Faculty of Public Health, Mahidol University and Miss Vichaneerat Pungveerawat from the Planned Parenthood Association of Thailand all expertly trained and provided our 25 interviewers with necessary knowledge of methods and operation of family planning in Thailand. Their valuable contributions along with the endurance and perseverance to work under often the difficult conditions while in the field of the interviewers led to an effective and successful data collection.

Among the initiators of the survey was Dr. Somsak Varakamin, Director of Family Health Division, Ministry of Public Health. He and his colleagues especially Mr. Tony Bennett not only generously provided us with logistic supports but promoted the full cooperation of the government health personnel in the sample areas. Their assistance and cooperation made it very smooth for us to conduct the field work.

Other agencies and individuals also contributed to the success of the Survey, among them the officials of the Ministry of Interior in the sample areas, and the Survey respondents themselves. Their cooperation is gratefully acknowledged.

Finally an appreciation is also expressed for Dr. John Knodel for his generous supports and useful comments during the preparation of the manuscript.

With so much help from many sources, we have only ourselves to blame and be responsible for flaws which remain.

Titaya Suvanajata

Peerasit Kamnuansilpa

CONTENTS

	<i>Page</i>
Foreward	III
Acknowledgements	IV
Contents	V
List of Tables	VII
List of Figures	IX
 Chapter	
I INTRODUCTION	1
The Setting	1
Regions	2
The Economy	2
Economic Development	3
Demographic Information	3
Population Growth	3
Fertility Levels and Trends	4
Mortality Levels and Trends	5
Age Structure	7
Population Policy: An Overview	7
The CPS Project Rationale	8
 II METHODOLOGY	 9
Preparatory Activities	9
The Questionnaire Design	9
Recruitment and Training of Field Staff	10
Results of the Pretest	11
Sample Design	11
Selection of the Rural Sample	11
Selection of the Urban Sample	13
Activities in The Field	13
Timing of the Field Work	13
Quality Control During the Field Work	13
Field Work Problems	13
Coding and Editing	14
Field Coding	14
Machine Editing	15
Characteristics of the Sample	15
 III FERTILITY	 17
Thai Marriage Patterns	17
Marital Status	17
Age At Marriage	17
Trends in Fertility	18
Children Ever Born	18
Age-Specific Fertility Rates	19
Percent Pregnant	20
Regional Patterns	20
Female Labor Force Participation and Fertility	21
Desire for Additional Children	23
 IV CONTRACEPTIVE AWARENESS	 24
Measuring Contraceptive Knowledge	24

	Page
Comparison With SOFT Results	25
Demographic and Socio-Economic Differentials	26
Age.	26
Marital Status	26
Education and Employment Status.	27
Regional Patterns	28
Summary	29
V CONTRACEPTIVE USE.	30
Ever Use of Contraception	30
Age Patterns.	31
Subnational Patterns	31
Current Use of Contraceptive.	32
Trends in Levels of Contraceptive Use	32
Change in Method Mix	34
Age and Method Mix	35
Regional Variations in Current Use	37
Age Patterns.	38
Method Preference.	40
Desire for More Children and Contraceptive Use	42
Limiting or Spacing Births.	42
Unmet Need.	42
Regional Variations in Unmet Need	44
VI CONTRACEPTIVE AVAILABILITY	47
Introduction.	47
Knowledge of a Source.	48
Regional knowledge of a Source	49
Knowledge of a Source Among Users and Those In "Need" of Service	50
Contraceptive Sources	52
Availability of Sources	52
Cost of Methods	53
References	55
Appendix	
Appendix I SAMPLE DESIGN AND ESTIMATES, AND LISTS OF SAMPLE AREAS.	59
Appendix II THE QUESTIONNAIRES.	75
Appendix III SUMMARY OF THE FINDINGS IN THAI.	87

LIST OF TABLES

Table	<i>Page</i>
1.1 Population Density by Region, Thailand, 1970	2
1.2 Enumerated Population, Intercensal-Increase and Average Annual-Intercensal Growth	4
1.3 Estimated Total and Age-Specific Fertility Rates, Thailand, 1964-1975	5
1.4 Age-Specific Death Rates and Related Measures of Mortality for Thailand, by Region and Urban and Rural, Residence for Thailand, 1964-1965 and 1974-1975	6
2.1 Provinces Included in the Rural Sample Frame for the Contraceptive Prevalence Survey in Thailand.	12
2.2 Percent Distribution of All Women by Age, 1975 and 1978.	15
2.3 Percent Distribution of Ever-Married Women by Age, 1975 and 1978	16
2.4 Percent Ever-Married by Age, 1975 and 1978	16
3.1 Percent of Ever-Married Women by Age and Area of Residence	17
3.2 Mean Age at Marriage by Age Group for Ever-Married Women, Aged 15-49	18
3.3 Number of Children Ever Born to Ever-Married Women Aged 15-49, 1969-1978	19
3.4 Age-Specific Fertility Rates in Thailand 1964-1978	20
3.5 Percent Currently Pregnant Among Currently Married Women in Thailand Aged 15-44, 1969-1978	20
3.6 Marital General Fertility Rates by Region	21
3.7 Marital General Fertility Rates Standardized for Age for Currently Married Women 20-44, by Region	21
3.8 Average Number of Children Ever Born by Employment Status, Occupation and Age of Respondents.	22
3.9 Mean Number of Children Desired by Age for Ever-Married Women Aged 15-49	23
3.10 Mean Number of Children Desired by Employment Status and by Education	23
4.1 Percent of Ever-Married Women Aware of Specific Contraceptive Methods in the SOFT and CPS.	25
4.2 Percent of All Women Aware of Specific Contraceptive Methods by Age	26
4.3 Percent of Ever-Married and Single Women Aware of Specific Contraceptive Methods	27
4.4 Percent of All Women Aware of Specific Contraceptive Methods by Educational Level.	27
4.5 Percent of All Women Aware of Specific Methods by Work Status	28
4.6 Percent of All Respondents Aware of Specific Methods by Region	28
5.1 Percent of Ever-Married Women Aged 15-49 Who Had Ever Used Specific Contraceptive Methods, 1975 and 1978	30
5.2 Percent of Ever-Married Women Aged 15-49 Who Had Ever Used Contraception by the Number of Methods Ever Used and Age	31
5.3 Percent of Ever-Married Women Aged 15-49 Who Had Ever Used Contraception by Method and Region.	32
5.4 Percent of Currently Married Women Aged 15-44 Practicing Contraception by Age, Thailand, 1969-1978	34
5.5 Percent of Currently Married Women Aged 15-44 Practicing Contraception by Method, 1969-1978.	35

	<i>Page</i>
5.6 Percent of Currently Married Women Aged 15-49 Practicing Contraception by Region, 1975 and 1978	38
5.7 Percent of Currently Married Aged 15-49 Using Contraception by Age and Region	38
5.8 Percent of Currently Married Women Aged 15-49 Using Contraception by Method and Region	40
5.9 Percent of Currently Married Women Using Contraception by Desire for More Children and Age	42
6.1 Levels of Method Knowledge and Knowledge of a Source Among Thai Women, Aged 15-49 Years	48
6.2 Percent of Currently Married Women, Aged 15-49 Years – Contraceptive Knowledge and Source Knowledge by Method	49
6.3 Percent of All Respondents Knowing a Source for a Specific Method by Region	49
6.4 Percent of Current Married Women Using Contraception by Desire for More Children	50
6.5 Family Planning Users Who Don't Want More Children: Average Travel Time to Source and Perceived Convenience by Travel Mode	51
6.6 User's Source of Family Planning Methods	52
6.7 Means of Transportation and Average Travel Time to Method Source for Method Users	53
6.8 Average Price of the Method by Region (Baht) for Method Users and Non Users	54

LIST OF FIGURES

Figure		Page
2.1	Map of Thailand Showing Sample Areas.	13
4.1	Percent of All Women Aged 15-49 Aware of Specific Contraceptive Methods With and Without Prompting	24
5.1	Distribution of Currently Married Women Aged 15-49 According to User Status and of Users According to Specific Method Used.	33
5.2	Distribution of Currently Married Women 15-44 Practicing Contraception According to the Specific Method Used, 1969-1978.	36
5.3	Distribution of Currently Married Users Aged 15-49 by Age and Method	37
5.4	Regional Age Patterns for Contraceptive Use in Thailand	39
5.5	Distribution of Currently Married Users in Each Region by Method	41
5.6	Exposure Status for All Women Aged 15-49.	43
5.7	Exposure Status Among All Women Aged 15-49	44
5.8	Exposure Status Among All Women Aged 15-49 by Region.	45
5.9	Currently Married Nonpregnant Women in Need of Family Planning Services	46

CHAPTER I

INTRODUCTION

In Thailand, as in most developing nations, population growth represents a serious hindrance to social and economic development. As part of a larger effort to improve the quality of life for its people, the Royal Thai Government has instituted a dynamic, multifaceted family planning program, which includes efforts by both the government and private sectors. The program has been very successful in motivating women to use contraception to space births and to limit family size. This success has been documented over the years by several types of research projects and data collection systems including the Survey of Fertility in Thailand (SOFT—the Thailand-WFS), the Longitudinal Surveys (LS), and statistics on services provided in the public sector.

Although the service statistics system and earlier surveys provided some of the data needed to monitor family planning activities in Thailand, the Ministry of Public Health recognized that, because of the evolving nature of the family planning program, there was a need for a data collection system which would provide timely information on contraceptive use for program managers, administrators, and policy planners. Results from previous surveys were too outdated to be useful in ongoing planning. Further, the surveys were primarily intended to obtain information on fertility levels with the collection of family planning data only as a secondary goal of the research effort. Service statistics, while an important management tool, had serious biases and limitations, especially in the area of contraception outside of the Government program. What was needed was an ongoing data collection system which was flexible in procedures and format, and would have national coverage. To meet this need, the Ministry decided in early 1978 to field a national survey designed to collect information on contraceptive knowledge, use, and availability and some limited fertility data. This report presents the results from the Thailand Contraceptive Prevalence Survey of 1978 (CPS).

THE SETTING

Thailand has an area of 514,000 square kilometers with a population density of approximately 67 persons per square kilometer. It is bounded on the west and northwest by Burma, on the east and northeast by the Lao People's Democratic Republic, on the southeast by Democratic Republic of Kampuchea, and on the south by Malaysia.

The standard of living and the health and nutrition of the people of Thailand are above average by South-east Asian standards. At present, the country is undergoing a process of urbanization and modernization. Mass education and economic development are proceeding at a moderate pace. Retailing is in transition from the still predominant, family-operated, small shops to new department stores and supermarkets. A shift from animate to inanimate sources of power began with the building of a railroad network early in the century, took on new impetus with the construction of Bhumibol Dam hydroelectric facility, and has now reached the stage where automobiles jam the streets of Bangkok.

Thailand remains heavily rural and agricultural. In 1970 about 85 percent of the population lived in rural areas, and nearly 80 percent derived their livelihood from agriculture. The traditional way of life, which focuses on the family, the Buddhist temple complex, and the village school, is still preserved to a remarkable degree.

The predominant religion is Theravada Buddhism, which permeates Thai arts, culture, tradition, and learning. Ninety-five percent of the population is Buddhist, and the order of Buddhist monks remains a major social institution. The Buddhist way of life is integral to the national order in Thailand.

There is also a national language, Thai, which has its own alphabet. Most Thais, except for the Hill Tribes in the North and the Moslems in the South, speak one of the Thai dialects. The literacy rate for the country as a whole is 89 percent for males and 75 percent for females. English is the second language and is taught in all government schools from the fourth grade on.

The significance of the monarchy, which is the Thai form of government, in the life of the nation also can not be overemphasized. The King is not only a symbol of national unity, but plays an essential role in

the socio-economic development of the nation. A cohesiveness of purpose and aspiration has resulted from this development of parallel political and religious establishments.

In summary, Thai society is characterized by an unusual degree of unity, for which the monarchy and the order of Buddhist monks are key symbols. However, the highly functional social order is still relatively flexible and traditionally very open to new ideas and reforms.

Regions

Central Thailand, or the Chao Phraya basin, with an area of about 103,000 square kilometers, is the economic center of the nation and includes the Bangkok Metropolitan Area. The region is primarily agricultural, with an area of industrial activity concentrated around Bangkok. As Table 1.1 shows, 31 percent of the country's population lived in Central Thailand in 1970, making it the country's most densely settled region.

TABLE 1.1
POPULATION DENSITY BY REGION, THAILAND, 1970

Region	Percentage of Land Area	Percentage of Population	Density per sq. km.
Central	20.2	30.8	102.5
Northeast	33.1	35.0	70.6
Northern	33.0	21.8	44.0
Southern	13.7	12.4	60.9

SOURCE: United Nations Economic and Social Commission for Asia and the Pacific, *Population of Thailand*, Country Monograph No. 3 (United Nations, 1976), p.14.

The Northern Region is approximately 170,000 square kilometers, with an average elevation of more than 1,000 meters above sea level. Thailand's highest mountain, Doi Inthanon, which reaches to a height of 2,576 meters is found in this Region. The area is drained by numerous streams; those in the extreme north join the Mekong, those of the west the Salween River. Still more streams – the Ping, Wang, Yom and Nan – flow south to form the Chao Phraya River. The Region in general is sparsely settled, with the population clustered mostly in the valleys where rice is grown. In 1970, 22 percent of Thailand's population lived in the Northern Region.

The Northeast Region is arid and permits no more than subsistence farming. Thirty-five percent of Thailand's population lived in this Region in 1970, settled most densely in the river valleys. As the population has grown over the years, more nonarable land in this area has been brought into agricultural production.

The Southern Region, or Peninsular Thailand, is the smallest in size with about 70,000 square kilometers. Twelve percent of Thailand's population lived in the Southern Region in 1970. Its tropical climate, with rain year-round, allows farming without irrigation. Rubber plantations and tin mining are the major economic activities.

The Economy

The economy of Thailand has for centuries been based on agriculture, and more specifically rice cultivation, which is the staple crop. Despite increasing industrialization, an estimated 70 percent of the country's income is still derived from agricultural production. Approximately 80 percent of the arable land is used for rice cultivation. While rice and maize generate the largest amounts of foreign exchange, other crops – cassava, kenaf, cotton, sugar cane, tobacco, fruits, and vegetables – are now contributing more to the economy. This diversification was motivated on the one hand by the necessity of avoiding excessive dependence on a few

exports, and on the other by the growing external and internal demand for cash crops. These cash crops have accounted for about 75 percent of the expansion in cultivated areas in recent years, most having been accomplished by small farmers.

The industrial sector, while still small, has become increasingly important. The manufacturing and construction industries now account for more than 20 percent of the Gross National Product. The country has become self-sufficient in a number of products like cement, sugar, and refined petroleum. Tin is the most important mineral resource, and mined tin has become a major source of foreign exchange. The value of industrial exports accounts for approximately 30 percent of total export revenues earned in recent years. The government continues to support industrial growth by means of tax exemptions and has set growth targets in its Fourth Five-year Plan (1977-81).

Thailand's economy is largely oriented to exports, and trade accounts for more than 20 percent of the Gross National Product. However, since the early sixties, Thailand has faced continuous deficits in its trade balance, ranging annually between 9 billion and 12 billion Baht, the Thai unit of currency, an amount equivalent to U.S. \$450-\$600 million. However, except for the three year-period of 1969-1971, the country has recorded surpluses in its balance of payments. As a result, Thailand's gold and foreign exchange reserves rose to about U.S. \$1.9 billion in 1976.

Economic Development

Thailand is currently in the middle of its Fourth Five-year Development Plan. During the 15 years of the first three plans (1961-1976), the government mobilized approximately U.S. \$15 billion from both foreign and domestic sources to finance various public development programs and projects which have strengthened the country's economic and social structure. The development strategy has been to give priority to basic economic and infrastructure such as highways, irrigation facilities and power systems. This policy contributed significantly to an increase in the production growth rate, which averaged about 7 percent per annum during 1961-1971. Under the third development plan (1972-1976), emphasis was given not only to improving the economic structure and to maintaining economic stability through increased production, but also to alleviating problems related to the widening income gap and inequitable distribution of social services.

From 1972-1976, the gross domestic product in real terms grew an average of 6.2 percent per annum, short of the 7 percent target. Per capita income rose only 3.3 percent per annum, also below the target of 4.5 percent. This slowdown was attributed to the worldwide economic recession, a shortage of imported raw materials, increased import prices, and a drop in both domestic and international demand for Thai products which discouraged domestic investment.

The present development plan (1977-1981) set the target growth rate for gross domestic production at 7 percent per annum. Investments are to expand at 7.2 percent per annum in real terms with public and private investments increasing by 8.1 percent and 7 percent per annum, respectively. In addition, consumption is projected to increase by 6.5 percent per annum. The plan also aims at improving economic stability.

The consumer price index is projected to increase by not more than 6 percent per annum. Efforts are being made to maintain international reserves at a level which is both sufficient and conducive to national economic development. Clearly, if these goals are achieved Thailand's economy will be one of the strongest among the Southeast Asian countries.

DEMOGRAPHIC INFORMATION

Population Growth

The dynamics of Thailand's population cannot be traced very far into the past because of a lack of adequate data. The first Thai census, conducted in 1905, covered only 12 provinces and was intended to gather information of military, political and taxation purposes. Therefore, its demographic value was limited. The first national census was carried out in 1911. National censuses were subsequently conducted in 1919, 1929,

1937, 1947, 1960 and 1970. Table 1.2 presents the total population enumerated in Thailand at each census date along with figures on the absolute and relative intercensal growth of the Thai population.

TABLE 1.2
ENUMERATED POPULATION, INTERCENSAL INCREASE AND AVERAGE ANNUAL INTERCENSAL GROWTH RATE, THAILAND, 1911-1970

Date of Census	Enumerated Population	Intercensal Increase	Intercensal Interval (Years)	Average Annual Intercensal Growth Rate (Percent)
April 1, 1911	8,266,408	-	-	-
April 1, 1919	9,207,355	940,947	8.0	1.4
July 15, 1929	11,506,207	2,298,852	10.3	2.2
May 23, 1937	14,464,105	2,957,898	7.8	3.0
May 23, 1947	17,442,689	2,978,584	10.0	1.9
April 25, 1960	26,257,916	8,815,227	12.9	3.2
April 1, 1970	34,397,374	8,139,458	9.9	2.8

SOURCES: 1911-1960 -- Ralph Thomlinson, *Thailand's Population: Facts, Trends, Problems and Policies* (Bangkok: Thailand Watana Panich Press, 1971); 1970 -- Thailand National Statistical Office, *1970 Population and Housing Census: Whole Kingdom* (Bangkok: National Statistical Office, pp. 402-413).

While the censuses prior to 1960 are not considered highly reliable, it does appear that Thailand's population growth rate has been quite high. The reported population of 8 million in 1911 had apparently doubled by 1947, tripled by 1960, and quadrupled by 1970. The slowing of the rate of growth evident in the period between 1960 and 1970 seems to be continuing as the annual growth rate for 1976 has been estimated at 2.5 percent (ESCAP, 1976). Even at this somewhat lower rate, the population in Thailand may be expected to double again in less than 30 years.

Fertility Levels and Trends

Much of the slowing of population growth in Thailand can be attributed to recent declines in fertility rates. Estimates of recent fertility levels in Thailand derived from several sample surveys are compared in Table 1.3. There were differences both in methodology and area of coverage between these surveys; therefore, assessment of the fertility data in Table 1.3 should be restricted to consideration of patterns of change, rather than seeking to provide a precise statistical statement of trends in fertility levels.

TABLE 1.3
ESTIMATED TOTAL AND AGE-SPECIFIC FERTILITY RATES, THAILAND, 1964-1975

Age	SOFT		SPC		L.S.	
	1965-1969	1970-1974	1964-1965	1974-1975	1968-1969	1971-1972
Total Fertility Rate (Per Woman)	6.25	4.85	6.25	5.10	6.10	5.35
15-19	.07	.07	.07	.08	.07	.07
20-24	.25	.22	.26	.25	.26	.23
25-29	.29	.22	.30	.25	.29	.29
30-34	.26	.18	.27	.20	.23	.18
35-39	.21	.17	.22	.15	.20	.17
40-44	.15	.08	.11	.08	.15	.12
45-49	.02	.03	.02	.01	.03	.03

SOURCE: Institute of Population Studies, Chulalongkorn University, and Thailand National Statistical Office, *The Survey of Fertility in Thailand: Country Report* (Bangkok, 1977): Table 22, p.56

Despite the above limitations, some observations about current fertility levels and recent trends may be made. When the total fertility rate, i.e., average completed fertility if the prevailing age-specific rates remain constant, is examined, all studies portray a downward trend from 1964 to 1975. The total fertility rate declined 22 percent from 1965-1969 to 1970-1974 according to estimates from the survey of Fertility in Thailand (SOFT). A pattern of decline is also evident in The Survey of Population Change (SPC) estimate for 1974-1975, which was 18 percent lower than that for 1964-1965. Finally comparison of the estimates from the two rounds of the National Longitudinal Study of Social, Economic and Demographic Change, commonly known as the Longitudinal Study, indicates that total fertility rates decreased 12 percent from 1968-1969 to 1971-1972. Thus all these surveys show a substantial decline in fertility in Thailand since the mid-1960's.

The pattern of decline may also be seen in a comparison of the age-specific rate in Table 1.3. The most dramatic changes shown by the SOFT and SPC estimates were for women aged 25-44. The Longitudinal Study shows the same pattern of decline except for women aged 25 to 29 years.

Mortality Levels and Trends

The crude death rate in Thailand is estimated to have declined from nearly 30 to around 20 per 1,000 population during the first half of the 20th century. Only after the rapid adoption of modern medical technology and the expansion of health facilities throughout the Kingdom following the second World War did the crude death rate fall below 20. It is presently estimated that the crude death rate is 8 per 1,000 population.

Table 1.4 presents estimates of the crude death rate and the infant mortality and age-specific death rates from two rounds of the Survey of Population Change (SPC). A comparison of the estimates of the crude death rate from these two rounds indicates that there was an 18 percent decline in mortality for the decade between 1964-1965 and 1974-1975. This decline was primarily owed to a decrease in the infant mortality rate and, to a lesser extent, to a reduction in mortality levels for all persons under 29 years during the period between the surveys.

TABLE 1.4
AGE-SPECIFIC DEATH RATES AND RELATED MEASURES OF MORTALITY FOR THAILAND,
BY REGION AND URBAN AND RURAL, RESIDENCE FOR THAILAND, 1964-1965 AND 1974-1975

Area	Grude Death Rate	Infant Mortality Rate	Age Specific Death Rates							
			Under 1 Year	1-9	10-19	20-29	30-39	40-49	50-59	60 Years & Over
1964-1965										
REGION										
Whole Kingdom	10.8	84.3	89.3	6.9	2.4	3.8	4.7	8.0	11.6	49.4
North	12.4	96.5	103.4	8.6	2.6	3.7	5.5	10.5	13.1	49.9
Northeast	11.4	83.4	83.8	7.8	3.1	4.8	5.1	7.5	14.9	51.9
Central	10.4	94.0	107.0	3.7	1.1	3.1	3.9	8.7	8.7	52.6
South	8.6	48.5	50.2	7.2	2.3	2.9	3.7	8.4	6.6	37.0
MUNICIPAL-NON MUNICIPAL AREAS										
Municipal Areas	5.6	67.6	65.3	-	-	-	-	5.4	7.8	38.6
Non-Municipal Area	11.3	85.5	90.8	1.3	2.5	4.1	5.0	8.2	11.9	50.4
1974-1975										
REGION										
Whole Kingdom	8.9	56.3	77.1	5.0	1.8	2.5	4.9	8.0	13.8	51.1
North	10.3	96.0	115.2	6.7	2.1	2.9	6.0	8.0	13.1	47.0
Northeast	10.0	54.4	74.2	5.0	2.2	2.8	5.8	9.9	17.2	75.5
Central	6.8	49.5	75.9	4.1	1.5	1.9	3.7	6.0	9.7	31.8
South	10.3	60.4	75.0	5.3	2.2	3.5	6.0	9.0	16.2	48.5
Bangkok Metropolitan Area	4.3	31.0	59.9	1.3	0.5	0.3	1.0	4.5	7.0	35.2
MUNICIPAL-NON MUNICIPAL AREAS										
Municipal Area	6.2	10.3	20.7	2.3	0.7	1.6	2.5	5.5	13.1	61.8
Non-Municipal Area	9.3	63.9	83.7	5.3	1.9	2.6	5.3	8.4	13.9	49.1

SOURCE: Thailand National Statistical Office, *The Survey of Population Change, 1974-1975* (Bangkok) National Statistical Office, (1976): p.26.

There is substantial variation in mortality between municipal and non-municipal areas in Thailand, according to SPC estimates. For example, in the period 1974-1975, the crude death rate for municipal areas was estimated to be 6.2 percent per 1,000 population compared with 9.3 for non-municipal areas. Some regional differences in mortality rates are also evident in Table 1.4. The lowest mortality levels were found for Bangkok where the crude death rate was estimated to be 4.3 per 1,000 population in 1974-1975. The Central Region had a slightly higher crude death rate (6.8 per 1,000 population), while mortality in the remaining regions was higher than the national average (8.9 per 1,000 population).

Age Structure

As can be expected from the traditionally high level of fertility and declining of mortality, Thailand has a young population. In 1970, children under 15 made up about 45 percent of the population. The child dependency ratio (children under 15 years to persons aged 15-64 years) was about 90 children per 100 adults while the aged dependency ratio (persons aged 65 years and over to persons aged 15-64 years) was about 10. The median age in Thailand was only 17.3.

POPULATION POLICY: AN OVERVIEW

During the period prior to World War II, the Thai government's policy was to encourage population growth. At that time various nations, including Thailand, had adopted the geopolitical doctrine that national power was reflected in population size. In 1916, for example, the Minister of Interior, in a speech at the first meeting of provincial doctors, asked that more attention be paid to maternal and child care in order to promote the economic and military development of the country.

The dangers of population growth were first acknowledged in 1930 by the Director of Public Health. He estimated that the Thai population was growing at a rate of 2.25 percent per annum, which would produce a population of 40 million by 1960 (Unhanand, 1968). Unfortunately, the government paid no attention to this warning and until the end of World War II advocated a policy of increasing growth. On March 10, 1942, the Prime Minister stated:

At the present time, our population is only 18 million. We can build our nation slowly with these 36 million hands. If our population becomes 100 million, then we will have 200 million hands which will lead our nation to be a great power.

In keeping with this pro-natalist policy, the government actively promoted marriage, using various approaches, including the establishment of a National Committee on Marriage Promotion, the sponsoring of contests in which awards were given for large and healthy families, and the creation of national mottos like, "Everyone is obligated to build our nation; marriage is a way to build the nation" or "marriage while you are young will make the nation prosper."

After World War II, the successful application of antibiotic medicines and epidemic control measures quickly reduced the death rate in Thailand to a level of 11 per 1,000 by mid-1960. At the same time, the birth rate increased to about 38 per 1,000. Thailand found itself with a high population growth rate, a condition which while improving, is still true today.

In 1958, the Economic Survey Commission of the World Bank warned the Thai government about the population problem and recommended the adoption of a policy of population control. The government responded half-heartedly

In 1968, after 10 years of discussion by the National Research Council Committee on Politics and Public Administration and by the National Economic and Social Development Board, the Cabinet decided that families with four or more children were eligible to receive assistance in birth control. At that time, the Cabinet also accepted the extension of a pilot family planning project to areas beyond the village where it had been carried out experimentally since 1963.

In 1970, the Cabinet finally recognized population control as a national policy. However, the commitment enunciated by the Thai government did not assure a rigorous campaign to make the population program a top priority. The policy read, "... to support *voluntary family planning* in order to help resolve various problems related to the very high rate of population growth which constitutes an important obstacle to the economic and social development in Thailand" (National Family Planning Program, 1972).

The major support for establishing a family planning program came from the Ministry of Public Health and the National Economic and Social Development Board. These two organizations aimed to reduce the population growth rate from over 3 percent to 2.5 percent by 1976.

With the government's commitment as the catalyst, a National Family Planning Program (NFPP) was established by the Ministry of Public Health to initiate new programs and coordinate the limited family planning activities then existing. To implement its plans, the Ministry trained paramedic personnel as well as medical doctors to provide more services. In 1970, 330 medical doctors, 700 nurses, 3,000 midwives, and 1985 health personnel were trained in family planning skills by the Ministry.

THE CPS PROJECT RATIONALE

Family planning activities have increased substantially in Thailand since the initiation of the NFPP in 1970 and their impact is apparent in the fact that an average of 450,000 new acceptors have been recorded in the program annually. While earlier efforts at recruiting contraceptive users were quite successful, it has been realized that improved management and greater sensitivity to the specific needs of the population are required to maintain or increase the earlier high rate of acceptance. The difficulties in obtaining accurate information on use of family planning, based only on service statistics (which do not include users obtaining supplies from non-government sources), was an important factor in the decision to implement a national prevalence survey in Thailand in late 1978. The need for information on regional variations in the levels of contraceptive practice was also recognized, particularly as a basis for planning for the more effective use of the limited manpower and financial resources of the program. The Thailand Contraceptive Prevalence Survey (CPS) was designed to provide data on levels of contraceptive knowledge, use and availability and limited fertility information on both a national and regional basis.

The following chapters present the results from the Thailand CPS. In Chapter 2, there is a discussion of the survey methodology. Chapter 3 reviews evidence from the CPS and other surveys indicating that fertility levels are falling in Thailand. Chapters 4, 5, and 6 present data from the CPS on the knowledge, use and availability of family planning, respectively.

CHAPTER II

METHODOLOGY

Fieldwork for the Thailand National Contraceptive Prevalence Survey was conducted in November and December, 1978. The survey universe for the CPS comprised all women of reproductive age (15-49 years) regardless of marital status. While some women may not have needed family planning services at the time of the survey or have had no history of contraceptive use, their knowledge of fertility regulation methods and access to services and supplies was considered to be a meaningful component of the survey.

PREPARATORY ACTIVITIES

The Questionnaire Design

A simple, straightforward questionnaire was prepared for the Thailand Contraceptive Prevalence Survey (CPS), designed to provide information that would assist family planning program administrators in determining the progress of family planning efforts. The core instrument contained the minimum number of questions necessary to elicit appropriate data with regard to:

- Eligibility and background characteristics;
- Reproductive behavior and intention;
- Knowledge of fertility regulation methods;
- Current and past contraceptive use;
- Availability of fertility regulation methods;
- Reason for contraceptive non-use.

A brief discussion of the rationale for inclusion of questions on these topics follows

ELIGIBILITY AND BACKGROUND CHARACTERISTICS

A series of questions was asked of each eligible woman to provide a respondent "profile" and permit more meaningful analysis of the survey data. The data derived from these questions provided an overall description of the characteristics of the sample and served both as the basis for developing indicators of past and present patterns of contraceptive use and as independent variables in the analysis of fertility. A discussion of the background characteristics which were used and the rationale for their inclusion follows.

Age of Respondent. Two questions – age and date of birth – were asked of each respondent. Age was used to identify eligible women and it also served as a control variable in the analysis.

Marital Status. Marital status served as a surrogate measure of sexual activity. It was asked at the end of the questionnaire to avoid interviewer and respondent bias to this sensitive question.

Place of Residence. Information was obtained on the region of residence. It was also used to analyze the survey results on a subnational basis.

Education. Education served as an explanatory variable for understanding differences in the practice of family planning.

Work Status. This question was designed to identify women who were economically active. This variable, along with occupation, was used as an independent variable in the analysis of fertility and contraceptive usage.

REPRODUCTIVE BEHAVIOR AND INTENTIONS

Three sets of questions focused on past and intended fertility.

Pregnancies and Live Births. The questions on pregnancy experience were asked to measure parity, identify women not in need of contraception, and estimate current levels of fertility.

Number of Living Children. Number of living children provided data for calculating desired family size and, more importantly, provided data on actual current family size, which can be a major influence on the decision to use contraception.

Desire for Additional Children. Desire for additional children helped determine the respondent's potential for contraceptive use and to differentiate contraceptive spacers from non-spacers.

KNOWLEDGE AND USE OF FERTILITY REGULATION METHODS

Knowledge of birth control methods (prompted and unprompted) and use levels were the most important variables collected in the survey. Identifying the relationships between these and the background characteristics mentioned previously was a fundamental goal of the analysis.

AVAILABILITY OF FERTILITY REGULATION METHODS

The CPS also measured the respondent's knowledge of sources of modern birth control methods. For each method known, the respondent was asked her perceptions of cost, transportation to the source, estimated travel time, and the location's convenience. Each current user was asked the same information about the method she employed.

REASON FOR CONTRACEPTIVE NON-USE

In addition to eliciting the principal reason for non-use, this question indicated whether a respondent was sexually active at the time of the interview.

Recruitment and Training of Field Staff

The interviews were conducted by 25 female interviewers, all of whom had received a B.A. degree from universities in Thailand. Female interviewers were selected because it was thought they could more easily establish the rapport that would enable respondents to discuss sexually related topics openly.

Field workers were chosen after an interview with project staff and field supervisors. Selection was based upon field experience, fluency in at least one of the local dialects, ability to solve field problems, and personality. After selection, trainees went through an intensive two-week training program which included both classroom and field training. Trainees were hired only after they had passed a performance evaluation at the end of the training.

The classroom training was designed to provide background knowledge of research methodology, with special emphasis on data collection and interviewing techniques. In addition, trainees were provided with a detailed description of contraceptive methods. An understanding of these methods was considered a prerequisite for effective communication between interviewer and respondent. Trainees also received instructions on listing techniques and the importance of the sample in the survey. A presentation of CPS objectives and a review of the interview schedule concluded the first part of the training.

Following the classroom training, the interviewers were provided with practical field experience. This process served the additional purpose of pretesting the questionnaire. As part of the field training, each field worker first interviewed a sample of women in Bangkok. After those interviews were completed, trainees were divided into five teams corresponding to the North, Northwest, South East, and Central Regions. Each team

member spoke the dialect of the region to which she was assigned. The second phase of the field training was then conducted in the region to which each team was assigned, but in areas that were not to be included in the study sample. During this phase the trainees had to list households (construct the sampling frame) in a chosen village and then interview selected women.

The pretest field training provided a good opportunity for the trainees to learn how to live in the field and develop a team spirit which was very valuable during actual field operations. In addition, the results were used to improve the interview schedule and the design of the coding scheme.

The field training was supervised closely by regional field supervisors. All field supervisors were faculty members of the Research Center, National Institute of Development Administration (NIDA). All held master's degrees and had had experience in field research. They participated in every step of the project, from planning through the training of interviewers to the analysis of results.

Results of the Pretest

Chief project investigators and field supervisors met following the field training to discuss the problems encountered during the pretesting of the survey instruments. Since the CPS core questionnaire had already been tested in other countries and reviewed by Thai researchers, substantial changes were neither anticipated nor required. As planned, the responses to the open-ended questions were used to construct the closed questions used in the actual field work.

In addition to refining some of the wording which respondents had found difficult, a major finding of the pretest was that the question on work status needed to be improved. Many of the respondents were confused by the question in its original form and could not differentiate between working as a housewife and working outside the home. Therefore the phrasing was changed from the original,

“As you know, many women work... I mean, aside from doing their own housework. Some take up jobs for which they are paid in cash or kind. Others sell things, or have a small business. Are you doing any such work at the present time?”

to

“What is your occupation?”

Responses to the new question were grouped into main and secondary occupation. Location of the work place (household and outside of the residence) was also established.

SAMPLE DESIGN

The sampling procedures employed in the Contraceptive Prevalence Survey (CPS) in Thailand were designed to yield a self-weighting nationally representative sample of approximately 4,000 women between the ages of 15 and 49. A description of the rural and urban phases of the CPS sample selection process follows.

Selection Of The Rural Sample

The procedures used to select the rural portion of the CPS sample paralleled those used to draw the Survey of Fertility in Thailand (SOFT) sample. The latter survey was carried out as part of the World Fertility Survey (WFS) program. The provinces (changwats) for the CPS were randomly drawn from the list of the provinces used in the SOFT. From each of the selected provinces, one rural district (amphoe) for the CPS was randomly drawn from the SOFT sample while the other was independently and randomly selected from those districts not included in the SOFT sample.

Multi-stage sampling techniques were employed in the selection of rural respondents in the CPS. More specifically, the selection process comprised five stages. A brief description of each of these stages follows.

FIRST STAGE

The 34 provinces included in the SOFT-Frame were first divided into four geographic regions (North, Northeast, Central, and South). One-half of the provinces in each region were then randomly selected for inclusion in the CPS sample. A list of the 17 selected provinces is presented in Table 2.1.

TABLE 2.1
PROVINCES INCLUDED IN THE RURAL SAMPLE FRAME FOR
THE CONTRACEPTIVE PREVALENCE SURVEY IN THAILAND

Region	Province
North	Chieng Mai Chieng Rai Sukho Thai Phetchaboon
Northeast	Sakon Nakorn Nakhon Rajchasisima Buri Rum Udon Thani
Central	Suphun Buri Sing Buri Ayudthaya Samut Prakarn Rayong Chachoengsao
South	Nakhon Srithammaraj Songkhla Narathiwat

SECOND STAGE

In the second stage, two districts were drawn, using simple random sampling without replacement, from the rural areas of each province selected in the first stage. One of these two districts, was randomly drawn from those districts selected in the SOFT, while the other was randomly selected from the remaining districts. A total of 34 districts was thus selected from those 17 provinces (17 x 2).

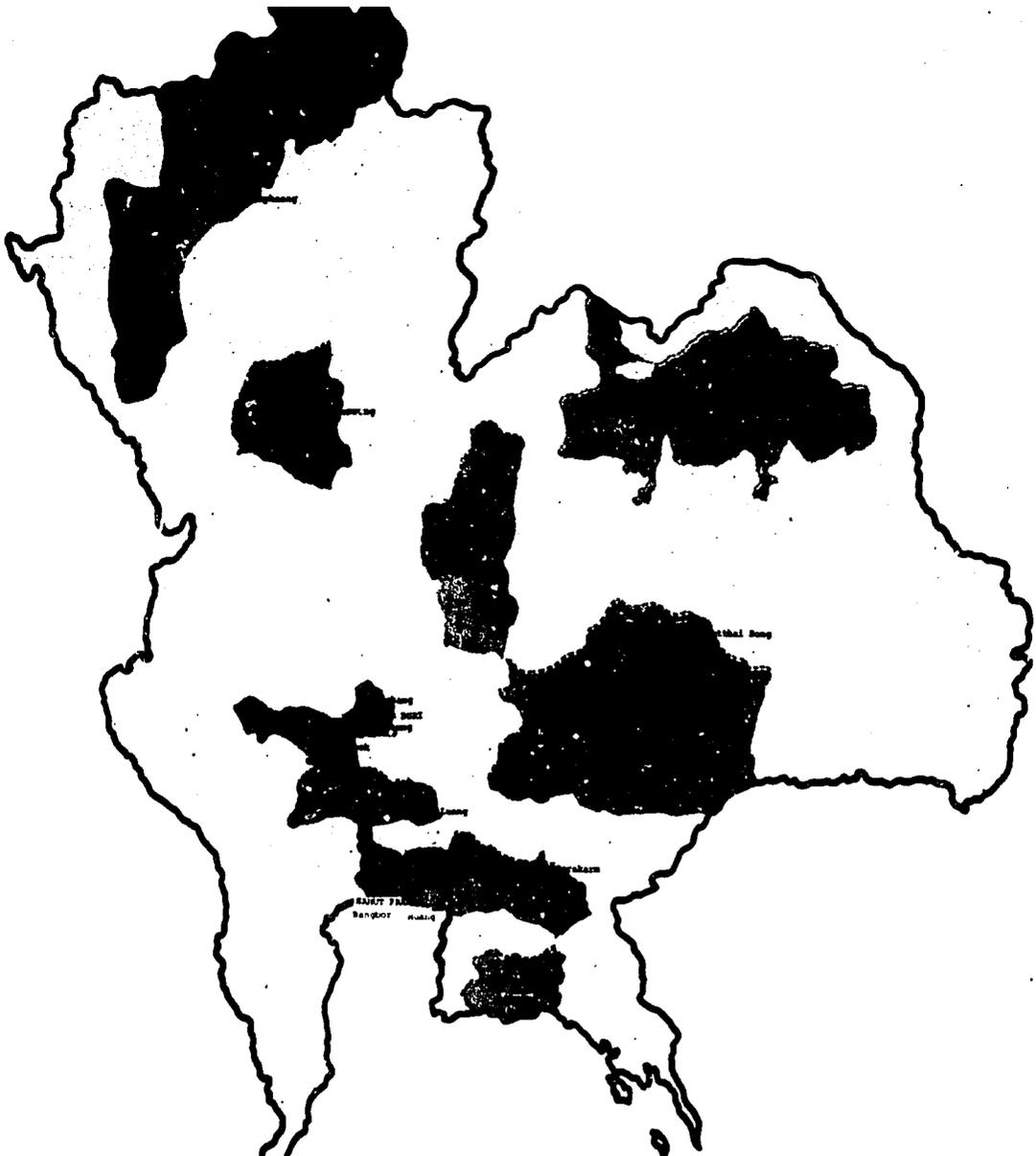
THIRD AND FOURTH STAGE

Administratively, each district in Thailand is divided into subdistricts (tambols). Using this administrative classification, the next step was to randomly draw a sample of subdistricts; 2 subdistricts were chosen from each selected district. The total number of subdistricts in the sample was 68 (17 x 2 x 2).

In the fourth stage, two villages (mubans) were randomly selected from each subdistrict drawn in the third stage. A total of 136 villages were included in the sample at this stage (17 x 2 x 2 x 2).

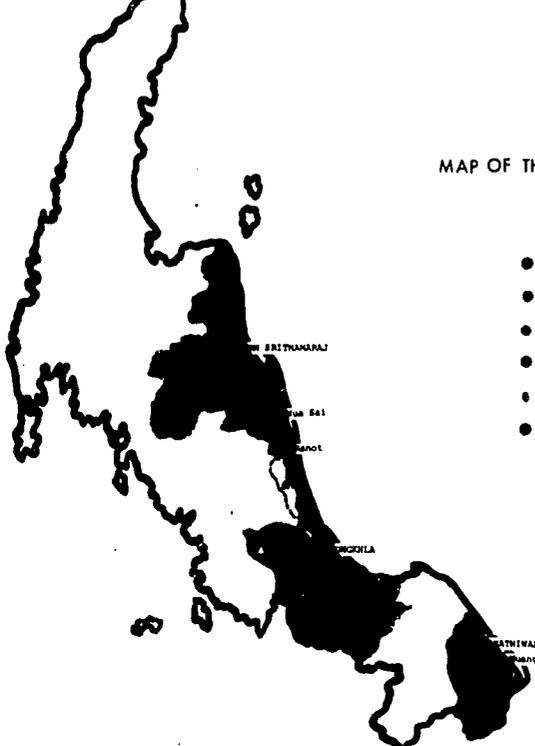
FIFTH STAGE

In the final stage the respondents were randomly selected from among eligible women (women 15 to 49 years of age) in each village chosen in the fourth stage. The probability of being included in the sample was directly proportional to the number of eligible women in the provinces selected in the first stage. Fur-



MAP OF THAILAND SHOWING SAMPLE AREAS

- BANGKOK METROPOLIS
- NORTH
- NORTHEAST
- CENTRAL
- EAST (classified as central in the analysis)
- SOUTH



therefore, the respondents were proportionally drawn from among the selected districts, subdistricts, and villages according to the number of eligible women. A total of 3,225 respondents were selected in the rural portion of the CPS sample.

Selection of The Urban Sample

A major goal in the design of the urban sample for the CPS was to obtain reliable estimates of contraceptive prevalence for the Bangkok metropolitan area without unnecessarily complicating the overall sampling process. To achieve that end, the metropolitan area of Bangkok was arbitrarily designated to represent the entire urban stratum in Thailand and a random sample of 800 women aged 15-49 was drawn from the Bangkok area.* An examination of the CPS results suggest that this procedure did not significantly influence representativeness of the sample. In the selection of eligible women in the Bangkok metropolitan area the CPS employed a master sample frame of households in Bangkok provided by the National Institute of Development Administration. Multi-stage sampling techniques were employed in randomly selecting the 800 women in the Bangkok sample.

ACTIVITIES IN THE FIELD

Timing of the Field Work

The field work for the CPS was carried out between November 1 and December 31, 1978, by five teams, each comprised of a supervisor and five interviewers. In all selected provinces the teams stayed either in the provincial or district town until all the interviews were completed. If the interviewers were unable to complete an interview after three callbacks, a previously selected substitute respondent was interviewed. Substitute respondents were selected at the time of the selection of the original sample. The average duration of an interview was 20 minutes.

Quality Control During the Field Work

During the early stages of the field work each supervisor was instructed to observe the interviews and to provide assistance if the interviewer or the respondent failed to communicate effectively. This procedure was followed during the first few days of interviewing in order to detect and correct any systematic errors. The interviewers submitted the completed questionnaires to the supervisors daily, and all questionnaires were examined carefully to identify errors in data entry, as well as inconsistent or doubtful responses.

Field supervisors reinterviewed some respondents to verify interview results. This was done more frequently when responses were omitted or there were major inconsistencies. Spot checks were also made during the field work to be sure that the interviewers were following the correct sample selection procedure.

Field Work Problems

A few problems were encountered during the field work. These included: construction of the sampling list, modifications to the sample cluster, communication problems, and difficulties in locating interviewees. Despite the various problems, nationwide a sample of 4,025 women were interviewed for CPS.

CONSTRUCTION OF THE SAMPLING LIST

Ideally, the sampling frame would have been constructed only after conducting a census-type enumeration of all eligible women in each selected area. This procedure was not required for the Bangkok segment of the sample because NIDA had already prepared a complete listing of selected enumeration areas in con-

*Estimates obtained from the National Statistical Office in Thailand indicated that 18-21 percent of the Thai population lived in urban areas in 1978. Approximately, 62 percent of the Thai Urban population were estimated to be living in the Bangkok metropolitan area in 1978. See Debvalya, Nibhon and John Knodel, *Fertility Transition in Thailand: A comparative Analysis of Survey Data*. Bangkok: Institute of Population Studies, Chulalongkorn University and Population Survey Division, National Statistical Office, Research Report No. 3.

junction with another survey carried out shortly before CPS. In other areas this procedure was modified where possible because the process of listing (enumerating) would have been more time-consuming than the actual interviewing. In some smaller villages, the supervisor contacted the District Officer (the Bangkok-appointed administrator for the district) who provided the names and addresses of the eligible women in the sample village from off the District Register. This listing was then updated from Health Center records and presented, one name at a time, to the village headman, who made corrections by deleting women who had died or moved. The headman also indicated houses (usually new) which had not been included in the district household listing. These were usually easily identified because they lacked a house number assigned by the district. These households were then listed by the interviewers. Generally the respondents in these new households were found to be intra-village migrants previously listed in other households.

The above procedure worked quite well in small villages, where the headman knew all members of the community. However, in some villages, the headman was not knowledgeable enough to update the listing, and the interviewers had to do door-to-door household enumeration.

Once the field work has started, the field supervisors and project directors found that the net error in the absolute number of eligible women in a village as listed in the District Register was quite small. Using the register allowed the supervisors to calculate the sampling proportion in advance of visiting the village, so that the listing and interviewing could be done during the same visit. When the registration list was not used, each selected village in the district had to be listed before the sample proportion could be calculated, and only then could interviewing begin.

SUBSTITUTION OF SAMPLE CLUSTERS

Another problem was the need to substitute a whole sample cluster. In some cases it was impossible to interview women in the selected village, and so another was drawn for the sample. For example, village number 3 of Tambol Ban Pone was inaccessible because of flooding. In this instance, village 10 was substituted because of the similarity in size and demographic characteristics. A second change was that Tambol Kok Krachai of Khonburi district had to be replaced with Tambol Khonburi of the same district for security reasons.

LANGUAGE PROBLEMS

A further problem occurred in the Muang District of Narathiwat Province in the Southern region. There the local language is Yave, and most residents are either unable or unwilling to communicate in Thai. This had not been anticipated, and five interpreters had to be hired and trained to assist the interviewers. Two district health officials, a community development worker, the village headman, and a Community Based Family Planning (a private family planning organization) worker served as interpreters.

DIFFICULTIES IN LOCATING RESPONDENTS

Locating and finding the interviewees was also a major difficulty. The field work coincided with the harvest, making it inconvenient and costly for respondents to be interviewed. Quite often the interviews had to be done very early in the morning or during the late evening.

CODING AND EDITING

Field Coding

After being reviewed by the field supervisors, the questionnaires were returned to the interviewers for coding in the field. Field coding was made possible by the pre-coded format of the questionnaire. To limit the amount of work and not affect adversely the quality of the coding, the chief investigators set up a quota of five coded interviews per person per day. The basic coding was completed before the teams returned from the field. Interviewers were also assigned to review the coding of other interviewers.

The field supervisors served as coding editors. After the coding was checked, the supervisors would re-check the codes and make the appropriate entry. The questionnaires were then sent to the Research Center at NIDA for editing, punching, and further data processing.

Machine Editing

All punched cards were edited by computer. Editing instructions were prepared, and the editing program was written by the project technical staff. It included the following steps:

- (1) List all cards to see that the number of cards is correct;
- (2) Check that only legitimate codes appear in each column and that no "wild" codes are present;
- (3) Check the logical consistency of codes between columns and cards.

The editing was done step by step. Mistakes in each step were corrected before beginning the next step. After the machine editing, the frequency distributions of all variables were determined and reviewed to identify any unusual responses.

CHARACTERISTICS OF THE SAMPLE

A brief summary of the characteristics of the women interviewed provides a reference for interpreting of the findings presented in this report. Table 2.2 compares the age structure of the CPS sample with that from the Survey of Population Change (SPC). On the average, the women in the CPS sample appear to be slightly older than those of the SPC. The largest difference (6 percent) in the age distributions between the two samples occurs in the 15-19-year age category. This difference is consistent for both the national (whole kingdom) and rural categories. The variations in other age groups are small.

TABLE 2.2
PERCENT DISTRIBUTION OF ALL WOMEN BY AGE, 1975 AND 1978

Age	Whole Kingdom		Rural Areas	
	SPC 1975	CPS 1978	SPC 1975	CPS 1978
15-19	24.1	18.1	23.8	18.1
20-24	19.0	18.3	18.5	17.6
25-29	14.8	16.7	14.7	16.3
30-34	11.9	14.4	11.9	14.5
35-39	11.7	12.4	12.0	12.5
40-44	10.2	11.5	10.4	12.2
45-49	8.3	8.6	8.7	8.8
Total	100.0	100.0	100.0	100.0

SOURCE: SPC - Survey of Population Change, 1974-1975

The age distribution of ever-married women from the CPS sample is also similar to that of the SPC. Again, it appears that the CPS sample of ever married women is slightly older than that of the SPC. The largest differences (about 3 percent) are noted in the two age categories, 15-19 and 30-34 years.

TABLE 2.3
PERCENT DISTRIBUTION OF EVER-MARRIED WOMEN BY AGE, 1975 AND 1978

Age	Whole Kingdom		Rural Area	
	SPC 1975	CPS 1978	SPC 1975	CPS 1978
15-19	7.5	4.5	7.9	4.7
20-24	17.3	15.8	17.7	15.8
25-29	17.7	19.4	17.6	19.1
30-34	15.8	18.0	15.5	18.0
35-39	16.0	16.1	15.8	16.0
40-44	14.1	15.0	13.8	15.4
45-49	11.7	11.2	11.7	11.1
Total	100.0	100.0	100.0	100.0

SOURCE: SPC - Survey of Population Change, 1974-1975

The proportions of women who were ever-married are shown in Table 2.4. It can be seen that the proportions of ever-married in the CPS sample for both the whole kingdom and rural areas are larger than those of the SPC. The disparities between the two samples for different age-groups vary – ranging from 0.9 to 3 per cent for the whole kingdom and from 0.3 to 4.4 for the rural areas. Interestingly, while the differences for most age categories are in the direction of the higher proportion of ever-married women in the CPS, two age groups (15-19 and 20-24) in the rural SPC sample had higher percentages of ever-married than the corresponding groups in the CPS.

TABLE 2.4
PERCENT EVER-MARRIED BY AGE, 1975 AND 1978

Age	Whole Kingdom		Rural Area	
	SPC 1975	CPS 1978	SPC 1975	CPS 1978
15-19	21.4	18.6	24.1	19.7
20-24	62.9	64.3	69.2	68.5
25-29	82.4	86.2	86.7	89.4
30-34	91.7	92.6	93.8	95.1
35-39	93.8	96.8	95.2	97.8
40-44	96.2	97.2	96.7	97.2
45-49	96.7	97.1	97.5	97.2
Total	69.8	74.4	72.4	76.6

SOURCE: SPC - Survey of Population Change, 1974-1975

When the characteristics of women in the CPS sample are compared with the characteristics of women in the SPC, it is clear that the two samples were relatively similar in age and marital status. In order to insure comparability of data between surveys, age was controlled either directly or through standardization in selected analytical comparisons. These procedures allowed a valid comparison of the CPS results to be made with those from several earlier demographic surveys in an attempt to identify trends in fertility levels as well as in the knowledge, use, and availability of contraceptives.

CHAPTER III

FERTILITY

THAI MARRIAGE PATTERNS

Marriage patterns have gained considerable attention from demographers in recent years. Davis and Blake (1956) have suggested that the role of marriage be considered as an "intermediate variable," that is, as one of the factors through which social variables must work to affect fertility. Nuptiality patterns influence fertility by governing the number of years of exposure to conception; important influences include age of entry into permanent sexual unions, the proportion who remain permanently celibate, and the length of periods of separation and widowhood.

Marital Status

Table 3.1 presents the marital status of all respondents in the CPS by age groups. Overall, approximately 75 percent of all respondents were married. There was a significant difference by age in the percentage married. More than 93 percent of all respondents 25 and over were married while less than half (42 percent) of those under 25 were married. A comparison of the figures for rural areas with those for Bangkok shows that women in rural areas are more likely to be married at younger ages than women in Bangkok.

TABLE 3.1
PERCENT OF WOMEN EVER-MARRIED BY AGE AND AREA OF RESIDENCE

Age	Total	Bangkok	Rural
15-19	18.6	14.4	19.7
20-24	64.3	50.0	68.5
25-29	86.2	74.7	89.4
30-34	92.6	82.5	95.1
35-39	96.8	92.6	97.8
40-44	97.2	97.1	97.2
45-49	97.1	96.8	97.2

Age At Marriage

The date of first marriage ordinarily indicates initial experience with sexual intercourse in Thailand; therefore, the age at which a woman marries has a direct bearing on her reproductive behavior. Table 3.2 shows the mean age at marriage by age group for ever-married women. The mean age at marriage for Thailand as a whole is 20.0 years.

There are some regional differences in mean age at marriage, as shown in Table 3.2. The mean age for residents in the Bangkok Metropolitan Area is almost two years higher than the national average. Women in the Central region also marry later, but their average is only a half year above the national one. The differences in the mean age at marriage among women in other regions are relatively small.

Looking at the mean age at marriage for respondents presently aged 25 years and over, it appears that the mean age at marriage in Thailand has remained relatively constant for at least 20 years. The North is the only region for which there appears to be consistent pattern in the mean age at marriage among women 25 and over. Women in the North appear to have experienced a slight decline in age at marriage; the mean age

TABLE 3.2
MEAN AGE AT MARRIAGE BY AGE GROUP FOR EVER-MARRIED WOMEN, AGED 15-49

Region	Current Age							
	All Ages	15-19	20-24	25-29	30-34	35-39	40-44	45-49
National	20.0	16.9	18.9	20.0	20.3	20.5	20.7	20.7
Bangkok Metropolis	21.6	17.0	19.4	21.5	22.3	23.0	22.7	22.3
North	19.2	16.9	18.6	19.3	19.1	19.2	20.1	20.6
Northeast	18.9	17.1	19.0	19.9	20.2	20.1	20.5	19.7
Central	20.6	16.8	18.8	20.9	20.5	21.2	20.8	21.6
South	19.3	16.1	18.8	18.8	19.9	19.8	19.8	19.4

at marriage among those in the 40-44 and 45-49 cohorts was about 20 years while women in younger cohorts were married on average at about 19 years of age.

The data in Tables 3.1 and 3.2 indicate that the Thai nuptiality pattern can be neither classified as “traditional” i.e., characterized by a young age at marriage and the universality of nuptiality, nor “modern” – typified by delayed marriage and a comparatively higher level of celibacy. Instead, the Thai pattern is one of a “moderate” age at marriage (20.0 years for the country as a whole), and universality of nuptiality among the middle and upper age groups (25 years old and over).

TRENDS IN FERTILITY

Children Ever Born

By comparing CPS results with data from earlier surveys, it is possible to examine trends in fertility over time in Thailand. Table 3.3 presents data on the average number of children ever born from the two rounds of the Longitudinal Survey (L.S.), the Survey of Fertility in Thailand (SOFT), the Survey of Population Change (S.P.C.) and the CPS. The high fertility of Thai women is evident from the fact that in all the surveys ever-married Thai women aged 40-49 have had on average more than six live births.

TABLE 3.3
NUMBER OF CHILDREN EVER BORN TO EVER-MARRIED WOMEN AGED 15-49, 1969-1978

Age	L.S. ¹ 1969/70	L.S. ¹ 1972/73	SOFT ¹ 1975	SPC ² 1974/1976	CPS 1978
15-49	4.5	4.4	3.9	3.5	3.6
Age-Standardized	4.1	4.1	3.9	3.7	3.6
15-19	0.7	0.8	0.7	0.6	0.9
20-24	1.5	1.4	1.5	1.3	1.5
25-29	2.8	2.8	2.6	2.5	2.5
30-34	4.0	4.1	3.9	3.8	3.6
35-39	5.8	5.2	4.9	5.9	4.7
40-44	6.5	6.9	6.1	5.8	5.9
45-49	6.9	6.9	6.7	6.4	6.7

¹ John Knodel and Nibhon Debavalya, "Thailand Reproductive Revolution", *International Family Planning Perspectives and Digest*, Volume 4, number 2, Summer 1978.

² From "The Survey of Population Change, 1974-1976", conducted by the National Statistical Office, Bangkok.

The effect of recent fertility trends is muted in Table 3.3 since older women experienced much of their childbearing potential a number of years in the past. Nevertheless, some of Thailand's recent fertility decline is reflected in the data on children ever born. For most age groups cumulative fertility was lower in 1978, with the overall trend from 1969 to the present in the direction of fewer children. The pattern is inconsistent only for the SPC data (1974-1976) which tend to be lower than both the SOFT (1975) and CPS (1978). Because of major differences in methodology (a dual records system versus a retrospective sample survey), comparisons between the SPC and SOFT or CPS data should be made with caution.

Age-Specific Fertility Rates

Estimates of current age-specific fertility rates can be derived from the birth data collected from respondents in each of the surveys. These data were examined to determine the number of births, reported by currently married women in the year prior to the survey.

In order to summarize the trends in age-specific fertility rates, the total fertility rate (TFR) was calculated. In each round of the surveys after the first SPC in 1964-65, the total fertility rate fell steadily. For the country as a whole, this rate declined by 41 percent between 1964 and 1978 (See Table 3.4.). The largest drop came between the SOFT (1975) (data for 1974) and the CPS in 1978, with a reduction of 1.4 births per women, a 27 percent decline.

The pattern of decline may also be observed by looking at the age-specific rates. The most dramatic changes shown in the 1978 data were the rapid declines since the mid-1960s in the rates for the 25-29, 30-34, and 35-39 year age groups. This trend indicates a movement toward earlier completion of childbearing.

TABLE 3.4
AGE-SPECIFIC FERTILITY RATES IN THAILAND 1964-1978

Age	SPC 1964-1965	LS 1969	LS 1972	SOFT 1975	SPC 1974-1976	CPS 1978
TFR	6.2	6.2	5.4	5.1	4.9	3.7
15-19	.07	.07	.07	.08	.08	.05
20-24	.26	.26	.23	.25	.24	.20
25-29	.30	.29	.29	.25	.25	.19
30-34	.27	.23	.18	.20	.18	.13
35-39	.22	.20	.17	.15	.14	.10
40-44	.11	.15	.12	.08	.07	.04
45-49	.02	.03	.03	.01	.02	.02

The reduction of 41 percent in fertility in Thailand in just one decade is extremely rapid compared to historical experience in the developed world (Knodel, 1977). Although similar to the rapid change experienced by Hong Kong, Singapore, and Taiwan (Knodel, 1977; Sun, Lin and Freedman, 1978), the decline in Thailand is more significant for two reasons: (1) there has been an impressive decrease in rural fertility levels and (2) Thailand's population is quite large compared to other countries with rapid changes in fertility (Knodel and Debavalya, 1978).

Percent Pregnant

Additional evidence of the decline in fertility is shown in Table 3.5 which presents data on the percentage of women currently pregnant. The trend in the proportion pregnant among all women aged 15-44 has been steadily downward. At the time of the SPC survey in 1969-70, about 15 percent of currently married women were pregnant; in 1978 only 10 percent of the CPS respondents indicated they were pregnant.

TABLE 3.5
**PERCENT CURRENTLY PREGNANT AMONG CURRENTLY MARRIED WOMEN IN THAILAND
AGED 15-44*, 1969-1978**

L.S. 1969-1970	L.S. 1972-1973	SOFT 1975	CPS 1978
15.3	14.3	11.8	10.1

* Standardized for age

REGIONAL PATTERNS

An examination of the regional fertility rates presented in Table 3.6 shows that there are clear differences in fertility levels among the major regions in Thailand. The use of marital general fertility rates (MGFRs) in that table controls for the effect of regional variations in the proportions of women who were married, thus making the direct comparison of fertility differences more meaningful. Fertility levels appear to be highest in the South where the marital GFR (233.8 births per 1000 currently married women) is nearly 40 percent higher than the national rate, 168.7 births per 1000 currently married women. The rate was lowest in the North (126.6 births per 1000 women). Interestingly, the rate for the North was considerably below that for Bangkok as was the rate in the Central region.

TABLE 3.6
MARITAL GENERAL FERTILITY RATES BY REGION

National	168.7
Bangkok	175.5
All Rural	167.2
North	126.6
Northeast	174.4
Central	154.0
South	233.8

As shown in Table 3.7, which compares estimates of the regional marital GFRs from the SOFT and the CPS, the trend in fertility levels has been downward in rural areas in all regions. Overall there appears to have been an 18 percent decline in the marital general fertility in rural areas in Thailand between 1973/1975 and 1978. Regionally, decreases were greatest where the rates were highest (and still are high) – in the North-east and the South.

TABLE 3.7
MARITAL GENERAL FERTILITY RATES STANDARDIZED FOR AGE FOR
CURRENTLY MARRIED WOMEN 20-44, BY REGION

	SOFT ^{a)} 1973/1975	CPS 1978	Change	
			Absolute N	Relative %
Rural	.216	.175	.041	18
North	.152	.126	.0267	17
Northeast	.315	.176	.139	44
Central	.105	.177	.008	4
South	.352	.252	.100	28

a) The rates in this column refer to fertility during the 24 months prior to the survey expressed as an annual rate and are adjusted for periods of exposure of less than 24 months for women married less than two complete years.

SOURCE: Joint Thai/U.S. Evaluation Team, "Thailand National Family Planning Program Evaluation", American Public Health Association, 1979.

FEMALE LABOR FORCE PARTICIPATION AND FERTILITY

Past demographic studies of female participation in the labor force have often concentrated on the relationship between female employment and fertility. This inverse relationship is one of the most frequently documented findings in fertility research conducted on populations in developed countries (see Freedman, 1962; Blake, 1965; Heer, 1964; Namboodiri, 1964; Whelpton et al, 1966). Incompatibility between motherhood and employment, each of which provides a particular set of rewards, has been suggested as the reason for inverse nature relationship. Motherhood affords socio-emotional gratification and prestige, while employment yields primarily economic gains (Weller 1968 and 1977).

In contrast to the pattern in developed countries; there has been little evidence of an inverse relationship between female employment and fertility in developing countries. Here work (often in the form of unpaid familial service) and motherhood (with general assistance in childbearing from kin in the extended family system) are not in conflict. Furthermore, in developing countries, work may not constitute a satisfying alternative to motherhood because it often does not provide enough prestige and only undependable pay for the low-income population. Such limited returns are unlikely to offset pressures to bear children.

Evidence contradicting the western model has been found in Thailand. Using a sample of currently married women, Cook and Leoprapi (1977) found that employed women showed higher fertility than the non-employed. This result was consistent with that found earlier by Goldstein et al (1972). The only study that gives tentative support to a western style relationship was conducted by Debavalya (1977), and he argues that the relationship is the result of extraneous variables, e.g. education, husband's occupation, occupation of women, work experience of women before and after marriage, and duration of work after marriage.

In an attempt to compare the fertility differentials by employment status, the mean number of children ever born is presented in Table 3.8. The data indicate that, on the average those women who participated in the labor force had four children, whereas those who were not in the labor force had 3.1. The differences were greatest for the age group of 45-49, where women who were working had 6.9 children – two more than those who were not employed. In other age groups, the differentials in fertility were smaller and irregular.

Fertility was higher for women in lower occupational categories, i.e., service, agriculture, trade and unskilled labor, than for those who were not participating in the labor force. This difference is most evident among the oldest age group of 45 to 49. In other age groups, however, service workers had a lower fertility level than the housewives.

TABLE 3.8
AVERAGE NUMBER OF CHILDREN EVER BORN BY EMPLOYMENT STATUS,
OCCUPATION AND AGE OF RESPONDENTS.

	AGE							
	Total	15-19	20-24	25-29	30-34	35-39	40-44	45-49
Professional	2.7	-	1.0	1.6	3.0	4.0	3.0	-
Managerial Workers Govt. Officials	2.3	-	-	1.0	2.6	2.9	1.0	-
Semi-skilled and Skilled Workers	2.9	2.0	1.5	2.1	2.3	3.0	4.4	5.0
Service	3.5	0.7	1.3	2.2	3.2	3.4	4.0	7.6
Agriculture	4.1	0.9	1.5	2.6	3.8	5.1	6.3	7.4
Trade and Vendor	3.8	0.8	1.3	2.4	3.5	4.2	4.9	5.5
Unskilled Labor	4.3	0.8	1.6	2.4	3.9	5.1	5.3	7.3
Others	3.0	-	-	4.0	-	1.0	4.0	-
Employed Total	4.0	0.9	1.5	2.5	3.6	4.8	5.8	6.9
Housewife	3.1	0.9	1.9	2.4	3.3	3.9	6.0	4.9
Total	3.9	0.9	1.5	2.5	3.6	4.7	5.9	6.7

In general, the data confirm the expectation that there is a tendency toward smaller families among women of high occupational status. The average number of children born alive among professional and managerial workers and government officials was clearly lower than those of women in other occupations. However, when age is controlled, the relationship between fertility and occupation status seems to be somewhat irregular. Professionals age 30 and over had a higher fertility level than did their counterparts in managerial and government positions; when consideration is limited to the age groups of 30-34 and 35-39, the level is even higher than that of semi-skilled and skilled workers.

DESIRE FOR ADDITIONAL CHILDREN

The relationship between desired or expected and actual completed family size has proven tenuous. However, desired family size does provide a good surrogate measure of current family size norms which, if changed, could have an extended impact on fertility. After being asked about their actual number of children, respondents were asked whether they would like to have additional children. If the respondent answered "yes" she then was asked how many additional she wanted.

When the number of children desired is examined using age as an independent variable the relationship, as one would expect in a rapidly modernizing nation like Thailand, is that younger women want fewer children than older women. As can be seen in Table 3.9 family size norms, as reflected in total number of children desired, increases with age. The Table also presents data for those women who indicate they would like more children and, therefore, can be considered to have a choice in their completed family size. Those women also show the same pattern, with large family norms more common among older women. It appears, that if there is to be a change in family size norms it will be most strongly felt by these young women just entering their fertile period. If family size norms continue to decline or even remain constant for the younger cohorts it would mean a decline in completed fertility.

TABLE 3.9
MEAN NUMBER OF CHILDREN DESIRED BY AGE FOR EVER-MARRIED WOMEN AGED 15-49

	Age						
	15-19	20-24	25-29	30-34	35-39	40-44	45-49
All Ever-Married Women	2.4	2.5	3.0	3.6	4.4	5.1	5.7
Ever-Married Women who Want More Children	2.9	2.9	3.4	3.5	4.1	4.7	*

* Insufficient data to calculate the mean.

Note: Number of children desired is calculated by adding living children and the number of *additional* children desired.

The desire for additional children is highly related to education. Table 3.10 shows that regardless of employment status, women of low educational background tend to want larger families, with the largest number being desired by those who have had no education and the smallest number by those with some college education. Education is not only negatively correlated with the number of children desired, but also with the actual number of children women have already had.

TABLE 3.10
MEAN NUMBER OF CHILDREN DESIRED BY EMPLOYMENT STATUS AND BY EDUCATION

	Total	Employment Status							
		Employed				Not Employed			
		No Educ.	Pri- mary	Secun- dary	College	No Educ.	Pri- mary	Secun- dary	College
Country	3.9	4.9	3.9	3.0	2.6	3.8	3.4	2.9	2.0
Want More Children	3.3	4.3	3.3	3.0	2.4	3.2	3.3	2.9	2.0
Do not Want More Children	4.1	5.0	4.1	3.0	2.7	3.9	3.5	3.0	-

CHAPTER IV

CONTRACEPTIVE AWARENESS

One of the objectives of the Contraceptive Prevalence Survey is to determine the proportion of the female population in the reproductive ages who are aware of family planning and to identify the specific methods they know. The CPS findings presented in this chapter confirm that Thai women generally know about family planning and that most of them recognize all of the modern methods. Achieving the highest level of knowledge over the broadest range of contraceptive methods has been a primary goal of Thailand's population program. The CPS results document progress toward that goal.

MEASURING CONTRACEPTIVE KNOWLEDGE

The CPS measured the level of contraceptive knowledge through a series of questions similar to those used by the Survey of Fertility in Thailand (SOFT). In both surveys a general question on awareness of ways for delaying or preventing pregnancy was asked. Respondents were also asked to indicate the specific methods they knew. The CPS data collection methodology did differ from the SOFT in terms of the techniques used in prompting respondents who did not spontaneously mention specific methods. While SOFT prompted on methods the respondent did not name by giving a brief method description, CPS prompted only with the common or colloquial name for the method. As will be seen later in the discussion, the differences in approach do not appear to have resulted in significant differences in knowledge levels when the results of the two surveys are compared.

The impact of the contraceptive method prompting procedures on the CPS results can be seen in figure 4.1. Prompting led to some impressive increases in the reporting of contraceptive knowledge by CPS respondents. The specific methods which showed substantial increases provide insights into possible response biases. The experience of the WFS suggests that women in many cultures tend to be shy about discussing male contraceptives. Figure 4.1 indicates that Thai women may be similarly reticent about discussing condoms or male sterilization as there were substantial increases in knowledge levels for these methods after prompting.

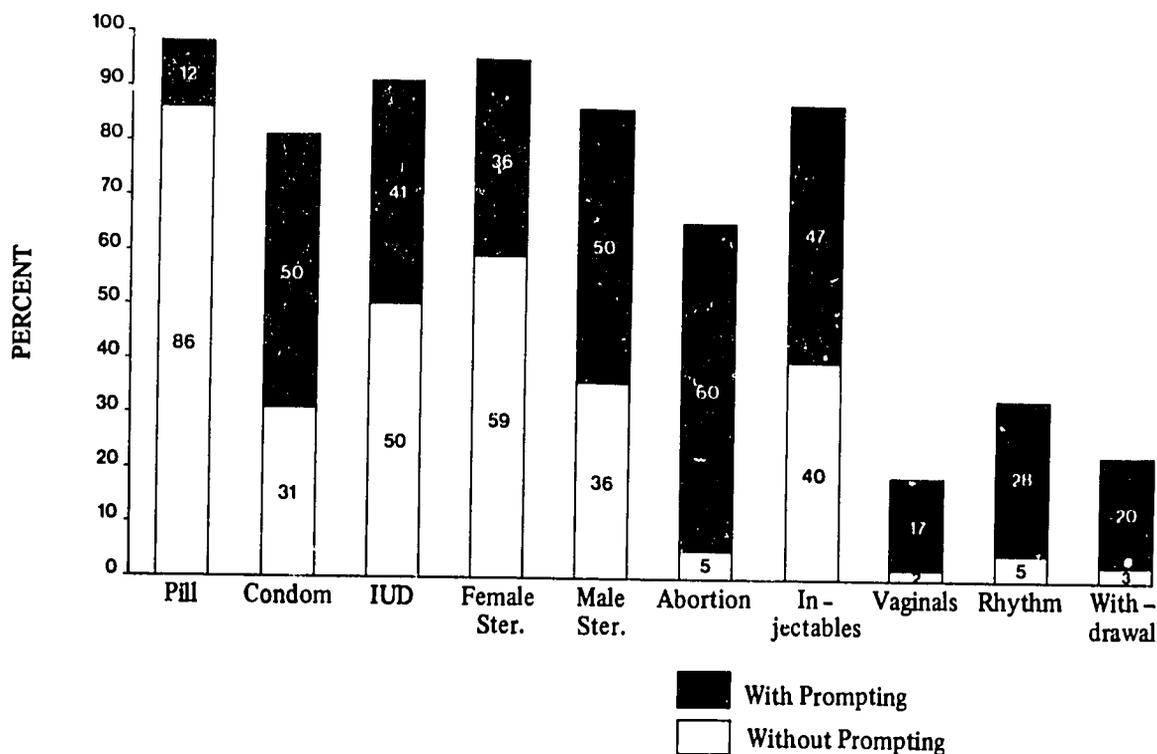


FIGURE 4.1 PERCENT OF ALL WOMEN AGED 15-49 AWARE OF SPECIFIC CONTRACEPTIVE METHODS WITH AND WITHOUT PROMPTING

Knowledge of abortion also increased significantly following prompting. Abortion is not included in Thailand's organized family planning effort and as such is not marketed or advocated by program workers in the same fashion as the pill or sterilization. This may explain why Thai women do not appear to consider abortion as a contraceptive method. Only when they are specifically asked about abortion, do they mention it as a method of family planning.

Finally, it should be noted that there was very little spontaneous mention of either vaginal methods or traditional methods (rhythm and withdrawal) in response to the knowledge question. Prompting did improve respondent recall of these methods. The majority of these women do not appear, however, to be familiar with either vaginal or traditional methods.

In addition to the possible effect of prompting on the proportion of women claiming knowledge of specific methods, the quality of contraceptive knowledge should be considered. The CPS measures only the most rudimentary aspects of contraceptive awareness. Knowledge, in this case, is only an indication that the women has heard of the method, and not that she understands its contraceptive effect or its proper use. Finally, it should also be noted that knowledge of a specific contraceptive does not signify approval of the method or an intention to use that or any other method.

Throughout the following discussions of levels of contraceptive knowledge in Thailand, it is assumed that women were aware of specific methods if they reported that they had heard of the method, either with or without prompting from the interviewer. The inclusion of prompted responses may result in some over-reporting of knowledge; however, it is not likely that such over-reporting is extensive.

COMPARISON WITH SOFT RESULTS

Contraceptive awareness is almost universal in Thailand. Table 4.1 compares the percentage of respondents reporting knowledge of methods in the SOFT with the CPS results. As the data show, knowledge levels were already quite high in 1975 but had increased to universal proportions by the beginning of 1979. The CPS found that less than one percent of the women interviewed were completely ignorant of any method of delaying or preventing pregnancy. Even without prompting, only 5 percent were unaware of any method.

The most striking change over the four year interval between the SOFT and the CPS was the 20 percent increase in knowledge of injectables. Injectables are relatively new to Thailand, but they have considerable popularity, especially in the Northern region of the country. The knowledge of male sterilization (up 16 percent) and condom (up 34 percent) over the four year period are also very impressive. The increased awareness of these methods can be attributed partly to their effective social marketing by various organizations and the public media.

TABLE 4.1
PERCENT OF EVER-MARRIED WOMEN AWARE OF SPECIFIC CONTRACEPTIVE METHODS
IN THE SOFT AND CPS

Method	SOFT 1975	CPS 1978
Pill	92	99
Female Sterilization	87	96
IUD	86	92
Injectables	70	90
Male Sterilization	70	87
Condom	48	82
Vaginals	22	19

SOURCE: SOFT - Institute of Population Studies, Chulalongkorn University and National Statistical Office, *The Survey of Fertility in Thailand*, Country Report No. 1. (Bangkok, 1977), p. 76.

DEMOGRAPHIC AND SOCIO-ECONOMIC DIFFERENTIALS

Age

Levels of contraceptive knowledge were generally high among the respondents in the Thai CPS so that discriminant analysis is not very fruitful for uncovering meaningful differences among subgroups. As Table 4.2 shows, for example, there are only minor variations by age in the percentages in respondents reporting that they had heard about most methods. Older women (35 years and over) were, however, somewhat less likely than younger women (less than 35 years) to be aware of abortion. There was also some variation in the percentages in each age group who had heard of condoms although the overall differences between most age groups are, again, not large.

TABLE 4.2
PERCENT OF ALL WOMEN AWARE OF SPECIFIC CONTRACEPTIVE METHODS BY AGE

Method	Age						
	15-19 (N=730)	20-24 (N=737)	25-29 (N=673)	30-34 (N=581)	35-39 (N=498)	40-44 (N=461)	45-49 (N=345)
Pill	97.4	98.1	98.8	98.6	99.2	97.6	96.2
Condom	74.8	87.2	87.4	86.6	82.1	73.3	63.2
IUD	84.2	91.9	93.0	93.3	93.4	91.1	90.1
Female Sterilization	92.9	95.7	96.7	96.2	97.6	94.8	92.2
Male Sterilization	81.4	87.4	87.2	88.3	87.1	85.2	80.1
Abortion	71.8	72.8	64.6	64.5	57.6	58.8	52.8
Injectables	79.7	88.5	92.6	92.1	89.8	85.9	81.7
Vaginal Methods	13.8	20.5	21.1	22.7	21.1	17.4	20.0
Traditional Methods	31.1	45.9	43.5	45.8	44.2	29.9	29.3

Marital Status

As can be seen in the Table 4.3, differences in the percentages of ever-married and single women in the CPS knowing specific methods were also generally minor. Ever-married women were somewhat more likely to know about each method than single women with the exception of abortion. Since ever-married women tend to be older than unmarried women, the differences in the level of knowledge of abortion between these two groups may reflect the fact mentioned earlier, that younger women are somewhat more likely to be aware of abortion than older women.

TABLE 4.3
PERCENT OF EVER-MARRIED AND SINGLE WOMEN AWARE OF
SPECIFIC CONTRACEPTIVE METHODS

Method	Ever-Married (N=2993)	Single (N=1032)
Pill	98.6	96.9
Condom	81.7	77.8
IUD	92.7	85.7
Female Sterilization	95.8	93.3
Male Sterilization	86.7	82.7
Abortion	62.3	71.9
Injectables	90.3	78.9
Vaginal Methods	20.3	16.7
Traditional Methods	40.8	35.2

Education and Employment Status

Table 4.4 shows that levels of knowledge follow an expected pattern when related to education. Those with lower educational levels tended to have lower levels of contraceptive knowledge, although such differences were not apparent for all methods. For example, even among women with no education, knowledge of the pill was nearly universal. The most striking – and unexplained – variations in the pattern were the drop in knowledge of condoms for women with an elementary education, relative to the levels found among women in both higher and lower educational levels, and the low level of knowledge of the IUD among women with no education. There were also substantial differences by education in the knowledge of abortion, vaginals and traditional methods. The likelihood that a respondent would recognize any of these methods tended to vary directly with educational level.

TABLE 4.4
PERCENT OF ALL WOMEN AWARE OF SPECIFIC CONTRACEPTIVE METHODS
BY EDUCATIONAL LEVEL

Method	Educational Level			
	No Education (N=353)	Elementary Education (N=3224)	Secondary Education (N=383)	College Education (N=65)
Pill	96.6	98.3	98.4	98.5
Condom	92.4	80.0	96.3	100.0
IUD	56.1	91.0	94.3	100.0
Female Sterilization	93.2	95.0	97.4	100.0
Male Sterilization	77.6	85.4	93.0	100.0
Abortion	59.2	62.4	84.3	93.8
Injectables	83.0	88.3	82.8	90.8
Vaginal Methods	7.9	17.3	31.6	61.5
Traditional Methods	30.6	35.0	73.6	98.5

When knowledge levels were related to employment status, the differences were again generally small as can be seen in Table 4.5. The largest difference was in the percentages knowing traditional methods and abortion, with employed women being slightly less knowledgeable about these methods than those not employed.

TABLE 4.5
PERCENT OF ALL WOMEN AWARE OF SPECIFIC METHODS BY WORK STATUS

Method	Work Status	
	Employed (N=3473)	Not Employed (N=552)
Pill	98.4	94.7
Female Sterilization	94.9	96.2
Male Sterilization	85.3	88.0
Condom	79.5	88.4
IUD	90.6	92.6
Abortion	63.2	74.1
Injectables	88.2	82.4
Vaginal Methods	18.3	26.1
Traditional Methods	37.3	52.0

REGIONAL PATTERNS

Table 4.6 shows the regional variation in the percent of respondents recognizing specific methods in the CPS. The pill and female sterilization were almost universally known. There was more variation among the regions in levels of knowledge for the IUD and male sterilization, but the differences were still minor. The limited marketing and use of condoms, as well as its negative cultural associations, explain the slightly greater differences among regions in the percentages of women who knew this method. Women in Bangkok and in the South were much more likely to be aware of traditional methods than women in the other regions.

TABLE 4.6
PERCENT OF ALL RESPONDENTS AWARE OF SPECIFIC METHODS BY REGION

Method	Bangkok Metropolitan Area (N=800)	Rural			
		North (N=902)	Northeast (N=1149)	Central (N=443)	South (N=541)
Pill	97.2	98.1	98.8	98.9	97.4
Condom	88.5	76.3	78.0	77.3	86.3
IUD	92.4	88.7	94.7	89.6	86.0
Female Sterilization	96.3	94.4	95.0	95.7	94.5
Male Sterilization	87.7	84.9	82.6	84.8	91.6
Abortion	76.6	71.4	51.4	61.0	68.6
Injectables	82.6	92.1	86.7	87.8	87.6
Vaginal Methods	29.3	19.3	17.8	14.7	13.6
Traditional Methods	59.0	35.6	30.4	24.6	52.7

SUMMARY

Knowledge, or awareness of contraceptive methods, as measured in the CPS, is almost universal in Thailand. According to the CPS findings, women of all ages, educational levels, occupational groups and geographical regions were generally aware of some family planning method that would enable them to control their family size. The efforts at family planning education, in both the public and private sectors, appear to have been successful in assuring that a lack of awareness of contraceptive methods is not a constraint to the practice of family planning in Thailand. As the next chapter will show, contraceptive use levels are quite high in Thailand, and they have apparently increased over the past few years.

CHAPTER V

CONTRACEPTIVE USE

The most important data collected in the Thailand CPS was the data on the use of contraceptives. As this chapter will show, the prevalence of contraceptive practice has sharply increased in Thailand since the beginning of the 1970s. Thai women appear to be rapidly adopting the idea of using family planning to both limit and space births.

The Thailand CPS collected information on past and current use of both modern and traditional methods of fertility regulation. Current use was defined for the survey as the use of a method within the month preceding the date of the interview. It must be noted that the respondents defined themselves as current users, and no data was collected to judge the quality of their method use. Consequently, there is some possibility of the respondent reporting intermittent use as current use. However, because of the method mix and the relative sophistication of Thai women, the effect of this factor on the reported figures is relatively minor.

EVER USE OF CONTRACEPTION

Nearly 70 percent of the ever-married women aged 15-49 interviewed in the Thai CPS had practiced contraception. Most of the ever users had tried some efficient method; with four percent reporting that they had experience with only traditional or folk methods.

Table 5.1 shows that the pill has been the most widely used contraceptive method in Thailand. Forty-seven percent of ever-married women in the CPS reported that they had used the pill. This compares with only 26 percent of ever-married women who reported ever use of the pill in 1975 in the Survey of Fertility in Thailand (SOFT). Thirteen percent of ever-married women in the CPS indicated that they had been sterilized and another four percent said that their husbands had had a vasectomy. Each of these percentages was approximately double the corresponding figure from the SOFT. Similarly, ever use of the injectables and the condom were more doubled between the surveys. The percentage of ever-married women who had used the IUD increased only slightly, from nine to ten percent. Ever use for other methods reported in the CPS is presented in Table 5.1.

TABLE 5.1
PERCENT OF EVER-MARRIED WOMEN AGED 15-49 WHO HAD EVER USED SPECIFIC
CONTRACEPTIVE METHODS, 1975 AND 1978

Method	SOFT 1975	CPS 1978
Any Method	45	69
Pill	26	47
Condom	4	10
IUD	9	10
Female Sterilization	6	13
Male Sterilization	2	4
Abortion	NA	3
Injectables	5	12
Vaginal Methods	1	2
Rhythm	NA	8
Withdrawal	NA	8
Other	NA	1

SOURCE: SOFT - Institute of Population Studies and National Statistical Office. *The Survey of Fertility in Thailand: Country Report*, Vol. 1 (Bangkok: National Statistical Office, 1977), Table 49, p. 79.

Age Patterns

CPS results indicate that age is closely related to the likelihood that a Thai women has used some contraceptive and to the number of methods she has tried. As Table 5.2 shows, ever married women in both the youngest (15-24 years) and oldest (40-49 years) age groups were less likely to have ever practiced contraception than those in other age groups. Younger and older ever-married women were also less likely than those in the 25 to 40 age groups to have had experience with more than one contraceptive method.

TABLE 5.2
PERCENT OF EVER-MARRIED WOMEN AGED 15-49 WHO HAD EVER USED CONTRACEPTION
BY THE NUMBER OF METHODS EVER USED AND AGE

Age	Number of Methods Ever Used				
	Total	None	One	Two	Three or More
* Total	100.0	30.8	39.1	19.4	10.7
15-19	100.0	43.4	41.2	11.8	3.7
20-24	100.0	31.9	39.2	23.0	5.9
25-29	100.0	24.1	40.3	21.0	14.5
30-34	100.0	25.1	37.0	23.0	14.9
35-39	100.0	25.5	38.8	21.6	14.1
40-44	100.0	32.6	43.3	16.7	7.4
45-49	100.0	50.1	33.7	9.6	6.6

* Totals may not add to 100% due to rounding.

Subnational Patterns

The percentage of women who had ever used birth control varied by region. As Table 5.3 indicates, the level of ever use of any method was highest in the Bangkok metropolitan area where 84 percent of ever-married women had tried some method of contraception. The level of ever use in rural areas, while below that for Bangkok, was still very high, particularly in the Northern and Central regions. Ever-married women were least likely to have ever used contraceptives if they lived in the Northeast and, especially, the South.

As Table 5.3 shows, there was also considerable variation by region in experience with specific methods. Women in the Bangkok metropolitan area and in rural areas in the other regions were more likely to have tried the pill than any other method. Despite the pill's popularity relative to other methods the percentage of ever-married women who had ever used the pill still varied considerably among the regions — ranging from only 19 percent in rural areas in the South to 60 percent in the Northern Region.

The popularity of other methods also varied among the regions as Table 5.3 indicates. Ever-married women in rural areas in the Northeast were for example, more likely to have tried injectables than those in the other regions. More couples had used condoms in Bangkok than in the rural areas. Sterilization was also more popular in Bangkok, perhaps because it was available there than in rural areas. Finally, perhaps surprisingly, ever-married women in Bangkok were more likely to have had experience with traditional methods in Bangkok than in rural areas in every region but the South.

TABLE 5.3
PERCENT OF EVER-MARRIED WOMEN AGED 15-49 WHO HAD EVER USED CONTRACEPTION
BY METHOD AND REGION

Method	Bangkok Metropolitan Area	Rural				
		Total	North	Northeast	Central	South
Any Method	84	70	76	64	71	49
Pill	54	45	60	45	46	19
Condom	-20	7	7	10	5	5
IUD	17	9	6	12	12	5
Female Sterilization	27	10	11	8	14	7
Male Sterilization	5	3	2	3	7	2
Abortion	3	3	8	2	1	-
Injectables	11	13	22	9	13	4
Vaginal Methods	4	1	2	1	1	-
Rhythm	14	6	4	7	5	10
Withdrawal	10	7	5	6	3	17
Other	1	1	2	2	-	1

- less than .5 percent.

CURRENT USE OF CONTRACEPTIVE

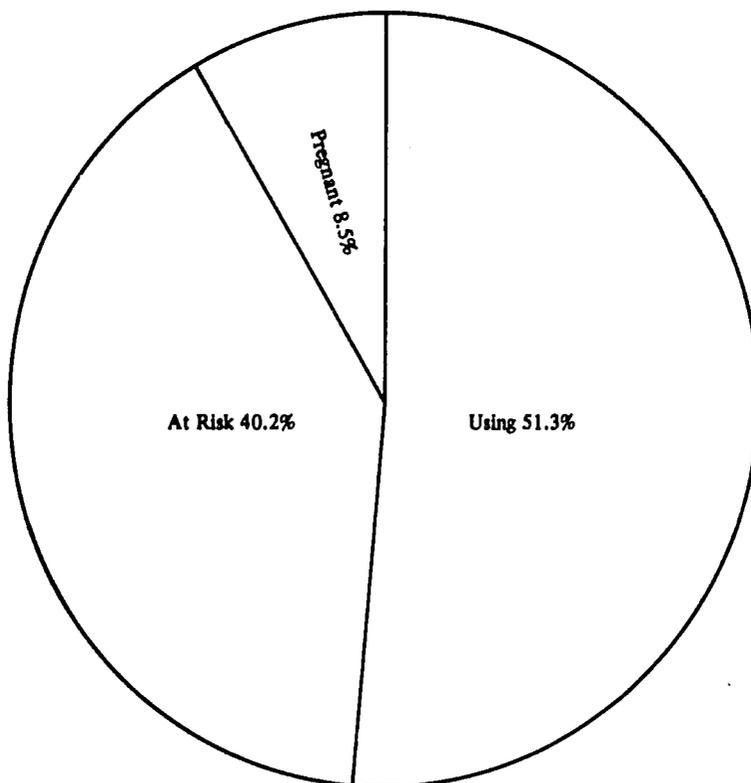
The CPS found contraceptive prevalence to be very high in Thailand. Fifty-one percent of currently married women aged 15-49 interviewed reported that they were using contraceptive at the time of the survey. Almost all these users (92 percent) were employing a modern method.

Figure 5.1 presents the distribution of currently married users according to the specific method used. The pill was clearly the most commonly used contraceptive; 40 percent of all currently married users in the CPS were relying on that method. A substantial portion of Thai users also appear to be adopting sterilization. The CPS found that 25 percent of users had been sterilized and in another seven percent of the cases the husband had had a vasectomy. Almost the same percentage of users were relying on injectables (9 percent) as on the IUD (8 percent). Only very small percentages of users were relying on condoms (4 percent) or traditional methods like the rhythm (3 percent) and withdrawal (4 percent).

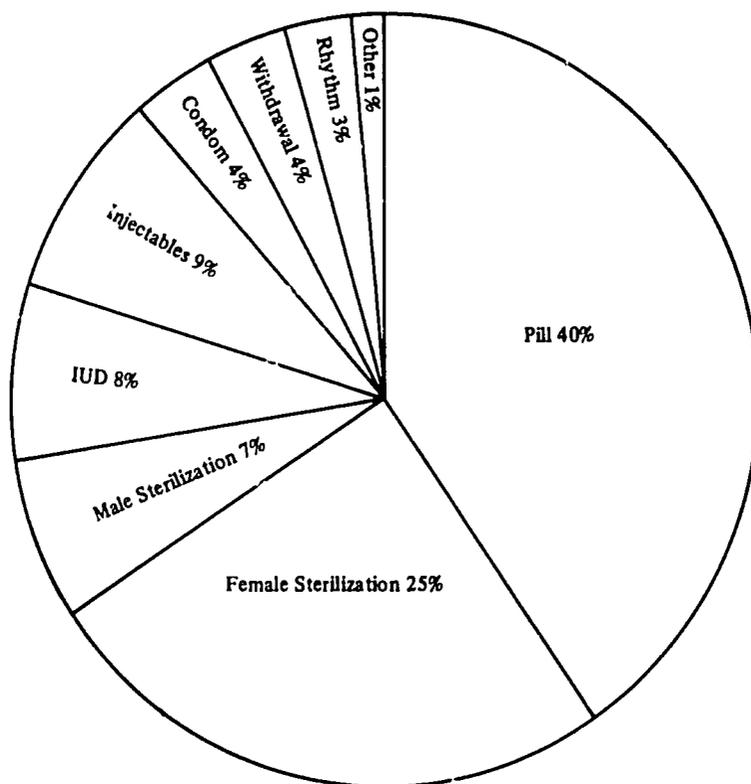
Trends in Levels of Contraceptive Use

Recent increases in contraceptive practice in Thailand have been striking. In an attempt to document changes in contraceptive usage over a ten year period (1969-1978), the result from the CPS are compared in Table 5.4 with the results of three previous demographic surveys: the two rounds of the National Longitudinal Study of Social, Economic and Demographic Change (LS) and the Survey of Fertility in Thailand (SOFT). The proportion of currently married women in the reproductive ages 15-44 who were using contraceptives increased substantially – from 15 to 53 percent – over the period covered by these surveys.

Table 5.4 also shows that the increase in the percentage who were currently using contraception between 1969 and 1978 was considerable for every age group. The fact that the change in contraceptive prevalence levels during the period was as impressive for women under 25 as for older women indicates that Thai women have been increasingly adopting family planning to space as well as to limit births. As will be discussed in more detail later in the report, younger users rely more on methods suited to spacing births while older users are more likely to have been sterilized.



CURRENTLY MARRIED WOMEN



CURRENTLY MARRIED USERS

FIGURE 5.1 DISTRIBUTION OF CURRENTLY MARRIED WOMEN AGED 15-49 ACCORDING TO USER STATUS AND OF USERS ACCORDING TO SPECIFIC METHOD USED

TABLE 5.4
PERCENT OF CURRENTLY MARRIED WOMEN AGED 15-44 PRACTICING CONTRACEPTION
BY AGE, THAILAND, 1969-1978

Age	L.S.		SOFT	CPS
	1969-1970	1971-1973	1975	1978
Total	14.8	26.3	36.7	53.4
15-19	3.8	6.0	18.1	31.3
20-24	11.0	20.1	30.9	44.2
25-29	14.4	28.6	41.0	54.4
30-34	22.0	31.4	44.0	61.1
35-39	18.0	35.6	42.3	62.8
40-44	13.1	19.4	30.5	49.5

SOURCE: L.S.,SOFT - John Knodel and Nibhon Debavalya, "Thailand's Reproductive Revolution". *International Family Planning Perspectives and Digest* IV, 2 (Summer 1978): Table 6, p. 39.

Changes in Method Mix

Much of the total increase in the prevalence of contraceptive use in Thailand over the past decade is owed to the increased adoption of two methods, oral contraceptives and female sterilization. As Table 5.5 shows, the increase in the percentage of currently married women using the pill was substantial during the period covered by the four demographic surveys. By 1978, nearly 22 percent of married women aged 15-44 were relying on the pill compared to only about 4 percent of married women who had been using that method at the time of the first round of the Longitudinal Survey (LS). Almost half of the total increase in use of contraception in Thailand in the 1970's - from 15 to 53 percent - can be attributed to the increased use of oral contraceptives.

An additional 20 percent of the overall increase in contraceptive use during the 1970's was a result of increased adoption of female sterilization as a method of contraception. The percentage of currently married women in the CPS who reported they had been sterilized was more than twice the percentage in the LS in 1969-1970. As Table 5.5 shows, much of the growth in the percentage of women adopting sterilization apparently took place after the SOFT; in that survey only 7 percent of currently married women aged 15-44 were reported to have been sterilized compared to 13 percent of married women in the CPS. The increase in the percentage sterilized between the SOFT and the CPS accounts for almost 40 percent of the overall increase - from 37 to 53 percent - in contraceptive prevalence in the period between the surveys.

Figure 5.2 presents the changes in the percentages of currently married users relying on specific methods during the period between the four surveys. It is interesting to note that the major change in the relative proportion of users relying on the pill apparently occurred early in the 1970's, shortly after the initiation of official government family planning activities. In the first round of the Longitudinal Survey in 1969-1970, 26 percent of all current users were relying on the pill compared to nearly 40 percent of all users by the time of the second round of the LS. There has been little change in percentage of users relying on the pill since that round of the LS.

TABLE 5.5
PERCENT OF CURRENTLY MARRIED WOMEN AGED 15-44 PRACTICING CONTRACEPTION
BY METHOD, 1969-1978

Method	L.S.		SOFT	CPS
	1969-1970	1972-1973	1975	1978
Total Using	14.8	26.3	36.7	53.4
Pill	3.8	10.4	15.2	21.9
IUD	2.2	4.6	6.5	4.0
Female Sterilization	5.5	6.8	7.4	13.0
Male Sterilization	2.1	2.9	2.2	3.5
Injectables	0.4	0.9	2.1	4.7
Condom	0.8	0.1	0.5	2.2
Other		0.6	2.9	4.1
Not Using	85.2	73.7	63.3	46.6

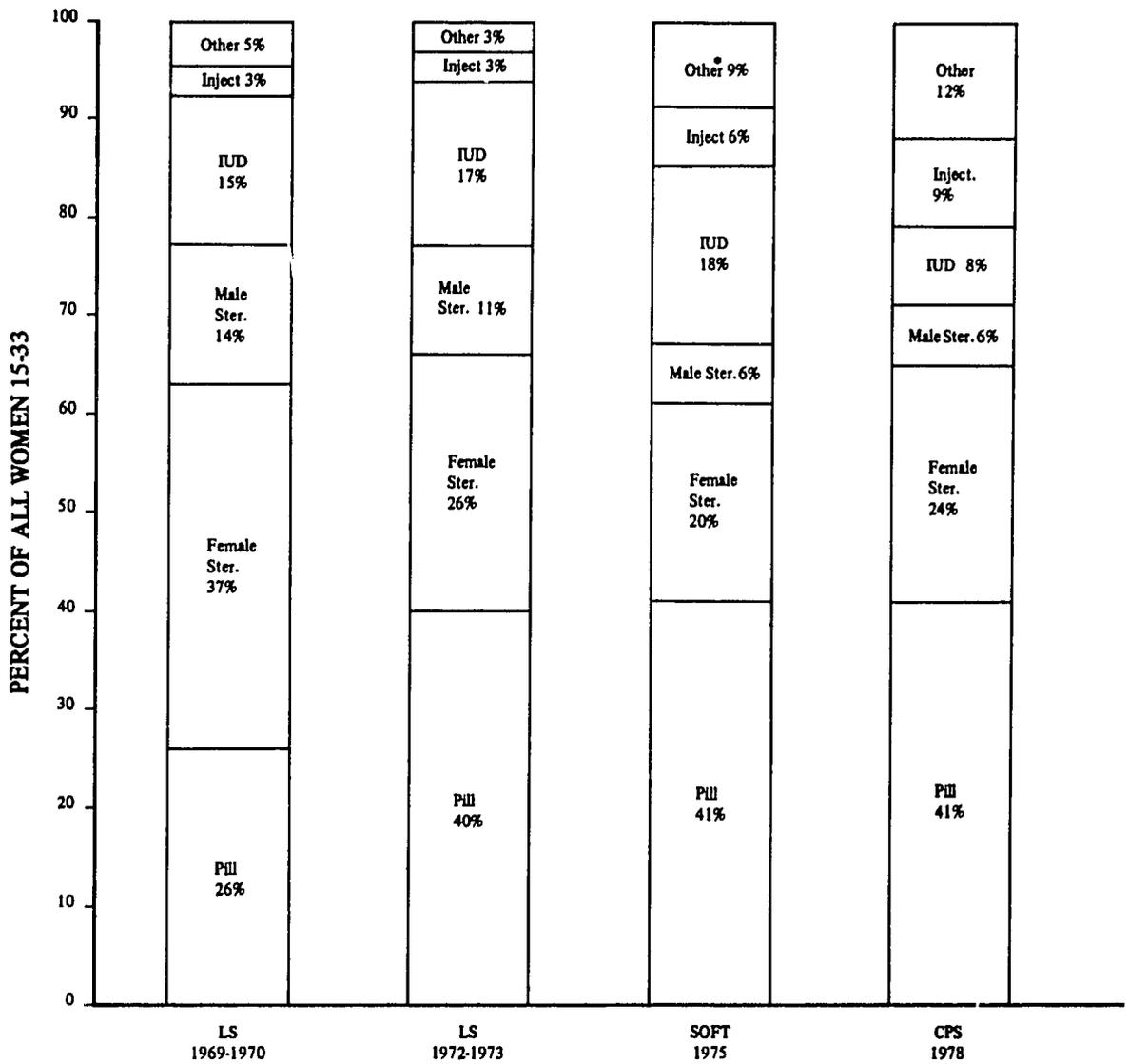
SOURCE: L.S., SOFT - John Knodel and Nibhon Debavalya, "Thailand's Reproductive Revolution", *International Family Planning Perspectives and Digest* IV, 2 (Summer, 1978): Table 7, p. 40.

Figure 5.2 also clearly documents the changes in the relative percentages of users relying on female sterilization, the IUD or vasectomy. The change in the pattern of reliance on female sterilization among users is particularly interesting. At the time of the first round of the LS, relatively more users were relying on sterilization (37 percent) than on any other method. The proportion of users who reported they had been sterilized apparently decreased in 1970's, perhaps in direct response to the greater availability of alternative methods, especially the pill. The substantial increase in the adoption of female sterilization between the SOFT and the CPS mentioned earlier has obviously contributed to the fact that by 1978, 24 percent of currently married users were reporting they had been sterilized.

Figure 5.2 also shows the decline in the relative popularity of the IUD and vasectomy among Thai users since the early 1970s. Almost 30 percent of currently married users in the first round of the LS were relying either on the IUD or vasectomy as their birth control method. In the CPS only 14 percent of users reported reliance on either of these methods. In terms of absolute numbers those couples protected by the IUD or vasectomy have increased, but the relatively greater increase in use of other methods has reduced the proportions of these two methods.

Age and Method Mix

The relationship between age and the specific method used by currently married users in the CPS is examined in Figure 5.3. Temporary methods like the pill and condom protected a major proportion of currently married users under the age of 30. Use of these methods declined in an almost linear fashion with an increase in age. The decline was accompanied by a greater use of more permanent methods among women over 30; almost 40 percent of currently married users aged 30 years and older had adopted either female or male sterilization.



* Other — Includes condom, rhythm, withdrawal and folk methods

FIGURE 5.2 DISTRIBUTION OF CURRENTLY MARRIED WOMEN 15-44 PRACTICING CONTRACEPTION ACCORDING TO THE SPECIFIC METHOD USED, 1969-1978.

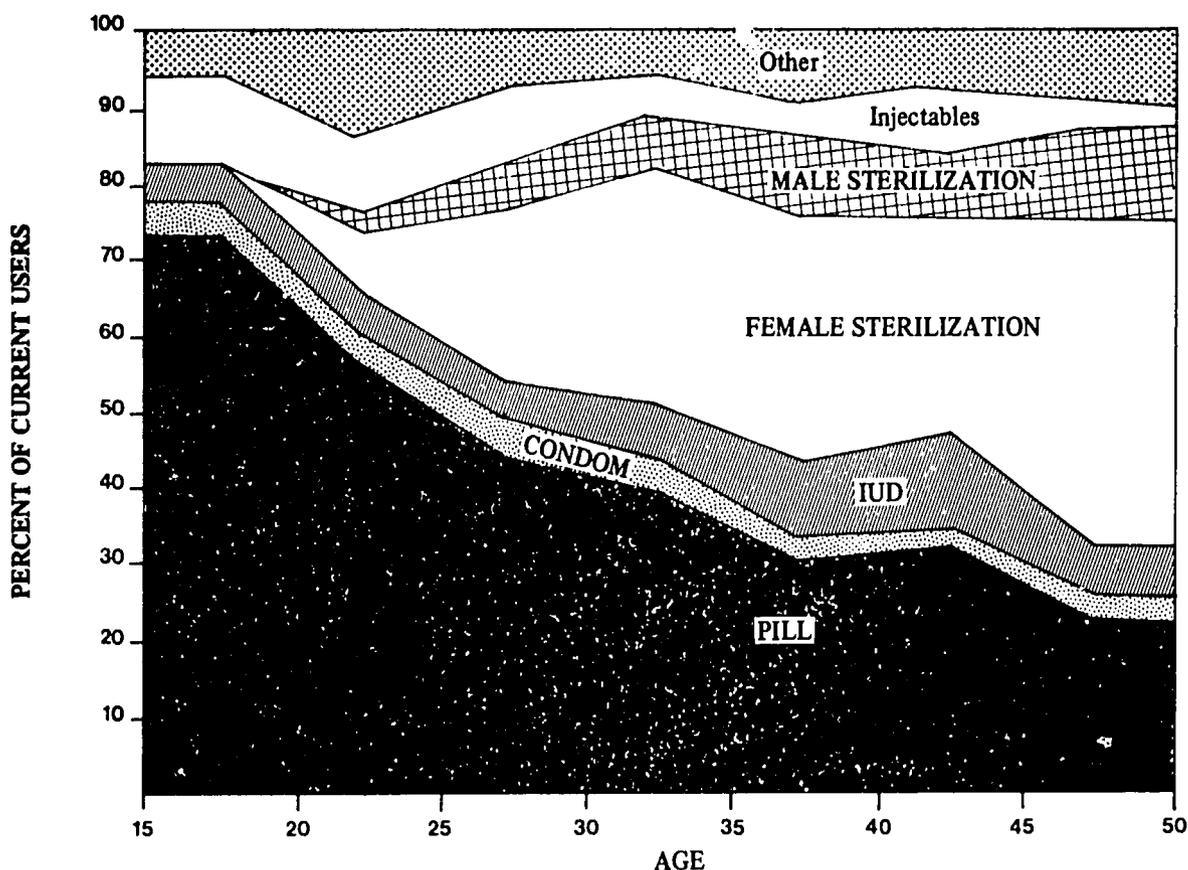


FIGURE 5.3 DISTRIBUTION OF CURRENTLY MARRIED USERS AGED 15-49 BY AGE AND METHOD

REGIONAL VARIATIONS IN CURRENT USE

The CPS showed that there were substantial regional differences in the percentage of women practicing contraception in Thailand. Levels of use among currently married women aged 15-49 were, not surprisingly, higher in the Bangkok Metropolitan Area (63 percent) than in the rural areas. There was also considerable variation in the level of use among rural women by region; the percentage of currently married women aged 15-49 practicing contraception was higher in rural areas in the North (55 percent) and Central regions (57 percent) than in the Northeast (45 percent) or South (37 percent).

Table 5.6 compares the estimates of regional prevalence rates from the CPS with those reported in the SOFT in 1975. The prevalence of contraceptive usage increased in all regions in Thailand in the period between the surveys. In both absolute and relative terms, increases in the level of use among currently married women were greatest in the regions – the Northeast and the South – where prevalence rates were the lowest in the SOFT.

TABLE 5.6
PERCENT OF CURRENTLY MARRIED WOMEN AGED 15-49 PRACTICING CONTRACEPTION
BY REGION, 1975 AND 1978

Region	SOFT	CPS
	1975	1978
National	35	51
Bangkok Metropolitan Area	-	63
Rural	33	49
North	43	55
Northeast	25	45
Central	42	57
South	16	37

Age Patterns

Table 5.7 compares differences in the percentages using at each age in the various regions. Regional differences in the level of contraceptive use have already been noted. Figure 5.4 examines differences in the age patterns of use among the respondents, controlling for variations in overall use in the regions. The index employed in the figure relates the prevalence of use in each age group in each region to the total prevalence rate in that region. An index value of 100 would indicate that the prevalence rate for women in a particular age group in that region was equal to the overall level of use in that region. A comparison of the index figures for the various regions indicates whether married women in a particular age group in a region are more or less likely to be using contraception than women in the same ages in other regions.

TABLE 5.7
PERCENT OF CURRENTLY MARRIED AGED 15-49 USING CONTRACEPTION
BY AGE AND REGION

	Bangkok Metropolitan Area	Rural				
		Total	North	Northeast	Central	South
Total	63.5	48.7	55.1	45.5	56.6	36.7
15-19	38.1	30.0	43.2	14.3	41.2	14.3
20-24	42.7	44.6	54.2	38.7	52.8	29.9
25-29	58.5	53.5	64.1	46.8	63.4	38.2
30-34	73.3	58.4	68.2	61.0	62.9	35.5
35-39	77.8	59.4	60.8	62.2	68.3	48.9
40-44	69.8	45.8	49.0	38.8	59.2	38.3
45-49	70.2	27.2	27.8	21.7	35.5	23.5*

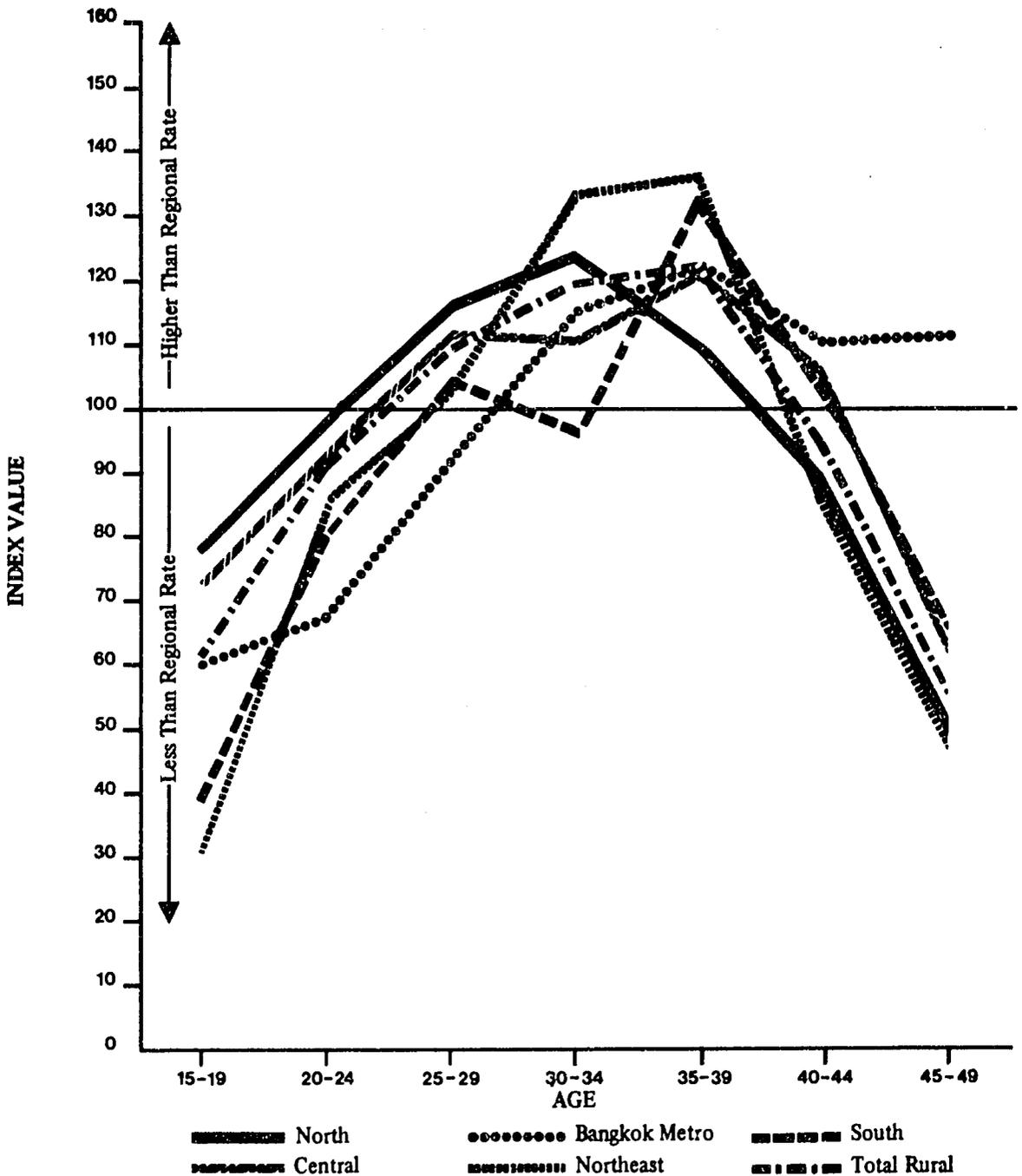


FIGURE 5.4 REGIONAL AGE PATTERNS FOR CONTRACEPTIVE USE IN THAILAND

Generally, as Figure 5.4 shows, although the overall levels of use were different among the regions, the age patterns of use were similar, with women in both younger (15-19 years) and older (45-49 years) age groups, being somewhat less likely to use than those women in the ages 20 to 40 in each region. The relatively greater level of use among older married women (aged 40 and over) in Bangkok than in the other regions was obviously related to the greater prevalence of use of sterilization in that region than in rural areas. The somewhat greater prevalence of use among married women aged 30-39 in the Northeast than among women in those ages in the other regions may be linked to the recent sharp increase in use (see Table 5.6) in that region. In areas where use levels are rapidly increasing, it is likely that a proportionately greater number of users would come from these age ranges where the desire to terminate childbearing is likely to be greatest.

Method Preference

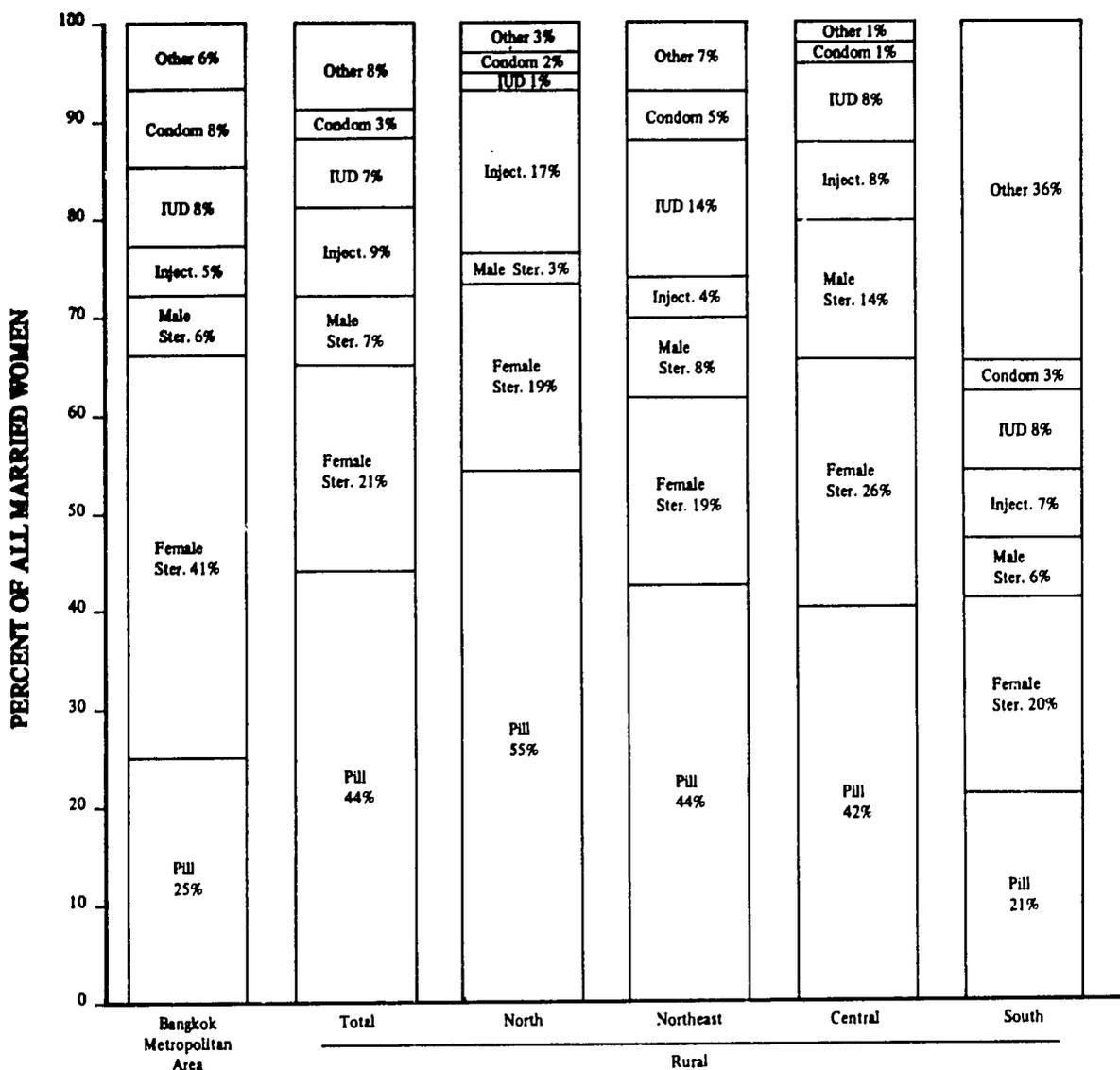
Regional differences in method preference among currently married users are examined in Table 5.8 and Figure 5.5. As the latter figure shows clearly, female sterilization was considerably more popular among users in Bangkok than in the rural areas in Thailand. The percentage of users choosing female sterilization in Bangkok was more than twice that in all rural areas combined. The figure also shows that a slightly greater percentage of rural users in the Central region had been sterilized than in other rural areas. This may be related to the proximity of residents in this region to the medical services available in the metropolitan area of Bangkok.

TABLE 5.8
PERCENT OF CURRENTLY MARRIED WOMEN AGED 15-49 USING CONTRACEPTION
BY METHOD AND REGION

Method	Bangkok Metropolitan Area	Rural				
		Total	North	Northeast	Central	South
Any Method	63.5	48.7	55.1	45.5	56.6	36.8
Pill	15.9	21.4	30.1	19.9	23.7	7.9
Condom	5.3	1.3	0.9	2.2	0.8	1.0
IUD	4.9	3.6	0.6	6.2	4.8	2.9
Female Sterilization	26.3	10.1	10.6	8.7	14.9	7.2
Male Sterilization	3.9	3.5	1.7	3.6	7.8	2.1
Injectables	3.3	4.6	9.6	1.6	4.3	2.6
Rhythm	2.7	1.1	0.3	1.2	-	3.1
Withdrawal	0.6	2.3	0.7	1.3	-	9.1
Other	0.6	0.7	0.6	0.9	0.3	1.0

Variations also existed among the regions in the percentages of women relying on the pill, IUD or injectables. The pill was less popular in Bangkok and in rural areas in the South than in other regions. Much of this difference in the case of Bangkok is related to the greater tendency for users in that region to be sterilized. In the South, it appears to be related to relatively greater prevalence of use of traditional methods. Thirty-six percent of users in rural areas of the south were relying on traditional methods, particularly withdrawal. The presence of a large Moslem population in the South may explain the tendency for users in this region to adopt traditional methods.

As was mentioned earlier, the IUD has apparently been losing popularity as a method of contraception in Thailand. There were sharp regional differences in the percentage of users reporting reliance on the IUD in the CPS. As Figure 5.5 indicates the method was relatively more popular in the Northeast than in other areas. It should be noted that while very few users were relying on the IUD in the North, injectables were more popular in that region than in other areas. This suggests that there may be a shift away from IUD by women who desire no more children but are not yet ready to accept a permanent method.



Other – Includes rhythm, withdrawal and folk methods

FIGURE 5.5 DISTRIBUTION OF CURRENTLY MARRIED USERS IN EACH REGION BY METHOD

DESIRE FOR MORE CHILDREN AND CONTRACEPTIVE USE

Women were asked in the CPS whether they wanted additional children. Examining the relationship between fertility desires and contraceptive practice in Thailand is important in deriving both an estimate of the extent to which contraceptive is being used to limit or space births and to measure the "unmet need" for family planning.

Limiting or Spacing Births

One of the major concerns of the National Family Planning Program in Thailand is to provide services for couples who do not want more children. The CPS found that 70 percent of the currently married women interviewed did not want additional children. The desire to terminate childbearing appeared to be a major factor motivating contraceptive use. Currently married women who wanted no more children were more likely to be users than were those who still intended to add to their families; 56 percent of married women desiring to terminate childbearing were users compared to only 38 percent of those wanting additional children. Table 5.9 shows, that the percentage of users who wanted no more children was greater.

TABLE 5.9
PERCENT OF CURRENTLY MARRIED WOMEN USING CONTRACEPTION
BY DESIRE FOR MORE CHILDREN AND AGE

Age	Wants More (%)	Does Not Want More (%)
Total	22	78
15-19	68	32
20-24	58	42
25-29	38	62
30-34	15	85
35-39	5	95
40-44	1	99
45-49	1	99

Unmet Need

Two dimensions have been used in specifying the level of unmet need for family planning in developing nations – exposure to the risk of pregnancy and intention to have another birth (Westoff, 1978). Figure 5.6 considers the level of unmet need in Thailand. Nearly 75 percent of women interviewed in the CPS were regarded as not exposed to the risk of pregnancy because they were either: (1) not currently married and presumed not to be sexually active (31 percent), (2) pregnant (6 percent), or (3) currently using a contraceptive method (35 percent). Not all of the latter group are, of course, totally protected from the risk of pregnancy. Less than 10 percent of those currently practicing contraception were, however, using traditional methods, indicating that most users, if they were employing their method properly, were not exposed to the risk of pregnancy.

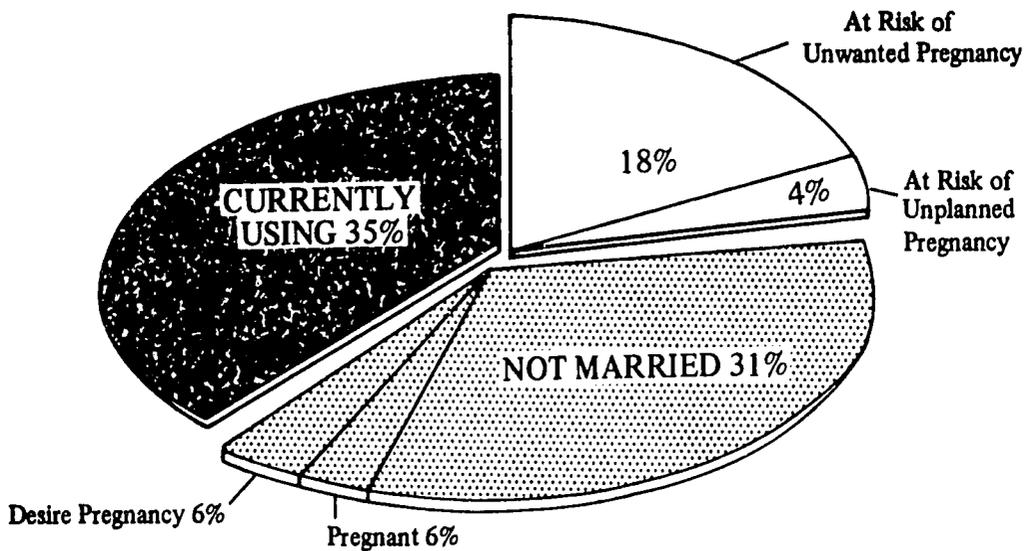


FIGURE 5.6 EXPOSURE STATUS FOR ALL WOMEN AGED 15-49

As Figure 5.6 shows, more than 20 percent of the respondents in the CPS could be considered at risk of unwanted (18 percent) or unplanned (4 percent) pregnancy and in need of family planning services. The former group includes women who reported that they did not want another birth but who were not practicing contraception. The latter group includes women who indicated that they did not want another birth for at least two years but who were not using family planning.

As Figure 5.7 shows, the percentage of women at risk of an unwanted or unplanned pregnancy tended to increase with age. Older women (aged 35 and older) were both more likely to desire to terminate child-bearing and less likely to be using family planning than younger women. Reduced fecundability in the older age groups can explain some of the non-use, but the measurement problems associated with quantifying subfecundity make it impossible to identify the exact subfecund proportion of the population.

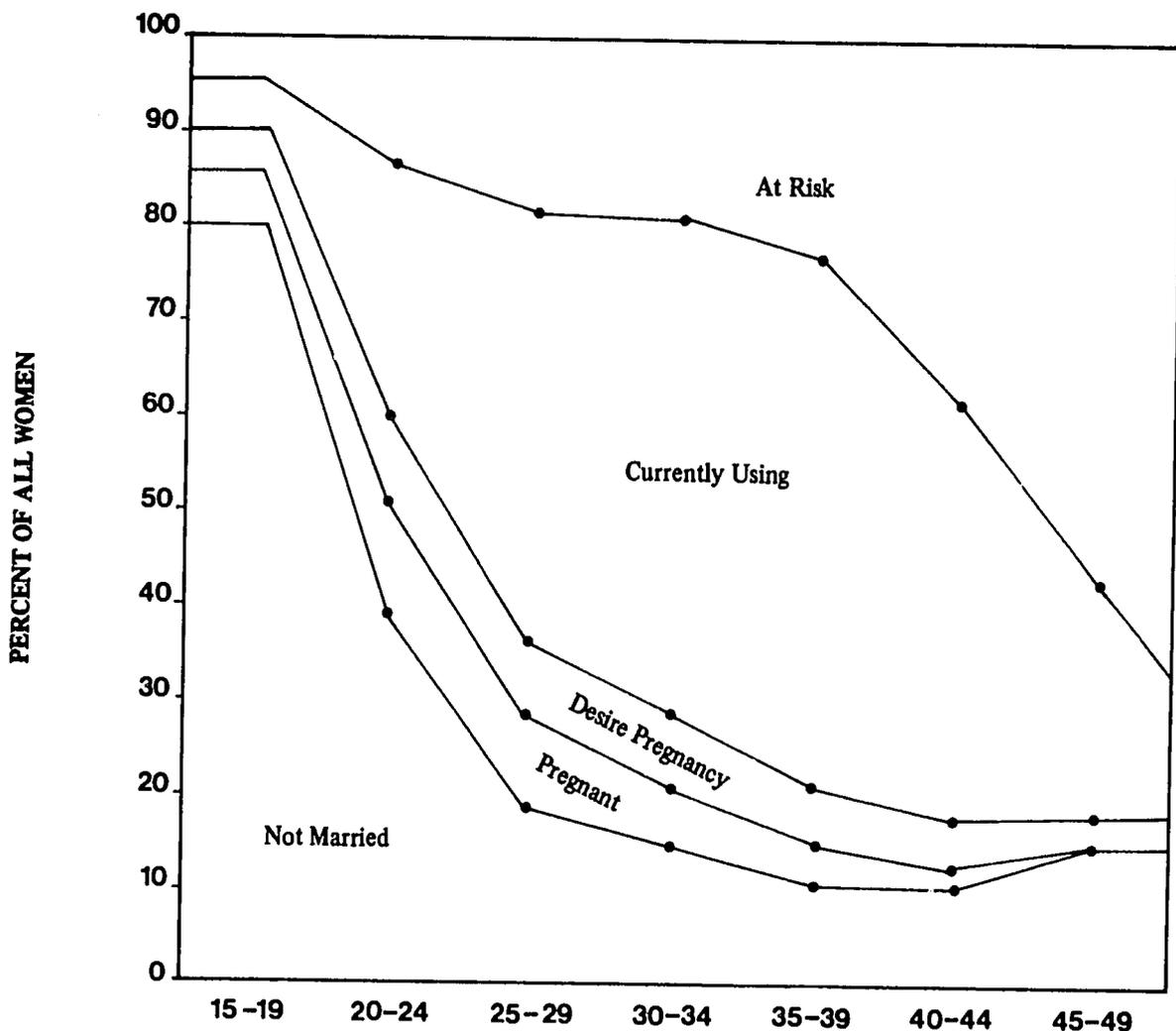


FIGURE 5.7 EXPOSURE STATUS AMONG ALL WOMEN AGED 15-49

Regional Variations in Unmet Need

The level of unmet need for family planning services varied among the regions in Thailand. As Figure 5.8 shows, the size of the population at risk of an unwanted pregnancy was greater in the South (31 percent) where prevalence levels were low and a large proportion of the respondents were currently married. The Bangkok metropolitan area had the smallest percentage of respondents at risk — 10 percent. As Figure 5.8 shows Bangkok's position is due to its high contraceptive use level and to its nuptiality patterns. Almost 80 percent of the respondents in Bangkok in the CPS were considered not to be exposed to the risk of pregnancy either because they were practicing family planning (39 percent) or they were not married (39 percent). The interplay between prevalence, nuptiality levels and the size of the unmet need for family planning is also evident for the other regions in Thailand, as shown in Figure 5.8.

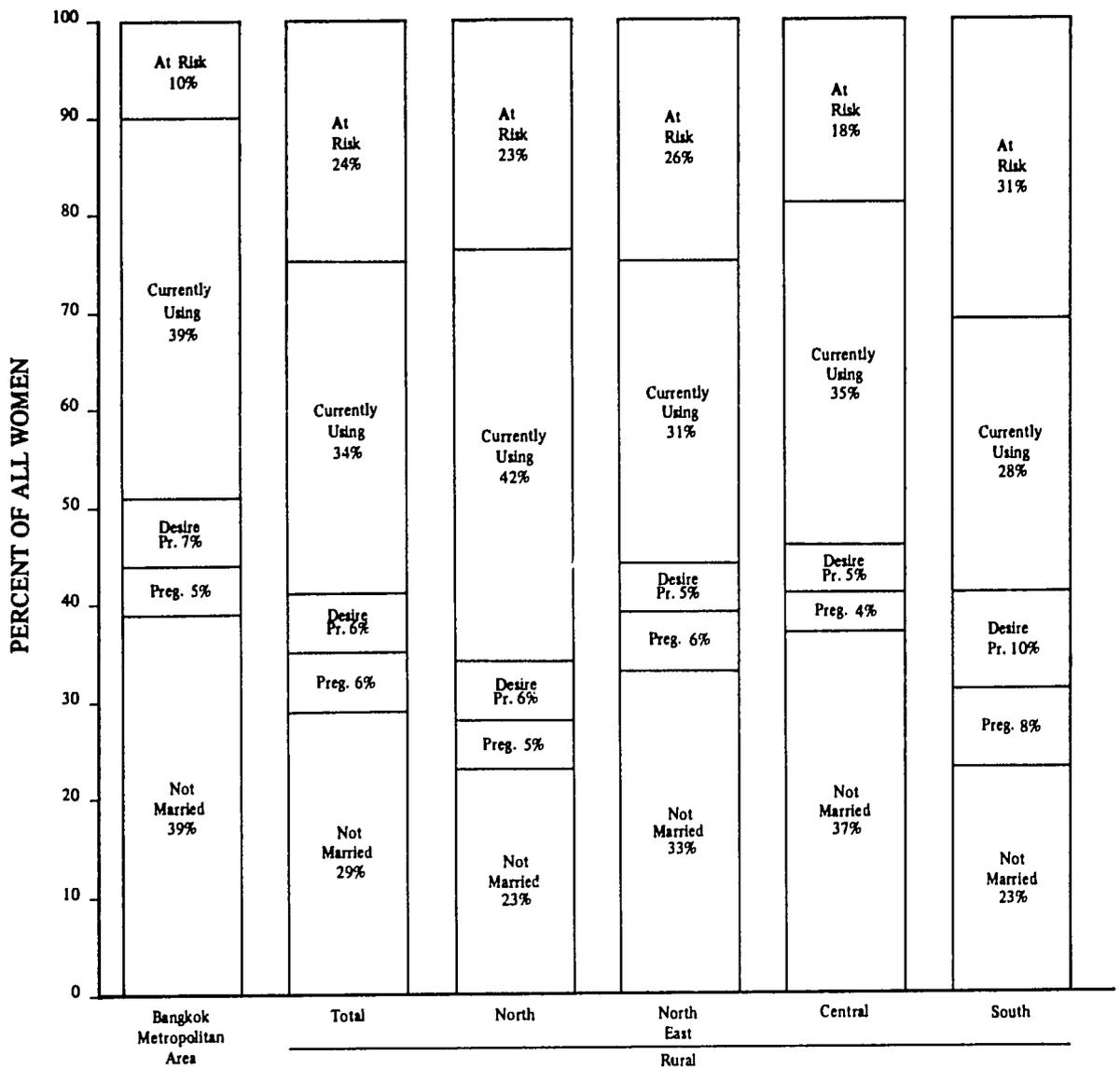


FIGURE 5.8 EXPOSURE STATUS AMONG ALL WOMEN AGED 15-49 BY REGION

Finally, only currently married nonpregnant women in the CPS were considered in estimating the levels of unmet need for family planning services presented in Figure 5.9. It is clear that a substantial proportion of currently married women remained at risk of an unwanted or unplanned pregnancy despite the generally high levels of contraceptive practice reported in the CPS. Providing services for these women remains a continuing challenge for the National Family Planning Program in Thailand.

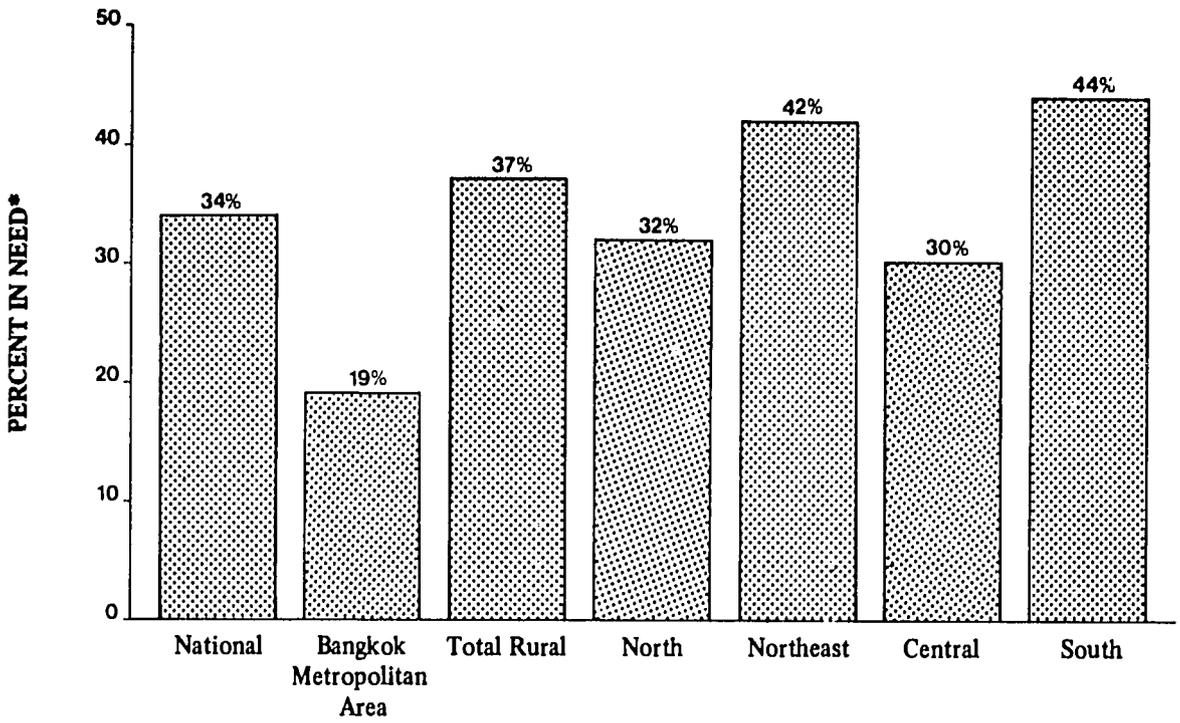


FIGURE 5.9 CURRENTLY MARRIED NONPREGNANT WOMEN IN NEED* OF FAMILY PLANNING SERVICES

*At risk of an unwanted or unplanned pregnancy.

CHAPTER VI.

CONTRACEPTIVE AVAILABILITY

INTRODUCTION

The dissemination of family planning services and supplies, to achieve widespread availability, has been a major thrust of family planning programs in many countries, including Thailand. Availability is a necessary prerequisite to contraceptive use, so the emphasis placed on making contraceptive services and supplies available and accessible is justified. However, while the programs are relatively simple to conceptualize, they are much more difficult to operationalize, quantify and evaluate. The CPS has made an effort to more effectively measure contraceptive availability. Two aspects of availability are important to understand; perceived availability and actual availability. Perceived availability involves the awareness of family planning services among the eligible couple population. It also involves the eligible couple's perceived estimates of their access to these services. Perceived availability can be influenced by actual availability, educational and information programs, and utilization of services. Actual availability can be defined as the number and location of service and supply sources. It is more the result of decisions concerning resource allocation within the public and private sectors.

The CPS measured perceived availability by interviewing women about their knowledge and preference for a source of contraceptive service and supplies, the cost of services, travel time to source and perceived convenience of that source. Because these questions were asked of both women who were using a specific method, and those women not using the method, there is some element of actual availability in the CPS data collected from users, who can be assumed to know the source of the method they use.

A basic purpose of the CPS was to determine the actual (and potential) contribution of the various service providers to the provision of family planning services. However, any examination of service providers must be specific to the method provided. Clinical methods like IUD and sterilization, or abortion can only be provided by trained health personnel while the pill and condom can be dispensed at a variety of places ranging from clinical facilities to small shops. Because of the variations in providers, recipients, and demand, each method has a different pattern of actual and perceived availability.

Because of its efficacy, sterilization has been widely promoted by the Ministry of Public Health. While resources are limited in some districts, there are a number of hospitals and mobile medical teams (working primarily in rural areas) which can do the procedures. In addition to the government sources, such private organizations as Community Based Family Planning Services and Planned Parenthood Association of Thailand offer services through both mobile and stationary facilities. As would be expected, sterilization is more readily available in urban areas where the preponderance of trained medical personnel and health services are located.

Abortion services are somewhat limited in their availability because this procedure is not considered as a legal contraceptive method. However, it is available from both qualified medical personnel and more traditional abortion practitioners primarily through the private sector (Ministry of Public Health, Research and Evaluation Division of the National Family Planning Program, 1979).

Service coverage is more extensive for the IUD than for the sterilization because a large number of less skilled medical workers are capable of doing the procedures. Along with the highly trained medical personnel, IUDs are also inserted by nurses and midwives working in government health centers around the country.

Pills and condoms are the methods which are most widely available since they do not require medical personnel nor a fixed health facility. Both methods are distributed through hospitals, health centers, drug-stores, health volunteers, village family planning volunteers and a variety of other sources in both the government and private sectors. The Ministry of Public Health is currently instituting a program to train village volunteers to assist in the distribution of pills and condoms. When this program is operational it is expected that the already wide distribution of these methods will become virtually universal in Thailand.

KNOWLEDGE OF A SOURCE

An important aspect of family planning knowledge is the extent to which women who know about a specific family planning method also are aware of a source of that method. It is not enough that a woman has heard of a specific method of family planning if she does not have the information required to acquire services or supplies, if she should want them. However, among Thai women knowledge of specific methods and a source where the method is available is widespread.

As indicated in Table 6.1 knowledge of at least one effective family planning method in Thailand is almost universal among both married and unmarried women. Levels of knowledge of a source are equally impressive. Ninety-five percent of all women and 96 percent of the currently married group know at least one modern method and a source for that method.

TABLE 6.1
LEVELS OF METHOD KNOWLEDGE AND KNOWLEDGE OF A SOURCE AMONG
THAI WOMEN, AGED 15-49 YEARS

KNOWLEDGE	ALL WOMEN (N=4025)	CURRENTLY MARRIED WOMEN (N=2774)
	%	%
Know at least one method	99.5 (4006)	99.7 (2765)
Know at least one modern method	99.0 (3985)	99.4 (2756)
Know a source of at least one modern method	95.0 (3824)	96.0 (2662)

The levels of source knowledge among currently married women for each method are presented in Table 6.2. As would be expected, the female respondents were more aware of sources for the methods associated with female use – the pill, IUD, and sterilization – than for male-associated methods – condom and vasectomy. Abortion experienced the lowest level of source knowledge among the methods presented, but this is to be expected given the legal and social status of abortion. Knowledge of the pill and the source of supply is very close to universal in Thailand, with over 90 percent of all currently married women knowing where to get pills. Female sterilization, a widely used method in Thailand, also experienced high levels of source knowledge. This is interesting because the level of method knowledge and source knowledge is high for both pill and female sterilization despite the differences in availability and distribution (pills widely available – female sterilization available only from medical/clinical facilities).

TABLE 6.2
PERCENT OF CURRENTLY MARRIED WOMEN, AGED 15-49 YEARS – CONTRACEPTIVE KNOWLEDGE AND SOURCE KNOWLEDGE BY METHOD

Method (N=2774)	Know Method	Know Source	% Decline
Pill	98.7	92.5	6.2
Condom	82.5	50.1	32.4
IUD	92.8	74.5	18.3
Female Sterilization	96.1	85.4	10.7
Male Sterilization	87.0	59.0	28.0
Abortion	62.7	24.0	38.7

Regional Knowledge of a Source

The regional proportion of all respondents with knowledge of a source is presented in Table 6.3. One of the most interesting relationships to appear in Table 6.3 is the small difference in source knowledge, between urban Bangkok and the rural areas represented by the other regions. In some cases the source knowledge is higher in rural areas than in the urban center of Thailand. The Central region also has exhibited some unexpected inconsistencies in the pattern of knowledge of a source. For condoms, IUD's and male sterilization, levels of knowledge in the Central region were considerably below those of the national average. The levels of source knowledge in the South region were surprisingly high given the low levels of contraceptive use. This suggests that while use levels are low, availability of contraceptive services and supplies may not be the major constraint to use in the South.

TABLE 6.3
PERCENT OF ALL RESPONDENTS KNOWING A SOURCE FOR A SPECIFIC METHOD BY REGION

	Bangkok (N=800) %	North (N=902) %	Northeast (N=1149) %	Central (N=633) %	South (N=541) %
Pill	82.8	93.8	92.3	87.8	86.1
Condom	49.3	48.6	44.9	28.4	57.5
IUD	70.1	75.9	75.4	57.7	63.6
Female Sterilization	85.4	87.0	78.6	79.8	79.5
Male Sterilization	57.4	67.3	47.7	46.1	75.2
Abortion	26.8	35.0	18.2	11.0	31.8

Knowledge of a Source Among Users and Those In "Need" of Service

With source knowledge levels so high among currently married women in Thailand, the question arises whether the relative ease with which a women can obtain a contraceptive method is related to actual use patterns. An approach to this question is to compare the perceived availability of current users who do not want more children with that of non-users who also wish to limit their family size. The women in the latter group can be crudely defined as those in need of family planning services, i.e., those at risk of pregnancy who report a desire for no additional children.

TABLE 6.4
PERCENT OF CURRENT MARRIED WOMEN USING CONTRACEPTION
BY DESIRE FOR MORE CHILDREN

Use Status	Desire for More Children	
	Yes %	No/Unsure %
Use Any Method (N=1424)	22.4	77.5
Use Modern Methods (N=1312)	21.4	78.6
Not Using (N=1350)	38.2	61.8

The use patterns among currently married women are shown in Table 6.4. Among these women 70 percent indicated they had no desire for additional children. Among current users, 76 percent reported that they wanted no additional children. Among the non-users, 62 percent reported they wanted no additional children. This latter group of currently married women are in need of contraceptive services. Their perceptions of travel time and source convenience were compared with those of current users to determine if relative availability might be a constraint to use.

Comparisons of family planning users and non-family planning users who want no more children are presented in Table 6.5. It appears from this Table that use and non-use do not significantly affect perceptions of travel time. Also, perceived convenience of a particular method source does not vary between those women actually using the method and those not using any method. It should also be noted that travel time and perceived convenience are not significantly different among methods, despite tremendous differences in the user population. As an example, source knowledge of condom is high and sources are perceived to be as convenient as those for the pill. However, the actual use level for condom is considerably below the proportion using the pill. This suggests that specific method usage in Thailand is more a function of method preference than ready access to a method. It appears from Table 6.5, that among Thai women at risk of an unwanted pregnancy (not using a method and desiring no more children) there is adequate information on the methods available to them within an acceptable geographic range. Given the reported levels of perceived convenience it does not appear that difficulties in acquiring family planning services or supplies serves as a major obstacle to the use of modern methods of contraception.

TABLE 6.5

**FAMILY PLANNING USERS WHO DON'T WANT MORE CHILDREN:
AVERAGE TRAVEL TIME TO SOURCE AND PERCEIVED CONVENIENCE BY TRAVEL MODE**

METHOD USED

TRAVEL MODE	Pill	Condom	IUD	Female Sterilization	Vasectomy	Injection
Average Travel Time (Minutes)	21 (206)	22 (14)	28 (6)	11 (13)	20 (5)	17 (14)
Foot % Reporting Source as Convenient	93% (208)	93% (14)	83% (6)	100% (13)	80% (5)	100% (14)
Average Travel Time (Minutes)	25 (156)	42 (13)	50 (76)	47 (331)	47 (70)	43 (72)
Vehicle % Reporting Source as Convenient	91% (158)	87% (15)	83% (76)	91% (338)	78% (81)	88% (72)

NON USERS WHO DON'T WANT MORE CHILDREN: AVERAGE TRAVEL TIME TO SOURCE AND PERCEIVED CONVENIENCE - BY TRAVEL MODE

TRAVEL MODE	Pill	Condom	IUD	Female Sterilization	Vasectomy	Abortion
Average Travel Time (Minutes)	21 (330)	20 (144)	24 (41)	14 (18)	17 (30)	22 (24)
Foot % Reporting Source as Convenient	89% (337)	93% (145)	93% (41)	100% (18)	97% (30)	77% (26)
Average Travel Time (Minutes)	29 (362)	29 (160)	47 (484)	50 (575)	44 (379)	47 (123)
Vehicle % Reporting Source as Convenient	82% (384)	85% (168)	84% (516)	85% (612)	83% (379)	73% (142)

CONTRACEPTIVE SOURCES

The following section examines the actual contraceptive sources utilized by those women who are currently contracepting.

The patterns of users' supply sources is presented in Table 6.6 Government outlets are clearly the most important supplier of contraceptive services and supplies. Through village and tambon health centers, hospitals and other government outlets, 80 percent of all users received services or supplies. However, the commercial sector also plays an important role in the provision of pills and condoms, primarily through drug stores and other retail outlets. While male sterilization protects only a small percentage of Thai couples, the private sector was a major source of male sterilization services.

TABLE 6.6
USER'S SOURCE OF FAMILY PLANNING METHODS

Source	Pill (N=574) %	Condom (N=57) %	IUD (N=114) %	Female Sterilization (N=376) %	Male Sterilization (N=101) %	Other (N=127) %	All Methods (N=1349) %
Government Outlet	73.8	29.9	80.7	95.5	48.4	65.3	76.9
Drugstore	21.3	49.1	-	-	-	1.6	11.3
Private Clinic	1.6	3.5	3.5	4.5	20.8	25.2	6.3
Other	3.3	7.5	15.8	-	30.8	7.9	5.5

Availability of Sources

The existing service system has attempted to make contraceptives services and supplies as easily available to users and would be users as possible. Availability is dependent on the proximity of service and supply outlets, as well as the means of transport to those outlets. The CPS has collected information from users on the means of transportation and the time spent in reaching a particular source.

As shown in Table 6.7, both means of transport and average travel time vary with the method used. As would be expected from the nature of the distribution system, pill and condom users were more likely to walk to outlets than were users of other methods. The average travel times to outlets for pill and condom users were also much less than the time report for other methods.

More than 70 percent of the current contraceptive users sampled used some means of transport to reach their service or supply outlet. The use of public or private transportation seems to be a function of travel time (distance) with users of methods requiring more extensive travel, taking public transport.

The difference in means of transport and average travel time to a source for the various methods is most clearly related to the actual distribution system used for each method. Those methods requiring minimum facilities like pills and condoms have the greatest availability and the lowest travel time, while methods requiring clinical skills and facilities are less available and, therefore, require more travel time.

TABLE 6.7
MEANS OF TRANSPORTATION AND AVERAGE TRAVEL TIME TO METHOD SOURCE
FOR METHOD USERS

Means of Transportation	Method Used					
	Pill (N=568) %	Condom (N=64) %	IUD (N=107) %	Female Sterilization (N=359) %	Male Sterilization (N=99) %	Total (N=1197) %
Walk	51.1	41.1	5.6	3.6	6.1	28.4
Private Transportation	19.0	25.0	7.5	14.8	9.1	16.2
Public Transportation	29.4	30.4	86.9	81.6	75.8	54.3
Other	0.5	3.5	-	-	9.0	1.2
Average Travel Time in Minutes	19.7	25.7	46.1	47.3	40.3	35.8

COST OF METHODS

The cost of a method may be an important determinant of a would be user's attitude towards a specific method. Table 6.8 presents the regional breakdown of average stated costs for users of a method and non-users.

Among users the costs for all methods were higher in urban Bangkok than in any other region. Costs were lowest in the South. The same regional pattern applied to the average cost, stated by non-users.

It is significant that there is very little difference, in stated cost for pill and condom between users and non-users. The average cost for users is slightly higher for IUD, but the major cost difference between users is for female and male sterilization. For users of female sterilization the difference may be due in-part to an unanticipated response bias. Many sterilizations are done as a part of post partum treatment. As a consequence some women were able to give costs which included delivery, neo-natal care, post partum care and sterilization. This resulted in a higher stated cost for female sterilization. These data suggest that clinical methods are "expensive" despite efforts to increase the utilization of more effective methods. It is also interesting that non-users have no apparent knowledge of the real costs of sterilization.

In terms of specific responses given, few women knew the cost of condoms. For pills the most common response for both users and non-users was "free" or "5 baht". Among non-users the most common response for all methods except pill was "do not know" or "free". This suggests that the perceived cost of a method may not be a major deterrent to use, because so many non-users assumed family planning services or supplies are free.

TABLE 6.8
AVERAGE PRICE OF THE METHOD BY REGION (BAHT) FOR METHOD USERS AND NON USERS

Region	USERS			Female Sterilization	Male Sterilization
	Pill	Condom	IUD		
Bangkok	13.6	2.4	56.7	803.4	208.6
North	4.3	1.6	6.3	336.1	152.7
Northeast	3.3	0.8	15.4	239.4	114.1
Central	4.4	-	28.2	278.9	232.7
South	1.8	-	7.9	170.9	55.6
Total Average Cost	5.5	1.6	22.9	365.7	167.1

Region	NON-USERS			Female Sterilization	Male Sterilization
	Pill	Condom	IUD		
Bangkok	11.5	1.9	4.0	13.1	-
North	5.2	1.0	5.5	24.7	17.0
Northeast	3.4	.7	4.1	11.7	8.4
Central	4.4	.5	3.9	13.6	5.9
South	1.9	2.2	1.2	5.3	1.0
Total Average Cost	5.1	1.0	4.7	17.0	12.0

References

- Blake, Judith**
1965 Demographic Science and the Redirection of Population Policy. *Journal of Chronic Diseases* 18: 1181-1200.
- Cook, Michael J., and Boonlert Leoprapai**
1977 *Labor Force Participation, Village Characteristics and Their Influence on Fertility Among Rural Thai Women*. Bangkok: Mahidol University, Institute for Population and Social Research, Research Report.
- Davis, Kingsley, and Judith Blake**
1956 Social Structure and Fertility: An Analytic Framework. *Economic Development and Cultural Change* 4: 211-235.
- Debavalya, Nibhon**
1977 *Female Employment and Fertility*. Bangkok: Chulalongkorn University Institute of Population Studies, Research Report Number 24.
- Debavalya, Nibhon and John Knodel**
1978 *Fertility Transition in Thailand: A Comparative Analysis of Survey Data*. Bangkok: Institute of Population Studies, Chulalongkorn University and Population Survey Division, National Statistical Office, Research Report No. 3.
- Economic and Social Commission for Asia and the Pacific**
1976 *Population of Thailand*. ESCAP Country Monograph Series No. 3. Bangkok: Economic and Social Commission for Asia and the Pacific.
- Freedman, Ronald**
1962 American Studies of Family Planning and Fertility: A Review of Major Trends and Issues. Pp. 211-227, in Clyde B. Kiser (ed.), *Research in Family Planning*. Princeton: Princeton University Press.
- Goldstein, Sidney, Alice Goldstein, and Penporn Tirasawat**
1972 *The Influence of Labor Force Participation and Education on Fertility in Thailand*. Bangkok: Chulalongkorn University, Institute of Population Studies, Research Report No. 9.
- Heer, David M.**
1964 Fertility Differences Between Indian and Spanish-speaking Part of Andean Countries. *Population Studies* 18: 71-84.
- Henry, Louis**
1953 *Fecondite des mariages: Nouvelle Methode de mesure (Fertility of marriages: a new method of measurement)*. Travaux et documents, Cahier No. 16, Institute national d'etudes demographiques Paris: Presses Universtaries de France.
- Institute of Population Studies, Chulalongkorn University, and Thailand National Statistical Office**
1977 *The Survey of Fertility in Thailand: Country Report*. Bangkok.
- Joint Thai/U.S. Evaluation Team**
1979 *Thailand National Family Planning Program Evaluation*. American Public Health Association.
- Knodel, John**
1977 Family Limitation and the Fertility Transition: Evidence from the Age Patterns of Fertility in Europe and Asia. *Population Studies* 31: 219-249.
- Knodel, John, and Nibhon Debavalya**
1978 Thailand's Reproductive Revolution. *International Family Planning Perspectives and Digest* 4; 34-49.

- Ministry of Public Health, Research and Evaluation Division of the National Family Planning Program.
1979 *Rural Abortion in Thailand: A National Survey of Practitioners*. Bangkok, Thailand.
- Namboodiri, N.K.
1964 The Wife's Work Experience and Child Spacing. *Milbank Memorial Fund Quarterly* 42: 75-77.
- National Family Planning Program
1972 *Family Planning in Thailand 1965-1971* Bangkok: The Cooperative Marketing and Purchasing Federation of Thailand.
- National Statistical Office
No Date *1970 Population and Housing Census: Whole Kingdom*. Bangkok, Thailand.
1976 *The Survey of Population Change, 1974-1975*. Bangkok, Thailand.
- Thomlinson, Ralph
1971 *Thailand's Population: Facts, Trends, Problems and Policies*. Bangkok: Thai Watana Panich Press Company, Limited.
- Sun, T.H., H.S. Lin, and R. Freedman.
1978 Trends in Fertility, Family Size Preferences, and Family Planning: Taiwan, 1965-1976. *Studies in Family Planning* 9: 54-70.
- Unhanand, Manasvi Dr.
1968 The Ministry of Public Health's Role in Family Health, paper presented at the Third National Seminar on Thailand Population. Bangkok April 2-5, 1968.
- Weller, Robert H.
1968 The Employment of Wives, Role Incompatibility, and Fertility. *Milbank Memorial Fund Quarterly* 46: 507-526.
1977 Wife's Employment and Cumulative Family Size in The United States, 1970 and 1960. *Demography* 14: 43-65.
- Westoff, Chareles L.
1978 The Unmet Need for Birth Control in Five Asian Countries. *Family Planning Perspectives and Digest* 4: 9.
- Whelpton, Pascal K., A.A. Campbell, and J.E. Patterson
1966 *Fertility and Family Planning in the United States*. Princeton: Princeton University Press.

APPENDIX I

SAMPLE DESIGN AND ESTIMATES, AND LIST OF SAMPLE AREAS

SAMPLE DESIGN*

The Contraceptive Prevalence Survey (CPS) sample was organized in part as a subsample of the Survey of fertility in Thailand, commonly known as World Fertility Survey (WFS). The provinces selected for this study were emanated from the list of the provinces chosen for the WFS. In addition, half of the number of districts covered in this study were randomly drawn from the coverage in the WFS, meaning that the other half were independently and randomly selected from the list of the districts not covered by the WFS sample.

The CPS sample design can be summarized in the following table:

Stage	Unit	No. in universe	No. in sample	Selection method	Selection probability	Sampling fraction
1	psu (province)	N_h	n_h	SRS (WOR)	$\frac{1}{N_h}$	$\frac{n_h}{N_h}$
2	ssu (district)	M_{hi}	$m_{hi} = 2$	SRS (WOR)	$\frac{1}{M_{hi}}$	$\frac{m_{hi}}{M_{hi}} = \frac{2}{M_{hi}}$
3	tsu (subdistrict)	Q_{hij}	$q_{hij} = 2$	SRS (WOR)	$\frac{1}{Q_{hij}}$	$\frac{q_{hij}}{Q_{hij}} = \frac{2}{Q_{hij}}$
4	fsu (village)	T_{hijk}	$t_{hijk} = 2$	SRS (WOR)	$\frac{1}{T_{hijk}}$	$\frac{t_{hijk}}{T_{hijk}} = \frac{2}{T_{hijk}}$
5	usu (respondents)	U_{hijks}	u_{hijks}	SRS (WOR)	$\frac{1}{U_{hijks}}$	$\frac{u_{hijks}}{U_{hijks}}$

The strata in this survey are the six geographical regions namely the north, northeast, central, east, Bangkok Metropolis, and the south. Hence, $h = 1, 2, 3, 4, 5, 6$.

N_h = the total number of provinces in region h

n_h = the total number of provinces chosen from region h , i.e., $n_1=4, n_2=4, n_3=3, n_4=3, n_5=1, n_6=3$

* Prepared by Dr. Prachoom Suwathi

M_{hi} = the total number of districts in province i in stratum h , $i = 1, 2, \dots, N_h$, $h = 1, 2, 3, 4, 5, 6$,

m_{hi} = the total number of districts chosen from each of the province i selected in the first stage from stratum h
 $= 2$ for all $i = 1, 2, \dots, n_h$, $h = 1, 2, \dots, 6$

Q_{hij} , q_{hij} , T_{hijk} , U_{hijks} and u_{hijks} are similarly defined.

ESTIMATION OF TOTAL

Let y_{hijksw} be the value of the study variable y measured from the w^{th} respondent in village s , sub-district k , district j and province i in stratum h ,

$h = 1, 2, \dots, L$ ($L = 6$),

$i = 1, 2, \dots, n_h$, $j = 1, 2, \dots, m_{hi}$ ($m_{hi} = 2$),

$k = 1, 2, \dots, q_{hij}$ ($q_{hij} = 2$), $s = 1, 2, \dots, t_{hijk}$ ($t_{hijk} = 2$),

$w = 1, 2, \dots, u_{hijks}$ (u_{hijks} = no. of eligible women chosen in the final stage from village s with U_{hijks} women 15-49 years of age)

An unbiased estimator of the total for variable y in stratum h is given by

$$y_h^* = \frac{N_h}{n_h} \sum_{i=1}^{n_h} \frac{M_{hi}}{m_{hi}} \sum_{j=1}^{m_{hi}} \frac{Q_{hij}}{q_{hij}} \sum_{k=1}^{q_{hij}} \frac{T_{hijk}}{t_{hijk}} \sum_{s=1}^{t_{hijk}} \frac{U_{hijks}}{u_{hijks}} \sum_{w=1}^{u_{hijks}} y_{hijksw} \dots\dots\dots(1)$$

Equation (1) may be simplified to

$$y_h^* = \frac{N_h}{n_h} \sum_{i=1}^{n_h} y_{hi}^* \dots\dots\dots(2)$$

where $y_{hi}^* = \frac{M_{hi}}{m_{hi}} \sum_{j=1}^{m_{hi}} y_{hij}^* = \frac{M_{hi}}{2} (y_{hi1}^* + y_{hi2}^*) \dots\dots\dots(3)$

$$y_{hij}^* = \frac{Q_{hij}}{q_{hij}} \sum_{k=1}^{q_{hijk}} y_{hijk}^* = \frac{Q_{hij}}{2} (y_{hij1}^* + y_{hij2}^*) \dots\dots\dots(4)$$

$$y_{hijk}^* = \frac{T_{hijk}}{t_{hijk}} \sum_{s=1}^{t_{hijk}} y_{hijks}^* = \frac{T_{hijk}}{2} (y_{hijk1}^* + y_{hijk2}^*) \dots\dots\dots(5)$$

$$y_{hijks}^* = \frac{U_{hijks}}{u_{hijks}} \sum_{w=1}^{u_{hijks}} y_{hijkw} \quad \dots\dots\dots(6)$$

$$y_h^* = \frac{N_h}{2n_h} \sum_{i=1}^{n_h} M_{hi} (y_{hi1}^* + y_{hi2}^*) \quad \dots\dots\dots(7)$$

$$y_h^* = \frac{N_h}{4n_h} \sum_{i=1}^{n_h} M_{hi} \left[Q_{hi1} (y_{hi11}^* + y_{hi12}^*) + Q_{hi2} (y_{hi21}^* + y_{hi22}^*) \right] \quad \dots\dots\dots(8)$$

$$y_h^* = \frac{N_h}{8n_h} \sum_{i=1}^{n_h} M_{hi} \left[Q_{hi1} \left\{ T_{hi11} (y_{hi111}^* + y_{hi112}^*) + T_{hi12} (y_{hi121}^* + y_{hi122}^*) \right\} + Q_{hi2} \left\{ T_{hi21} (y_{hi211}^* + y_{hi212}^*) + T_{hi22} (y_{hi221}^* + y_{hi222}^*) \right\} \right] \quad \dots\dots\dots(9)$$

The steps of calculation of y_h^* are as follows:

- 1) Find the sample village totals

$$y_{hijks} = \sum_{w=1}^{u_{hijks}} y_{hijkw}$$

- 2) Find the estimates of the total of the variable y in villages sampled by equation (6) which is also of the form

$$y_{hijks}^* = \frac{U_{hijks}}{u_{hijks}} y_{hijks} \quad \dots\dots\dots(10)$$

- 3) Find y_h^* by equation (9) or using (5), (4), (3) and (2) respectively.

The variance of y_h^* may be derived from

$$V(y_h^*) = V_1 E_2 E_3 E_4 E_5 (y_h^*) + E_1 V_2 E_3 E_4 E_5 (y_h^*) + E_1 E_2 V_3 E_4 E_5 (y_h^*)$$

$$+ E_1 E_2 E_3 V_4 E_5 (y_h^*) + E_1 E_2 E_3 E_4 V_5 (y_h^*) \dots\dots\dots(11)$$

The value of the variance of y_h^* may be estimated by

$$v(y_h^*) = N_h^2 \bar{U}_h^2 (1 - f_{1h}) \frac{s_{hb}^2}{n_h} + \frac{N_h}{n_h} \frac{n_h}{\sum_{i=1}^n} \bar{U}_{hi}^2 (1 - f_{2hi}) \frac{s_{2hi}^2}{m_{hi}}$$

$$+ \frac{N_h}{n_h} \frac{n_h}{\sum_{i=1}^n} \frac{M_{hi}}{m_{hi}} \frac{m_{hi}}{\sum_{j=1}^m} \bar{U}_{hij}^2 (1 - f_{3hij}) \frac{s_{3hij}^2}{q_{hij}}$$

$$+ \frac{N_h}{n_h} \frac{n_h}{\sum_{i=1}^n} \frac{M_{hi}}{m_{hi}} \frac{m_{hi}}{\sum_{j=1}^m} \frac{Q_{hij}}{q_{hij}} \frac{q_{hij}}{\sum_{h=1}^q} \bar{U}_{hijk}^2 (1 - f_{4hij}) \frac{s_{4hijk}^2}{t_{hijk}}$$

$$+ \frac{N_h}{n_h} \frac{n_h}{\sum_{i=1}^n} \frac{M_{hi}}{m_{hi}} \frac{m_{hi}}{\sum_{j=1}^m} \frac{Q_{hij}}{q_{hij}} \frac{q_{hij}}{\sum_{h=1}^q} \frac{T_{hijk}}{t_{hijk}} \frac{t_{hijk}}{\sum_{s=1}^t} U_{hijks}^2 (1 - f_{5hijks}) \frac{s_{5hijks}^2}{u_{hijks}} \dots\dots\dots(12)$$

where $\bar{U}_{hijk} = \frac{t_{hijk}}{\sum_{s=1}^t} U_{hijks} / t_{hijk} \dots\dots\dots(13)$

= average number of eligible women per village the sample

$$= \frac{U_{hijkl} + U_{hijk2}}{2}$$

$$\bar{U}_{hij} = \frac{q_{hij}}{\sum_{k=1}^q} \frac{t_{hijk}}{\sum_{s=1}^t} U_{hijks} / q_{hij} \dots\dots\dots(14)$$

= average number of eligible women per subdistrict (for each subdistrict in the sample)

$$= \frac{U_{hij11} + U_{hij12} + U_{hij21} + U_{hij22}}{2}$$

$$\bar{U}_{hi} = \frac{m_{hi}}{\sum_{j=1}^m} \frac{q_{hij}}{\sum_{k=1}^q} \frac{t_{hijk}}{\sum_{s=1}^t} U_{hijks} / m_{hi} \dots\dots\dots(15)$$

= average number of eligible women per district
(for each district in the sample)

$$\bar{U}_h = \frac{n_h}{i=1} \sum_{j=1}^{m_{hi}} \sum_{k=1}^{q_{hij}} \sum_{s=1}^{t_{hijk}} U_{hijks} / n_h \quad \dots\dots\dots(16)$$

= average number of eligible women per province
(for each province in the sample).

$$s_{hb}^2 = \frac{n_h}{i=1} \sum (y_{hi}^* - y_h^*)^2 / (n_h - 1)$$

$$s_{2hi}^2 = \frac{m_{hi}}{j=1} \sum (y_{hij}^* - y_{hi}^*)^2 / (m_{hi} - 1)$$

$$s_{3hij}^2 = \frac{q_{hij}}{k=1} \sum (y_{hijk}^* - y_{hij}^*)^2 / (q_{hij} - 1)$$

$$s_{4hijk}^2 = \frac{t_{hijk}}{s=1} \sum (y_{hijks}^* - y_{hijk}^*)^2 / (t_{hijk} - 1)$$

$$s_{5hijks}^2 = \frac{u_{hijks}}{w=1} \sum (y_{hijksw} - y_{hijks}^*)^2 / (u_{hijks} - 1)$$

$$f_{1h} = \frac{n_h}{N_h}, \quad f_{2hi} = \frac{m_{hi}}{M_{hi}} = \frac{2}{M_{hi}}$$

$$f_{3hij} = \frac{q_{hij}}{Q_{hij}} = \frac{2}{Q_{hij}}, \quad f_{4hijk} = \frac{t_{hijk}}{T_{hijk}} = \frac{2}{T_{hijk}}$$

$$f_{5hijks} = \frac{u_{hijks}}{U_{hijks}}$$

In the presentation and interpretation of results it is advisable to compute other statistics aside from $v(y_h^*)$. These are:

- 1) The standard error (s.e.) which is the square root of $v(y_h^*)$.

2) The relative standard error (s.e./y_h^{*}) which is the standard error of the estimate divided by the value being estimated.

In addition, if the total for all areas is desired, it may be estimated by

$$y^* = \sum_{h=1}^L y_h^* \quad \dots\dots\dots(17)$$

with estimated variance

$$v(y^*) = \sum_{h=1}^L v(y_h^*) \quad \dots\dots\dots(18)$$

$$\text{and s.e. } (y^*) = \sqrt{v(y^*)} \quad \dots\dots\dots(19)$$

The relative standard error of y^{*} is estimated by

$$\text{c.v. } (y^*) = \frac{\text{s.e.}(y^*)}{y^*} \quad \dots\dots\dots(20)$$

ESTIMATION OF THE MEAN OF A STUDY VARIABLE

When the universe number of ultimate units (eligible women) is not known, the number of eligible women in stratum h is estimated unbiasedly from the sample by putting y_{hijksw} = 1 in the estimating equation (1), (3) or (9). Therefore the ith sample province in stratum h,

$$u_{hi}^* = \frac{M_{hi}}{8} \sum_{j=1}^2 Q_{hij} \sum_{k=1}^2 T_{hitjk} (U_{hijk1} + U_{hijk2}) \quad \dots\dots\dots(21)$$

The estimated number of eligible women in stratum (region) h is

$$u_h^* = \frac{N_h}{n_h} \sum_{i=1}^{n_h} u_{hi}^* \quad \dots\dots\dots(22)$$

An estimate of the variance of u_h^{*} ignoring the sampling fraction is

$$s_{u_h^*}^2 = \sum_{i=1}^{n_h} (u_{hi}^* - u_h^*)^2 / n_h (n_h - 1) \quad \dots\dots\dots(23)$$

An unbiased estimate of the total number of women 15-49 years of age in the country is given by

$$u^* = \sum_{h=1}^L \frac{u_h^*}{n_h} \dots\dots\dots(24)$$

with estimated variance

$$v(u^*) = \sum_{h=1}^L \frac{s_{u_h^*}^2}{n_h} \dots\dots\dots(25)$$

A consistent but generally biased estimator of the universe mean per usu in stratum h is

$$r_h = \frac{y_h^*}{u_h^*} \dots\dots\dots(26)$$

with variance estimator

$$s_{r_h}^2 = (s_{y_h^*}^2 + r_h^2 s_{u_h^*}^2 - 2r_h s_{hyu}) / u_h^{*2} \dots\dots\dots(27)$$

where $s_{y_h^*}^2 = \frac{1}{n_h} \sum_{i=1}^{n_h} (y_{hi}^* - y_h^*)^2 / n_h(n_h - 1) \dots\dots\dots(28)$

$$s_{hyu} = \frac{1}{n_h} \sum_{i=1}^{n_h} (y_{hi}^* - y_h^*) (u_{hi}^* - u_h^*) / n_h(n_h - 1) \dots\dots\dots(29)$$

r_h may be any ratio or average per eligible woman in stratum h, e.g., number of contraception used per women.

Similarly, a consistent but biased estimate of the universe mean (ratio) per woman in all strata is

$$r = \frac{y^*}{u^*} \dots\dots\dots(30)$$

with variance estimator

$$s_r^2 = (s_{y^*}^2 + r^2 s_{u^*}^2 - 2 r s_{y^*u^*}) / u^*{}^2 \quad \dots\dots\dots(31)$$

where

$$s_{y^*}^2 = \sum_{h=1}^L \sum_{i=1}^{n_h} (y_{hi}^* - y_h^*)^2 / n_h (n_h - 1) \quad \dots\dots\dots(32)$$

$$s_{u^*}^2 = \sum_{h=1}^L \sum_{i=1}^{n_h} (u_{hi}^* - u_h^*)^2 / n_h (n_h - 1) \quad \dots\dots\dots(33)$$

$$\text{and } s_{y^*u^*} = \sum_{h=1}^L \sum_{i=1}^{n_h} (y_{hi}^* - y_h^*) (u_{hi}^* - u_h^*) / n_h (n_h - 1) \quad \dots\dots\dots(34)$$

SAMPLE AREAS

The following table gives the names of sample areas classified by Regions, provinces, districts, tumbols (subdistricts) and villages

ภาค Region	จังหวัด Province	อำเภอ District	ตำบล Tumbol	หมู่บ้าน Village
เหนือ North		สันกำแพง	แช่ช้าง	5,8
			ทรายมูล	
		เชียงใหม่	Sign Moon	1,2
			เมืองนะ	
		เชียงดาว	Muang Na	1,3
		เชียงดาว	3,7	
	เชียงใหม่	เชียงแสน	เวียง	2,8
	Chiangrai	Chiengsaen	Vieng	
			บ้านแซว	3,5
			Ban Saew	

ภาค Region	จังหวัด Province	อำเภอ District	ตำบล Tumbol	หมู่บ้าน Village	
เหนือ North		แม่สาย Maesai	แม่สาย Maesai	9,7	
			โป่งผา Pongpar	7,5	
	สุโขทัย Sukho Thai	ศรีสำโรง Sisamrong	สามเรือน Samrearn	6,8	
			คลองตาล Klongtarn	2,8	
			ทุ่งเสลี่ยม Thungsaliarn	ไทยชนะศึก Thai Chanasaeak	1,6
			ทุ่งเสลี่ยม Thungsaliarn	1,8	
	เพชรบูรณ์ Petchaboon	หล่มเก่า Lomkao	ศิลา Silar	6,8	
			น้ำหนาว Numnow	5,1	
			หนองไผ่ Nongphai	นาเจสัย Nachaliang	1,4
	ตะวันออกเฉียงเหนือ Northeast	สกลนคร Sakon Nakorn	เมือง Muang	ซับสนมทอด Subsamowtod	2,5
บ้านโพน Ban Pone				10,6	
ต๋านม่วงคำ Darn Maungkhom				4,5	
วานรนิวาส Wanon Niwat				หนองสนม Nong Samom	2,4
			เคื่อ Daer	3,5	

ภาค Region	จังหวัด Province	อำเภอ District	ตำบล Tumbol	หมู่บ้าน Village		
ตะวันออกเฉียงเหนือ Northeast	อุดรธานี Udonthani	เมือง Muang	หนองบุญ Nongbu	2,3		
			บ้านตาด Bantard	4,8		
		โนนสัง Nonsang	กุดจู้ Kuddoo	6,8		
			โคกใหญ่ Koke Yai	2,3		
	นครราชสีมา Nakhon Rajchasi	นครบุรี Khonburi		นครบุรี Khonburi	1,3	
				จระเข้หิน Jawrakayhin	2,3	
				กง Kong	วังโพธิ์ Wong Poh	4,5
					ปราสาท Prang	1,2
	บุรีรัมย์ Burirum	พุทไธสง Phutthaisong		บ้านจาน Barnjarn	2,9	
				พุทไธสง Phutthaisong	1,2	
ลำปลายมาศ Lamplaimat				ลำปลายมาศ Lamplaimat	3,4	
				ห้วยหิน Huayhin	3,4	
กลาง Central	สุพรรณบุรี Suphun Buri	สามชุก Sam Chuk	บ้านสระ Barnsar	2,5		
				วังลึก Wonglook	2,7	

ภาค Region	จังหวัด Province	อำเภอ District	ตำบล Tumbol	หมู่ที่ Village	
กลาง Central		ศรีประจันต์ Sri Prachan	นางงาม	3,4	
			Nang Ngam		
			บ้านกร่าง	3,4	
		สิงห์บุรี Sing Buri	ท่าช้าง Tharchang	คอนสมอ	3,4
	Don Sarmoa				
	โพธิ์ประจักษ์			2,4	
			เมือง Muang	บางกระบือ	3,6
	Bang Krabue				
	ตันโพธิ์			4,8	
		พระนครศรีอยุธยา Ayudthaya	บางไทร Bang Sai	ช้างใหญ่	4,1
Chang Yai					
ราชคราม	4,5				
		นครหลวง Nakorn Luang	บ่อโพรง	3,7	
Bor Pong					
บางพระครู			1,4		
	สมุทรปราการ Samut Prakran	เมือง Muang	แหลมฟ้าผ่า	1,3	
Lam Farpar					
นาเกลือ			1,10		
		บางบ่อ Bang Bo	บางเพ็ญ	4,6	
Bang Preang					
เป็ริง			4,7		
			Preng		

ภาค Region	จังหวัด Province	อำเภอ District	ตำบล Tumbol	หมู่บ้าน Village
	ระยอง Rayoung	แกลง Klang	ทางเกวียน Tang Kwean	2,4
			พังราด Pungrad	4,5
		เมือง Muang	กะเจด Kar Ched	1,4
			นาเตาขวัญ Nar Tao Kwan	1,4
	ฉะเชิงเทรา Cha Choeng Sao	บ้านโพธิ์ Ban Pho	ประเวศ Pra Vest	2,3
			คลองตีนนก Klong Teen Nok	4,5
		พนมสารคาม Panom Sarakarm	บ้านซ่อง Ban Song	7,9
			เกาะขนุน Koa Kanoon	1,8
ใต้ South	นราธิวาส Narathiwat	เมือง Muang	โคกเตียน Ko Teern	1,3
			กะลวอเหนือ Kar Loo War Nur	1,4
		แว้ง Waeng	กายุดละ Kar You Kra	6,7
			สุคีริน Suekerin	1,2
	สงขลา Songkhka	ระโนด Ranot	บ่อตง Bo Taru	3,2
			ตะเคียนยะ Ta Kreer	6,9

ภาค Region	จังหวัด Province	อำเภอ District	ตำบล Tumbol	หมู่บ้าน Village
ใต้ South		รัตภูมิ Rataphum	คูหาใต้ Koohartai	5,3
			ควนไส Kuanso	8,6
	นครศรีธรรมราช Nakorn Srithamaraj	หัวไทร Hua Sai	บ้านราม Ban Ram	4,6
			ทรายขาว Sai Kow	4,8
			ท่าประจ๊ะ Tar Praja	3,2
	ชะอวด Cha Uat	วังอ่าง Wong Arng	3,1	

CONTRACEPTIVE PREVALENCE SURVEY

**FOR CODER'S
USE ONLY**

IDENTIFICATION

Questionnaire No. _____

Strata _____ Province _____

District _____ Town/Village _____

Segment No. _____

Line Number (Route Sheet) _____

Visit Record	1	2	3	4
Date				
Supervisor's Code				
Interviewer's Code				
Time Started				
Time Completed				
Duration of Interview				
Result *				

*** Result Codes:**

- | | |
|-----------------------------|----------------------------|
| 1 Completed | 4 Woman not in fertile age |
| 2 Incomplete (note reasons) | 5 Refused |
| 3 Pending | 6 Other _____ |

OBSERVATIONS:

	Supervised By	Edited By	Coded By	Punched By
Name				
Date				

INDIVIDUAL QUESTIONNAIRE

SECTION 1. ELIGIBILITY AND BACKGROUND

FOR CODER'S
USE ONLY

101. How old are you? (as of last birthday) _____ years

102. In what month and year were you born? _____ 19 _____
(month) (Year)

PROBE ANY INCONSISTENCY AND CORRECT

CORRECTED AGE _____

IF RESPONDENT IS UNDER 15 OR OVER 49
YEARS TERMINATE INTERVIEW. THANK RES-
PONDENT FOR HER TIME AND FOLLOW IN-
STRUCTIONS FOR SELECTING THE NEXT RES-
PONDENT.

103. Have you ever attended school?

- 1 Yes
- 2 No (SKIP TO Q. 105)

104. What is the highest grade you passed at school or college?
(Circle the highest grade completed)

- 1 Elementary 0 1 2 3 4 5 6 7 8
- 2 Secondary 1 2 3 4
- 3 College 1 2 3 4 5 6

105. What is your occupation?

106. Well, now we would like to talk about some aspects of your life. When did
you have your last menstrual period?

- 1 Less than 30 days ago (SKIP TO Q. 108)
- 2 30 to 60 days ago
- 3 61 days ago or more

107. Are you pregnant now?

- 1 Yes (SKIP TO Q. 109)
- 2 No
- 3 Do not know/not sure

108. Have you ever been pregnant?

- 1 Yes
- 2 No (SKIP TO Q. 115)

109. How many pregnancies have you had (including present one)? _____

110. How many live births have you had so far? _____

IF NO LIVE BIRTHS, SKIP TO Q. 115

FOR CODER'S
USE ONLY

111. Did you have any abortion within the last year?

112. When was the last time you had a live birth?

Date: _____
(Month) (Year)

Time: _____

113. How many children do you have? _____
(Number of Children)

PROBES:

- 1 Are these your own children? (IF "NO", CORRECT ABOVE.)
- 2 Are they all living? (IF "NO" CORRECT ABOVE.)
- 3 Have you included those living away from you? (IF "NO", CORRECT ABOVE.)

IF RESPONDENT HAS NO CHILDREN, SKIP TO Q. 115

114. How many are boys and how many are girls?

_____ Boys _____ Girls

MAKE SURE TOTALS AGREE WITH Q. 113
MAKE CORRECTIONS IF NEEDED

115. Do you intend to (get pregnant again and) have (more) children some day?

- 1 Yes
- 2 No
- 3 Do not know/not sure (SKIP TO SECTION 2, Q. 201)

116. If it were entirely up to you, when would you like to have your next (first) child?

- 1 As soon as possible
- 2 In the next year
- 3 In 2 years
- 4 In 3 years
- 5 In more than 3 years
- 6 When I get married
- 7 Do not know

117. How many (more) children do you want? _____
(Number)

SECTION 2. FERTILITY REGULATION

A: KNOWLEDGE AND USE

FOR CODER'S
USE ONLY

201. As you may know, there are various ways a couple can delay the next pregnancy or avoid having children if they do not want them. This is called family planning. Do you know of or have you heard of any family planning methods?

- 1 Yes
- 2 No (SKIP TO Q. 204)

202. What family planning methods do you know of?

CIRCLE "YES" IN COLUMN 1 OF THE TABLE BELOW FOR EACH METHOD THE RESPONDENT MENTIONS

203. FOR EACH METHOD CIRCLED IN COLUMN 1 ASK:
Have you or your spouse (boyfriend) ever used (*Method*)?

CIRCLE APPROPRIATE RESPONSE IN COLUMN 3 BELOW.
FOR EACH METHOD THE RESPONDENT HAS USED.

204. FOR EACH METHOD NOT CIRCLED IN COLUMN 1 ASK:
Just to be sure, have you ever heard of (*Method*)?

CIRCLE "YES" OR "NO" IN COLUMN 2 OF THE TABLE BELOW
IF YES, ASK Q. 205 BEFORE ASKING THE NEXT METHOD.

205. Have you or your spouse (boyfriend) ever used (*Method*)?

CIRCLE APPROPRIATE RESPONSE IN COLUMN 3 BELOW.
THEN GO TO THE NEXT METHOD NOT MARKED IN COLUMN 1.
IF RESPONDENT KNOWS NO METHOD (NO "YES" CODES ARE
CIRCLED IN COLUMN 1 OR 2) SKIP TO Q. 223.

METHOD	KNOWLEDGE (UNPROMPTED) Q. 202 (1)	KNOWLEDGE (PROMPTED) Q. 204 (2)	EVER USE Q. 203 & Q. 205 (3)	CURRENT USE Q. 207 (4)
01 Pill	1 Yes	2 Yes 3 No	1 Yes 2 No	01 Yes
02 Condom	1 Yes	2 Yes 3 No	1 Yes 2 No	02 Yes
03 IUD	1 Yes	2 Yes 3 No	1 Yes 2 No	03 Yes
04 Female Sterilization	1 Yes	2 Yes 3 No	1 Yes 2 No	04 Yes
05 Male Sterilization	1 Yes	2 Yes 3 No	1 Yes 2 No	05 Yes
06 Abortion	1 Yes	2 Yes 3 No	1 Yes 2 No	
07 Injection	1 Yes	2 Yes 3 No	1 Yes 2 No	07 Yes
08 Vaginal Methods	1 Yes	2 Yes 3 No	1 Yes 2 No	08 Yes
09 Rhythm	1 Yes	2 Yes 3 No	1 Yes 2 No	09 Yes
10 Withdrawal	1 Yes	2 Yes 3 No	1 Yes 2 No	10 Yes
11 Other _____ (Specify)	1 Yes		1 Yes 2 No	11 _____ (Specify)
98 None				98 None

206. Are you or your spouse (boyfriend) now using or have you used some method to avoid pregnancy in the last month?

- 1 Yes
- 2 No

CIRCLE "98" IN COLUMN 4
THEN SKIP TO Q. 208

207. What is that method? _____ MARK IN COLUMN 4

IF RESPONDENT HAS KNOWLEDGE OF METHODS 01-06, ("YES" CODES CIRCLED IN COLUMNS 1 OR 2) CIRCLE THE SAME METHOD AT THE TOP OF THE GRID BELOW.

IF THE RESPONDENT IS CURRENTLY USING ("YES" CODE IN COLUMN 4) Cross Out (X) THAT METHOD AT THE TOP OF THE GRID BELOW.

FOR EACH METHOD CIRCLED BUT NOT CROSSED OUT ASK QUESTIONS 208-213 IN ORDER AND MARK THE APPROPRIATE ANSWERS.

IF NO METHOD IS CIRCLED BELOW GO TO INSTRUCTIONS ON THE TOP OF THE NEXT PAGE.

FOR CODER'S
USE ONLY

	01 PILL	02 CON- DOM	03 IUD	04 FEMALE STER.	05 MALE STER.	06 ABOR- TION
208. Do you know where you or your spouse (boy-friend) can get (Method)?	1 Yes 2 No					
209. If you wanted to get (Method), what place would you go to? 1 Government clinic 2 Private clinic 3 Pharmacy 4 Private doctor 5 Drugstore 6 Hospital 7 Other _____ (Specify)	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7	1 2 3 4 5 6 7
210. How much do (Method) cost there? (If no response, write DO NOT KNOW.)	per cycle	(cost) (unit)				
211. How would you get to the (place) you mentioned? 1 Walk 2 Private transport 3 Public transport	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3
212. How long would it take you to get there? 1 Less than 15 minutes 2 15 to 30 minutes 3 30 to 45 minutes 4 45 minutes to 1 hour 5 1 hour or more 6 Do not know/not sure	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
213. Would you consider this place convenient or inconvenient? 1 Convenient 2 Inconvenient 3 Do not know/not sure	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3

(GO TO Q. 208 NEXT METHOD CIRCLED)

AFTER THE LAST MARKED METHOD GO TO INSTRUCTIONS ON THE TOP OF THE NEXT PAGE.

INTERVIEWER – CIRCLE BELOW THE METHOD
THE RESPONDENT IS CURRENTLY USING
FROM COLUMN 4 OF THE GRID ON PAGE 5.
CIRCLE "NONE" IF THE RESPONDENT IS USING
NO METHOD.

FOR CODER'S
USE ONLY

214.

- 01 Pills
- 02 Condom

- 03 IUD
 - 04 Female Sterilization
 - 05 Male Sterilization
 - 06 Abortion
 - 07 Injection
 - 08 Vaginal Methods
- (SKIP TO Q. 217)

- 09 Rhythm
 - 10 Withdrawal
 - 11 Other
- (SKIP TO Q. 223)

98 None (SKIP TO Q. 222)

215. You told me that you use _____ are there any
_____ (Method) in your house now?
_____ (Method)

- 1 Yes (SKIP TO Q. 217)
- 2 No

216. Could you tell why you do not have any _____ in the house now?
_____ (Method)

217. Where do (did) you or your spouse get (method)?

- 1 Government clinic
- 2 Private clinic
- 3 Pharmacy
- 4 Private doctor
- 5 Drugstore
- 6 Hospital
- 7 Other _____
(Specify)
- 8 Do not know (SKIP TO Q. 223)

218. How do (did) you get to this place?

- 1 Walk
- 2 Private Transport
- 3 Public Transport
- 4 Do not know/not sure (SKIP TO Q. 220)

FOR CODER'S
USE ONLY

219. How long does (did) it take to get there?

- 1 Less than 15 minutes
- 2 15 to 30 minutes
- 3 30 to 45 minutes
- 4 45 minutes to 1 hour
- 5 1 hour or more
- 6 Do not know/not sure

220. Do you consider this place convenient or inconvenient?

- 1 Convenient
- 2 Inconvenient
- 3 Do not know/Unsure

221. How much does (did) _____ cost you there? _____
(Method) (Cost) (Unit)

(SKIP TO Q. 223)

222. What is your main reason for currently not using a family planning method?

223. And finally, a few questions for statistical analysis.

What is your marital status? Are you married, divorced, widowed, separated or single?

- { 1 Married } (SKIP TO Q. 225)
{ 2 Living or visiting relationship }
3 Divorced
4 Widowed
5 Separated
6 Single

224. Do you have a conjugal life or are you living with a man at present?

- 1 Yes
- 2 No

TERMINATE INTERVIEW

225. What is the highest grade your spouse (boyfriend) passed at school or college?

No Schooling 00

- | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|---|
| 1 Elementary | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 2 Secondary | 1 | 2 | 3 | 4 | | | | |
| 3 College | 1 | 2 | 3 | 4 | 5 | 6 | | |

Do not know 99

226. When did you get married?

INTERVIEWER

WHEN YOU TERMINATE THE INTERVIEW:

- ▶ **CHECK BACK OVER THE QUESTIONNAIRE AND MAKE SURE IT IS COMPLETE, RESPONSES ARE ENTERED NEATLY AND IN THE CORRECT PLACE AND THAT THE ANSWERS FOLLOW A LOGICAL SEQUENCE.**
- ▶ **THANK THE RESPONDENT FOR HER TIME AND COOPERATION, AND GO ON TO THE NEXT INTERVIEW.**

INTERVIEWER'S COMMENTS

SUPERVISOR'S COMMENTS

EDITOR'S COMMENTS

บทคัดย่อ

โครงการสำรวจภาวะการคุมกำเนิดในประเทศไทย ได้เริ่มเก็บข้อมูลเมื่อวันที่ 1 พฤศจิกายน 2521 และเสร็จสิ้นผลงานสนามเมื่อวันที่ 31 ธันวาคม 2521 การสำรวจครั้งนี้เราได้ทำการสัมภาษณ์ตัวอย่างสตรีที่มีวัยอายุระหว่าง 15-49 ปี เป็นจำนวน 4,026 คน สตรีที่ถูกเลือกเป็นตัวอย่างนั้น มีทั้งที่เป็นโสดและเคยสมรสแล้ว

ในการสุ่มตัวอย่างครั้งนี้เราได้อาศัยการสุ่มตัวอย่างแบบหลายขั้นตอน เพื่อให้ได้ตัวอย่างที่สามารถใช้เป็นตัวแทนของสตรีทั้งประเทศได้ สำหรับการเลือกจังหวัดที่ใช้เป็นตัวอย่างนั้น เราได้อาศัยรายชื่อจังหวัดที่ตกอยู่ในตัวอย่างในโครงการสำรวจภาวะการเจริญพันธุ์ในประเทศไทย (The Survey of Fertility in Thailand) เป็นหลักในการเลือกตัวอย่างจังหวัดเมื่อไม่นานมานี้กรุงเทพฯ จากจำนวนตัวอย่างจังหวัด 34 จังหวัด ในโครงการสำรวจภาวะการเจริญพันธุ์ในประเทศไทยเราได้จำแนกออกเป็น 4 ภาค คือ เหนือ อีสาน กลาง และใต้ ก่อนที่จะเลือกตัวอย่างออกมารั้งหนึ่งคือ 17 จังหวัด ซึ่งได้แก่ เชียงใหม่ เชียงราย สุโขทัย เพชรบูรณ์ สกลนคร นครราชสีมา บุรีรัมย์ อุดรธานี สุพรรณบุรี อโยธยา สิงห์บุรี สมุทรปราการ ระยอง ฉะเชิงเทรา นครศรีธรรมราช สงขลา และนราธิวาส เมื่อเราเลือกจังหวัดแล้ว ในขั้นต่อไปจึงได้สุ่ม อำเภอ ตำบล และหมู่บ้านตามลำดับ สำหรับการเลือกอำเภอนั้น เราได้เลือกจังหวัดละสองอำเภอ และในแต่ละจังหวัดเราจะเลือกอำเภอที่ตกอยู่ในเขตตัวอย่างของโครงการสำรวจภาวะการเจริญพันธุ์เสียหนึ่งอำเภอ ดังนั้น อำเภอที่เราเลือกทั้งหมด 34 อำเภอ จึงมีอยู่ 17 อำเภอที่เป็นตัวอย่างในโครงการสำรวจภาวะการเจริญพันธุ์ในประเทศไทย ส่วนอีก 17 อำเภอเป็นเขตตัวอย่างที่สุ่มเลือกมาจากอำเภอที่ไม่ได้ตกในตัวอย่างของโครงการสำรวจภาวะการเจริญพันธุ์ในประเทศไทย เมื่อเราเลือกอำเภอได้แล้ว จึงสุ่มเลือกตำบลจากแต่ละอำเภอที่ได้เลือกไว้แล้วในขั้นตอนก่อน โดยกำหนดให้แต่ละอำเภอประกอบด้วยสองตำบล เมื่อเลือกตำบลแล้วเราได้สุ่มเลือกหมู่บ้านตำบลละสองหมู่บ้าน จากแต่ละหมู่บ้านที่เลือกเราก็จะทำรายชื่อสตรีที่มีอายุระหว่าง 15-49 ปีขึ้น เพื่อใช้ในการสุ่มตัวอย่างสตรีที่จะสัมภาษณ์ตามจำนวนที่ต้องการ โดยอาศัยขนาดของประชากรเป็นหลักในการกำหนดจำนวนสตรีที่ต้องการสัมภาษณ์

สำหรับตัวอย่างของสตรีในเขตกรุงเทพมหานครนั้น เราได้อาศัยการสุ่มจากตัวอย่างหลักของครัวเรือนในกรุงเทพฯ ที่ ดร. ประชุม สุวดี แห่งคณะสถิติประยุกต์ สถาบันบัณฑิตพัฒนบริหารศาสตร์ ได้สร้างขึ้นก่อนหน้าที่จะมีการสำรวจภาวะการคุมกำเนิดครั้งนี้ ขนาดของตัวอย่างในเขตกรุงเทพฯ นี้มีจำนวนทั้งหมด 800 คน

ในการสำรวจครั้งนี้เราได้มุ่งศึกษาถึงภาวะเจริญพันธุ์ ความรู้ การใช้ และการแพร่หลายและความง่ายต่อการจัดหาของการคุมกำเนิดไม่ว่าจะโดยวิธีใดก็ตาม ในด้านภาวะเจริญพันธุ์นั้นพบว่าอัตราการเจริญพันธุ์ทั้งหมด (Total Fertility Rate) ของประเทศไทยในปี พ.ศ. 2521 นั้น มีขนาด 3.7 ซึ่งอัตรานี้เป็นอัตราที่ลดลงมาจากอัตราเดิม 6.2 ที่สำรวจโดยสำนักงานสถิติแห่งชาติเมื่อปี พ.ศ. 2507 ถึง 41 เปอร์เซ็นต์ และเมื่อเปรียบเทียบกับผลที่ได้จากโครงการสำรวจภาวะการเจริญพันธุ์ในปี พ.ศ. 2518 ก็พบว่ามีการลดลงจากอัตรา 5.1 ซึ่งเป็นการลดลงถึง 27 เปอร์เซ็นต์ เพียงภายในระยะเวลา 3 ปี นับว่าเป็นการลดลงของอัตราภาวะเจริญพันธุ์ที่น่าพอใจ

นอกจากพิจารณาจากอัตราการเจริญพันธุ์ทั้งหมดแล้ว เรายังได้พบว่าจำนวนสตรีที่ตั้งครรภ์ในขณะที่ทำการสำรวจของโครงการก็ได้ลดลงมาจาก 15.3 เปอร์เซ็นต์ ในปี พ.ศ. 2507 เหลือ 10.1 เปอร์เซ็นต์ ในปี พ.ศ. 2521

ในด้านความรู้เกี่ยวกับการคุมกำเนิดนั้น เราพบว่าสตรี 99 เปอร์เซ็นต์ หรือเกือบทั้งหมดมีความรู้เกี่ยวกับการคุมกำเนิด วิธีที่สตรีมีความรู้มากที่สุดได้แก่การใช้ยาคุมกำเนิดรองลงมาตามลำดับได้แก่การทำหมันสตรี ใส่ห่วง ฉีดยา หมันชาย ถุงอนามัย ผลที่ได้นี้แสดงให้เห็นว่าระดับความรู้เกี่ยวกับการคุมกำเนิดในหมู่สตรีไทย ได้เพิ่มขึ้นมาอย่างรวดเร็ว

เมื่อพิจารณาถึงการปฏิบัติกุมกำเนิดของสตรี เราพบว่าสตรีที่เลขสมรสประมาณ 70 เปอร์เซ็นต์ เลขคุมกำเนิดโดยวิธีใดวิธีหนึ่ง แต่เมื่อแยกตามรายวิธี เราพบว่ายาคุมกำเนิดเป็นวิธีที่แพร่หลายมากที่สุด ประมาณ 47 เปอร์เซ็นต์ เลขคุมกำเนิดด้วยการรับประทานยา ตัวเลขนี้เพิ่มขึ้นถึง 21 เปอร์เซ็นต์ จากปี 2518

เมื่อวิเคราะห์เฉพาะในหมู่สตรีที่กำลังแต่งงานอยู่ (ไม่นับผู้ที่เป็หม้าย หย่าร้างหรือแยกกับสามี) เพื่อที่จะดูว่าในปัจจุบันมีสตรีในกลุ่มนี้มากน้อยเท่าใดที่กำลังใช้การคุมกำเนิดอยู่ทำให้เราพบว่า มีสตรีอยู่ถึง 51 เปอร์เซ็นต์ ที่กำลังคุมกำเนิดอยู่ ในจำนวนนี้พบว่า 40 เปอร์เซ็นต์ของกลุ่มใช้ยาคุมกำเนิด 25 เปอร์เซ็นต์ เป็นหญิงที่ทำหมันแล้ว ส่วนหญิงที่สามีทำหมันมีอยู่ 7 เปอร์เซ็นต์ สตรีที่ใช้ยาฉีดมีอยู่ 7 เปอร์เซ็นต์ เช่นกัน ใส่ห่วง 8 เปอร์เซ็นต์ ใช้ถุงอนามัย 4 เปอร์เซ็นต์ ใช้การนับระยะปลอดภัยประมาณ 3 เปอร์เซ็นต์ และประมาณ 4 เปอร์เซ็นต์ ใช้วิธีหลั่งน้ำอสุจินอกช่องคลอด

ผลที่ได้จากการวิเคราะห์ข้อมูลของเราครั้งนี้ เมื่อเปรียบเทียบกับผลการสำรวจวิจัยในอดีต พบว่าการใช้การคุมกำเนิดได้เพิ่มขึ้นอย่างรวดเร็วในระยะประมาณ 10 ปี ที่ผ่านมาระหว่างปี พ.ศ. 2511 ถึง พ.ศ. 2521 การเพิ่มขึ้นได้เพิ่มในสตรีทุกช่วงอายุ และเมื่อเราวิเคราะห์ถึงสาเหตุที่ทำให้อัตราการภาวะเจริญพันธุ์ในประเทศลดลง เราพบว่าการคุมกำเนิดที่แพร่หลายในหมู่สตรีที่แต่งงานแล้วได้เป็นสาเหตุใหญ่ที่ช่วยให้ลดอัตราการเพิ่มของประชากร สตรีในตัวอย่างของเราส่วนใหญ่รู้แหล่งที่ตนจะไปติดต่อขอใช้บริการคุมกำเนิด แสดงว่าการใช้บริการวางแผนครอบครัวเป็นเรื่องที่ขึ้นอยู่กับความต้องการส่วนบุคคล ถ้าหากว่าบุคคลใดต้องการที่จะวางแผนครอบครัวก็จะสามารถแสวงหาได้โดยไม่มีอุปสรรคในเรื่องสถานที่ ๆ ตนจะไปแต่อย่างใด โดยเฉลี่ยสตรีจะเสียเวลาในการเดินทางเพื่อไปรับบริการหรือจัดหาอุปกรณ์ในการคุมกำเนิดเพียง 35 นาที ในจำนวนนี้ก็ขึ้นอยู่กับวิธีที่สตรีนั้นใช้อยู่ด้วย เช่น ถ้าเป็นยาคุมกำเนิดหรือถุงอนามัยก็จะใช้เวลาน้อยกว่านี้ โดยส่วนรวมเราจึงสามารถกล่าวได้ว่าสตรีไทยได้รับความสะดวกในเรื่องการรับบริการและเสียเวลาเดินทางเพียงเล็กน้อยเท่านั้น ซึ่งอาจจะเป็นสาเหตุหนึ่งในหลาย ๆ สาเหตุที่ทำให้การวางแผนครอบครัวในประเทศไทยได้แพร่หลายและประสบความสำเร็จอย่างมาก นอกจากนี้เมื่อพิจารณาในด้านราคาก็พบว่า ค่าใช้จ่ายในการจัดหาหรือรับบริการก็มีได้สูงมากนักจนทำให้เกิดความรู้สึกเป็นภาระรายจ่ายที่ประชากรไทยต้องประสบ ดังนั้น จึงทำให้เห็นว่าการจัดบริการให้ในรูปแบบให้เปล่าของรัฐ น่าจะยังคงเป็นนโยบายที่จะต้องดำเนินต่อไป ถ้าหากว่ารัฐต้องการที่จะลดอัตราการเพิ่มของประชากรต่อไป ในแผนพัฒนา 5 ปี ฉบับที่ 5 ต่อไป