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**TRENDS IN FERTILITY, FAMILY PLANNING,  
AND CHILDHOOD MORTALITY IN TURKEY**

**Findings from National Demographic Surveys  
and Population Censuses**

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## PREFACE

The Turkish Demographic and Health Survey (TDHS) was conducted in 1993 by the Hacettepe University Institute of Population Studies, Ankara, Turkey, with the collaboration of the General Directorate of Mother and Child Health and Family Planning, Ministry of Health and Macro International Inc. of Calverton, Maryland, U.S.A. as part of the worldwide Demographic and Health Surveys program, which is being by the latter organisation. It is designed to provide information administered especially on fertility, family planning and maternal and child health.

This trend report, which is one of the objectives of the TDHS project, has been prepared after the completion of the survey, with the purpose of combining the results of the TDHS with those of previous demographic surveys and other related data sources. It shows the changes in fertility, family planning and child mortality in Turkey in recent years.

We would like to thank the authors of this trend report -Assist.Prof. Banu Ergöçmen, Assist.Prof. Attila Hancıoğlu, and Assist.Prof. Turgay Ünalın. We owe a special debt of gratitude to the staff of Macro International Inc., in particular to Dr. Edilberto Loaiza for reviewing the report and providing comments.

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## INTRODUCTION

In 1993, the Turkish Demographic and Health Survey (TDHS) was conducted by the Hacettepe Institute of Population Studies, Ankara, Turkey, under a subcontract through an agreement between the General Directorate of Mother and Child Health and Family Planning, Ministry of Health, Turkey, and Macro International Inc. of Calverton, Maryland, USA. The TDHS was funded by the U.S. Agency for International Development (USAID), and was conducted as part of the worldwide Demographic and Health Surveys project, designed to collect, analyze and disseminate demographic data on fertility, family planning and maternal and child health. One of the objectives of the TDHS project was the publication of a trend report after the completion of the survey, so as to combine the results of the TDHS with those of previous demographic surveys and other appropriate data sources providing information on the main areas of interest of the TDHS.

This report has been prepared in accordance with the above-mentioned initiative. Therefore, it provides descriptive documentation of changes that have taken place in the areas of fertility, family planning, and childhood mortality in Turkey in recent decades. Findings mainly from the 1978 Turkish Fertility Survey, the 1983 Turkish Fertility and Health Survey, the 1988 Turkish Population and Health Survey and the 1993 Turkish Demographic and Health Survey, as well as population censuses have been brought together to document demographic trends in Turkey since the establishment of the Republic, with particular emphasis on the last two decades. In this report, comparisons have mainly been limited to those indicators that could be produced from both the TDHS data and the previous surveys.

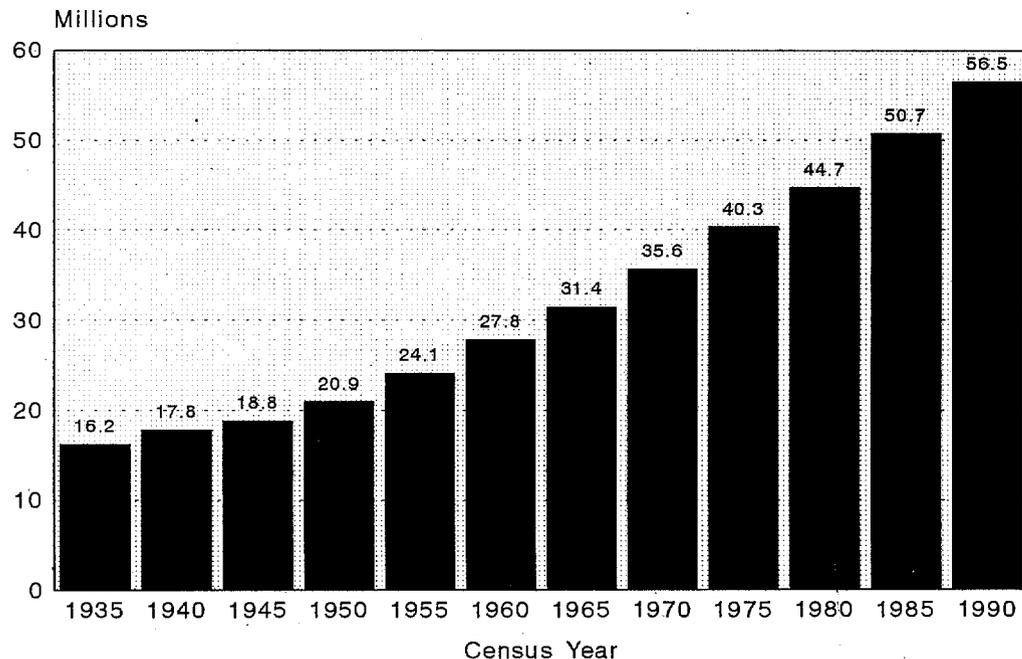
Turkey has a relatively long history of census taking and a powerful tradition of conducting nationwide demographic surveys. The first modern population census was carried out in 1927, four years after the founding of the Republic of Turkey, and beginning with 1935, censuses have been conducted by the State Institute of Statistics every five years. The history of nationwide demographic surveys dates back to 1963. In that year, the School of Public Health, Ministry of Health, conducted a demographic survey to obtain estimates of vital rates, unavailable through other conventional sources like the registration system, and to address demographic and other related problem areas of interest, such as contraceptive use, abortions, and childhood mortality. With the objective of providing useful demographic data during intercensal periods, the Institute of Population Studies, Hacettepe University took the initiative of conducting nationwide demographic surveys every five years, beginning with 1968. The TDHS is the latest in the series of quinquennial demographic surveys conducted by the Institute of Population Studies. Most of the findings presented in this report originate from the data collected in these surveys.

## BACKGROUND

### Total Population Size

- Turkey's population was 13.6 million according to the 1927 census, carried out four years after the establishment of the Republic of Turkey. Beginning with the 1935 census, *de facto* population censuses were conducted at 5-year intervals. In 1935, the Turkish population was enumerated as 16.2 million. The latest census in 1990 put the figure at 56.5 million. The total population estimate for 1995 is around 61 million.
- Turkey's population grew at an average annual rate of 2.3 percent during the 63-year period from 1927 to 1990. Within this relatively short period of time, the population almost quadrupled. In accordance with this population growth, population density increased from 18 persons per square kilometers in 1927 to 73 in 1990.

Figure 1  
Total Population Size  
1935-1990

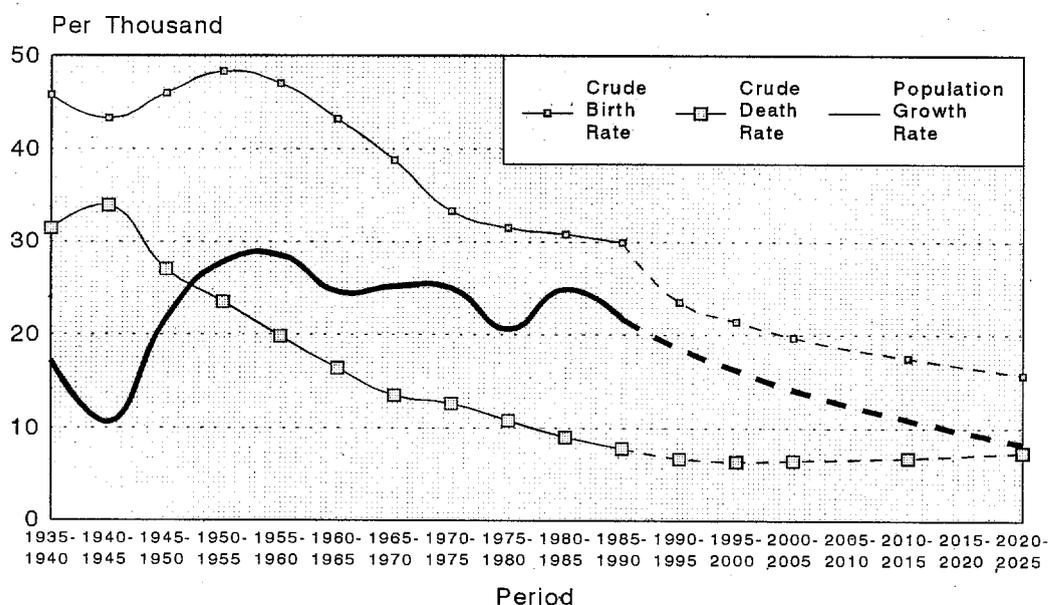


Source:  
State Institute of Statistics (1993)

## Population Growth Rates and Crude Birth and Death Rates

- Until the late 1940s, rates of population growth in Turkey were below 2 percent per annum. High crude birth and death rates prevailed until this period.
- Crude death rates began to decline soon after the Second World War. Crude birth rates rose to almost 50 per thousand in the 1950s; the highest population growth rate, 28 per thousand, was experienced during the 1955-1960 period.
- Almost parallel declines in the crude birth and death rates took place since the 1950s. As a consequence, population growth rates have been fairly stable, fluctuating between 2 and 2.5 percent per annum.
- The population growth rate is estimated as 1.8 percent for the 1990-1995 period. Estimates for the crude birth rate and death rate are, respectively, 23 and 7 per thousand for the same period.
- Based on the projections assuming that the fertility rate will decline to replacement level by the period 2000-2005, the population of Turkey is expected to reach 76 million in 2010 and 88 million in 2025.

Figure 2  
Population Growth Rates,  
Crude Birth Rates and Crude Death Rates  
1935-2025

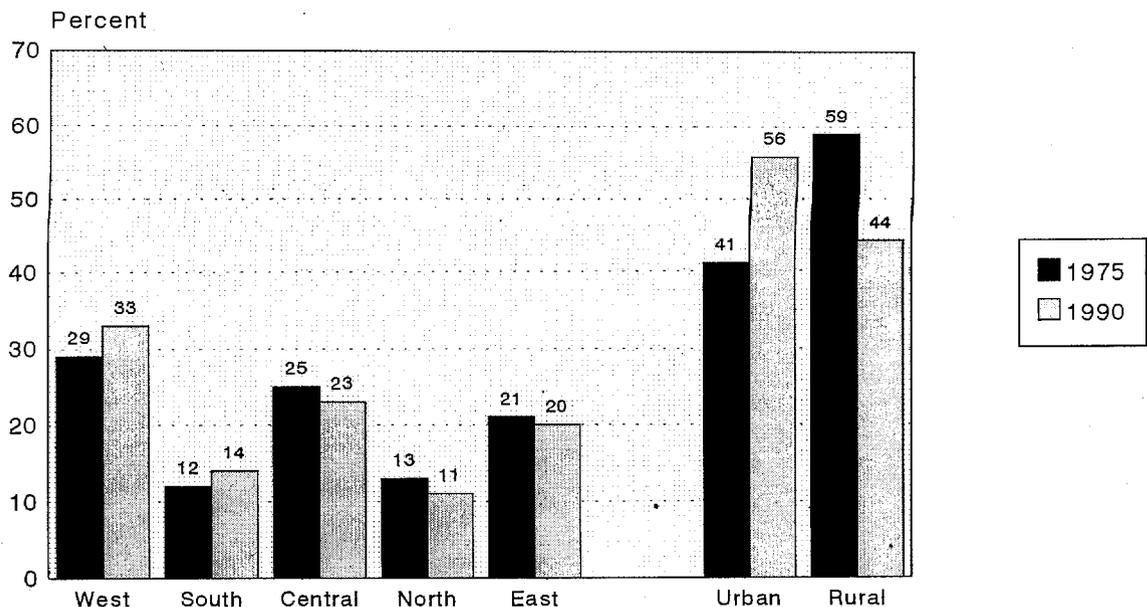


Sources:  
Shorter and Macura (1982)  
State Institute of Statistics (1993, 1995)

## Regional and Urban-Rural Distribution of the Population

- During the period from 1975 to 1990, the proportion of urban population rose from 41 percent to 56 percent. The natural growth of the urban population and the reclassification of growing rural settlements into urban settlements, as well as migration from rural to urban areas have been responsible for this increase.
- Rapid urbanization in Turkey has caused an array of economic and social problems in the large cities. These problems range from the provision of services related to basic infrastructure, such as electricity, housing, water supply and transportation, to pollution, traffic problems and the provision of basic social services, such as health and education.
- During 1975-1990, the proportion of the population in the Western and Southern regions increased, while those of the Central, Northern, and Eastern regions decreased. Migration from the Eastern and Northern regions to metropolitan cities in the Western and Southern regions have been responsible for the changes in the regional distribution of the Turkish population.

Figure 3  
Distribution of Population  
by Region and Urban-Rural Residence  
1975-1990



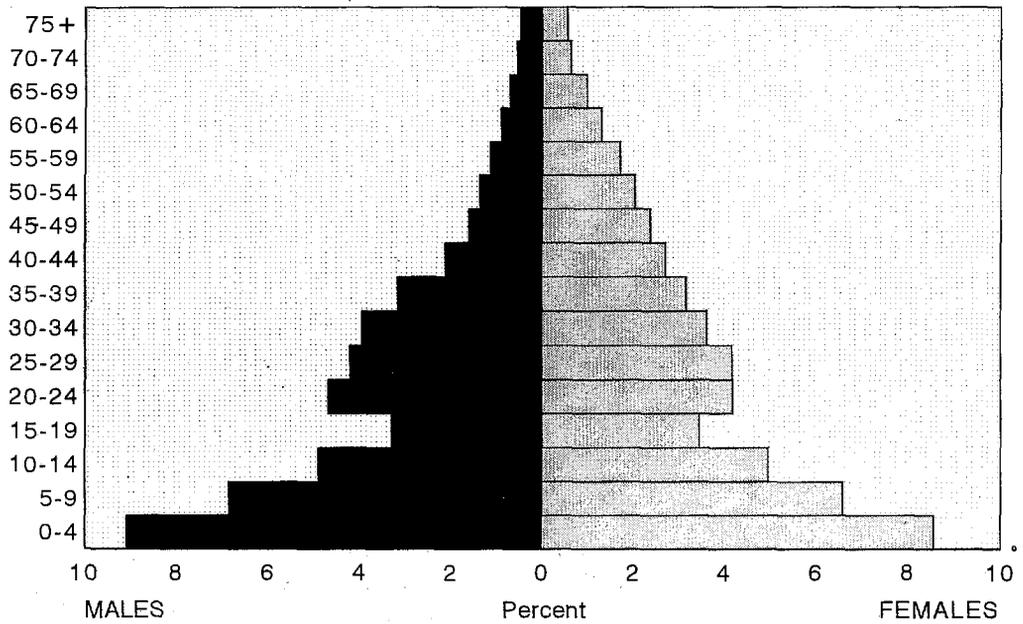
Source:  
State Institute of Statistics (1995)

## Age and Sex Composition

- Profound changes have taken place in the age composition of the Turkish population. In general terms, the comparison of the 1935 and 1990 population pyramids shows the radical change in the age composition, stemming from the transition from a high fertility and high mortality setting to a declining fertility and mortality situation.
- The 1935 pyramid carries the marks of the First World War and low birth rates before and during the War of Independence. The deficit of males in comparison to females in the adult ages are due to human losses during the First World War years, whereas the deficit in the 15-19 age group is mainly due to low birth rates during the war years. The wide base of the pyramid is indicative of high birth rates in the early years of the Republic.
- The 1990 population pyramid is indicative of declining birth rates, as well as improvements in life expectancy. Rapid declines of fertility in recent years is reflected in the narrowing base of the pyramid.
- In 1935, there were 76 children age 0-14 per 100 population in the age group 15-64. This figure declined to 58 children in 1990. On the other hand, the proportion of the elderly (age 65 and over) in the Turkish population has never exceeded 5 percent.
- The overall sex ratio of the Turkish population, according to the 1990 Population Census, is around 103 males per 100 females. Due to the rapid urbanization since the 1950s, a deficit of males is observed in the rural areas, particularly in the young adult age groups.

Figure 4  
Population Pyramid, 1935

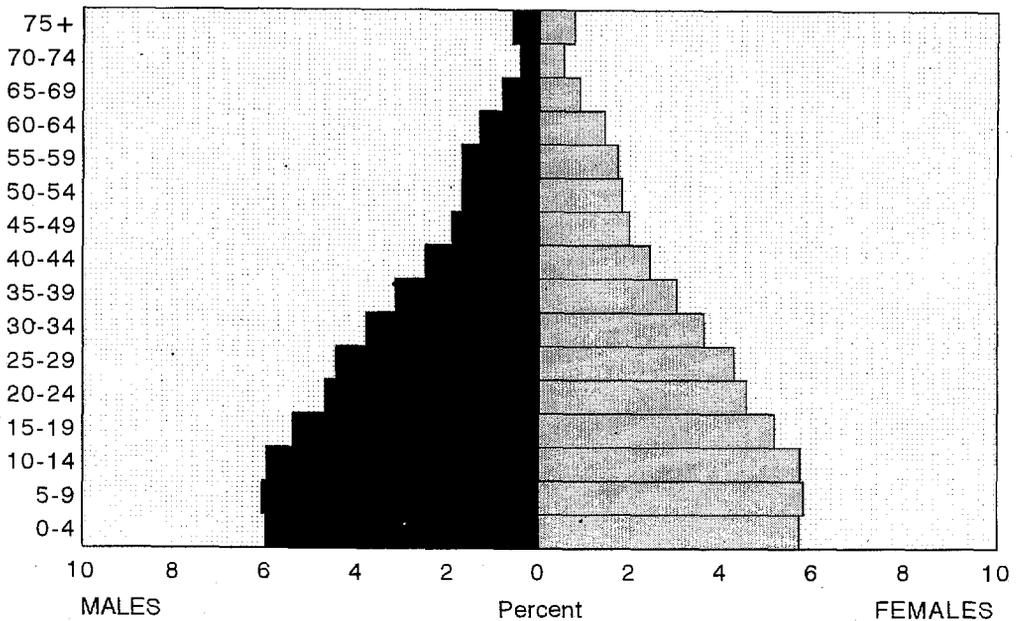
Age Group



Source:  
Shorter and Macura (1982)  
Note:  
Age distribution corrected for age misreporting

Figure 5  
Population Pyramid, 1990

Age Group

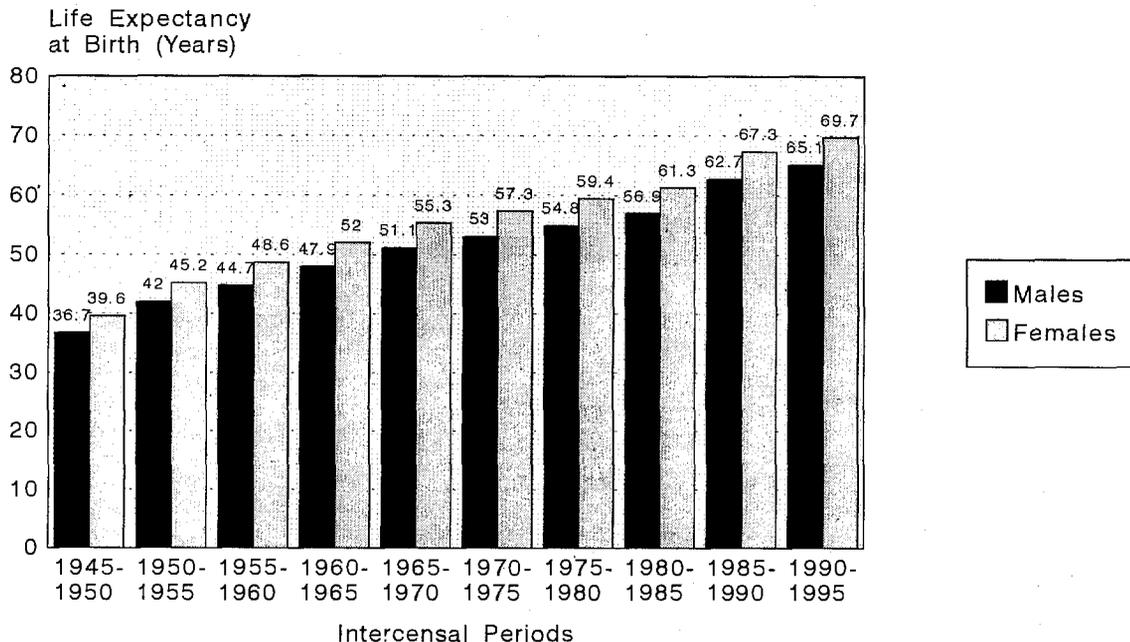


Source:  
State Institute of Statistics (1995)  
Note:  
Age distribution corrected for age misreporting

## Life Expectancy

- Life expectancy of the Turkish population has steadily improved in the 50 years between 1945 and 1995. On the average, life expectancy at birth for Turkish males and females increased by almost 75 percent during this period.
- During the post-Second World War years, the life expectancies at birth for males and females were 36.7 and 39.6 years respectively. With the introduction of more efficient measures of preventive care and better quality health services, life expectancy rose to above 50 years during the 1960s, and has continued to increase at a relatively fast pace. It is estimated that life expectancies at birth have reached 65.1 years for males and 69.7 years for females in the 1990-1995 period.
- The difference between the life expectancies of males and females has always been in favor of females. The differential in question was about 3 years in the late 1940s; it has increased to more than 4 years in the early 1990s.
- Increases in life expectancy during the recent decades have mainly been due to improvements in the survival of children.

**Figure 6**  
**Life Expectancy at Birth by Sex**  
**1945-1995**

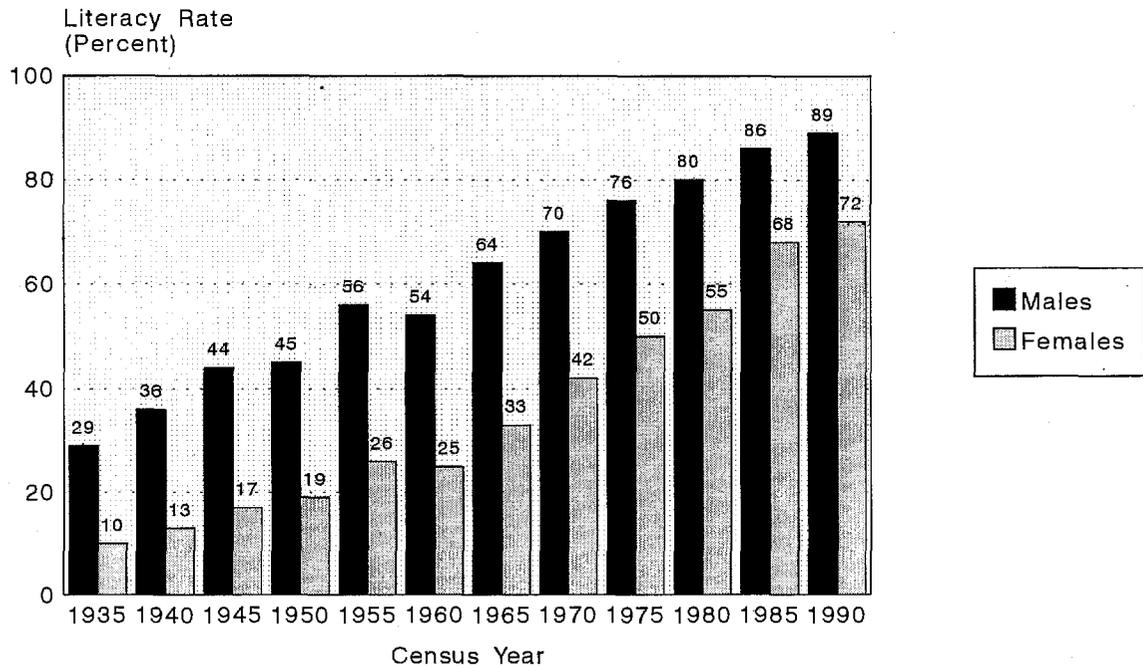


Sources:  
State Institute of Statistics (1993, 1995)  
Shorter and Macura (1982)

## Literacy

- In 1935, the Turkish population had a low literacy rate. Literacy rates for the population above 6 years of age were 10 percent and 29 percent for females and males, respectively. Since the 1930s, literacy rates have increased significantly; these rates reached 72 and 89 percent in 1990.
- Although the gap between male and female literacy has declined over the period in consideration, a sizable proportion of females still are illiterate.

Figure 7  
Literacy Rates by Sex  
1935-1990



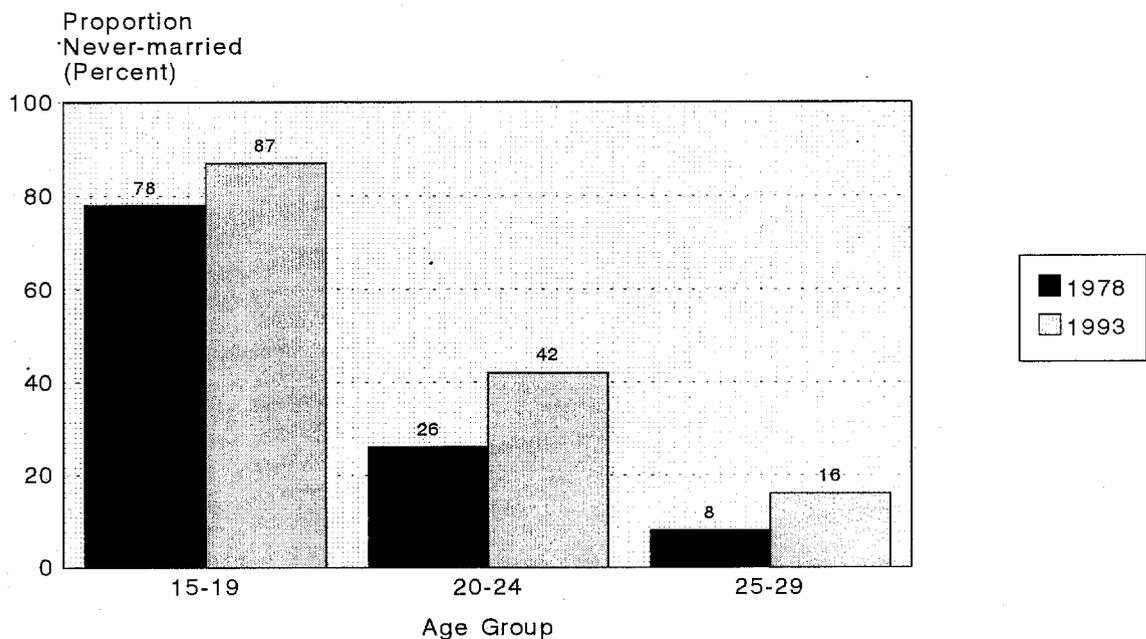
Source:  
State Institute of Statistics (1993)

# CHANGES IN MARRIAGE PATTERNS, FERTILITY, FAMILY PLANNING AND CHILDHOOD MORTALITY

## Proportions Never-married and Age at Marriage

- The postponement of age at marriage is observed from the proportions never-married. In 1978, 78 percent of women age 15-19 had never married. This proportion rose to 87 percent in 1993. The proportion never married among women age 25-29 doubled during the period under consideration.
- Marriages at very young ages are becoming less common in Turkey. The age at marriage has significantly increased in the last twenty years. The median age at first marriage was estimated as 18.3 years for the 45-49 age group of women in the 1993 TDHS; the same indicator was calculated as 20.0 for the 25-29 age group.

Figure 8  
Proportions Never-married Among Women



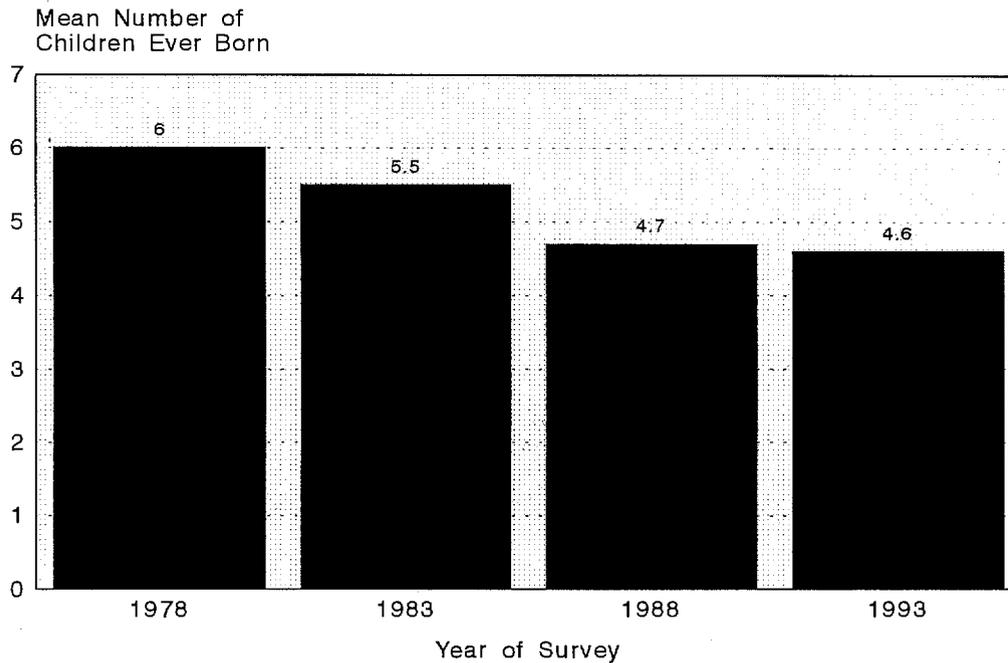
Sources:  
1978 TFS, 1993 TDHS

Note:  
The term "married" refers both to currently married and currently in union

## Mean Number of Children Ever Born

- Women born in the 1930s completed their fertility with 6 children on the average, while those born in the 1940s completed their fertility with 1.4 less children.
- The decline in the mean number of children ever born for women completing their fertility between 1978 and 1988 has been greater than the comparable decline for those completing their fertility in 1988 and 1993.

Figure 9  
Mean Number of Children Ever Born  
(Women Age 40-49)

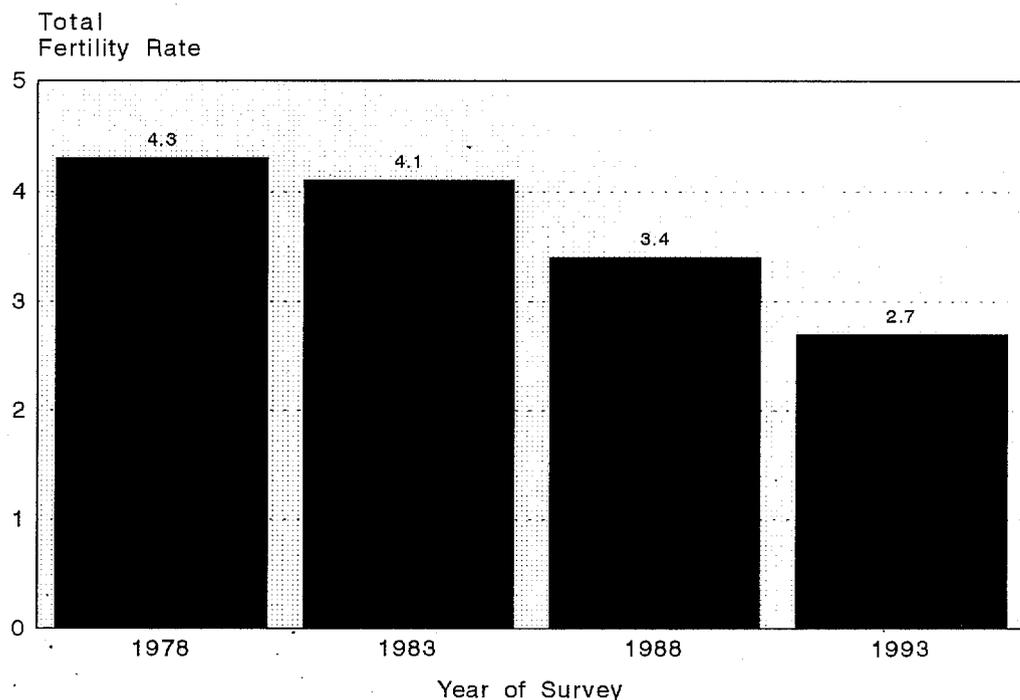


Sources:  
1978 TFS, 1983 TFHS, 1988 TPHS, 1993 TDHS

## Total Fertility

- Fertility rates in Turkey have declined from 4.3 births in 1978 to 2.7 births in 1993, representing a reduction of more than a third over the past 15 years.
- The rate of decline in fertility has approximated 3 percent per year from 1978 to 1993. However, the decline has been more pronounced in the late 1980s and early 1990s.
- The age pattern of fertility has also changed significantly in recent decades. In 1978, fertility above age 35 accounted for 16 percent of total fertility; in 1993, this figure fell to 9 percent.

Figure 10  
Total Fertility Rate

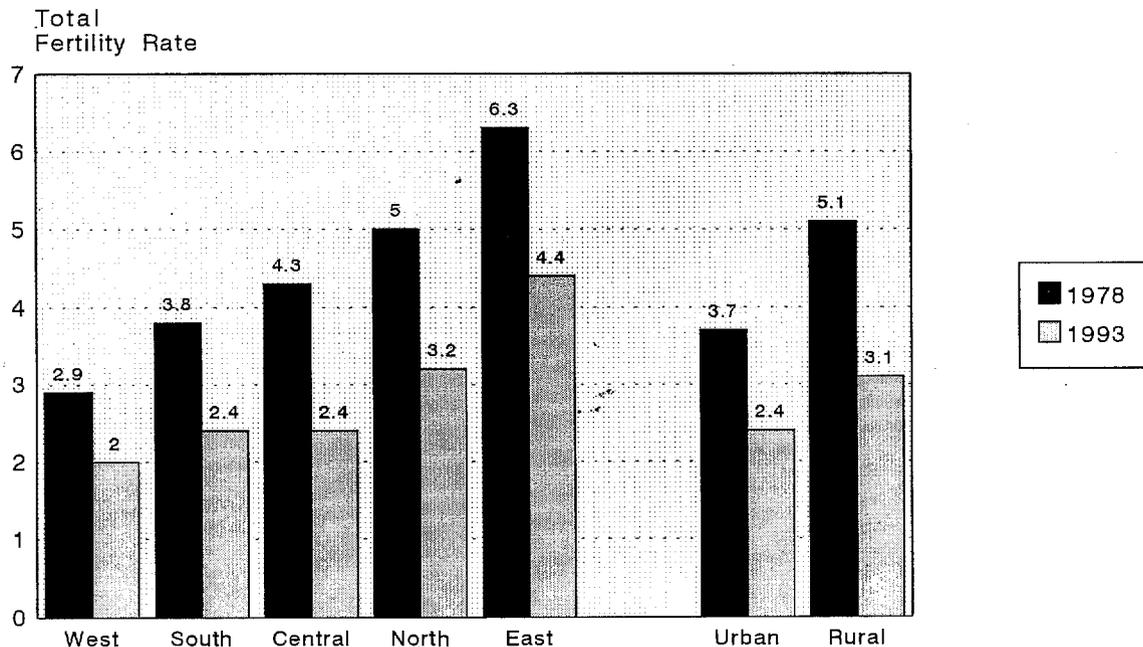


Sources:  
1978 TFS, 1983 TFHS, 1988 TPHS, 1993 TDHS

## Variations in Total Fertility

- All regions in Turkey experienced a decline in fertility between 1978 and 1993. In relative terms, however, the decline in fertility has been fastest in the Central region, followed by the Southern and Northern regions. In the Western region, where fertility was lowest in 1978, and in the Eastern region, where fertility was highest in 1978, the declines have been around 30 percent. This is an appreciable amount of decline in current fertility in a relatively short period of 15 years.
- Similar rates of decline, on the order of 35 percent, appear to have taken place in the urban and rural areas.

Figure 11  
Total Fertility Rates  
by Regions and Urban-Rural Residence

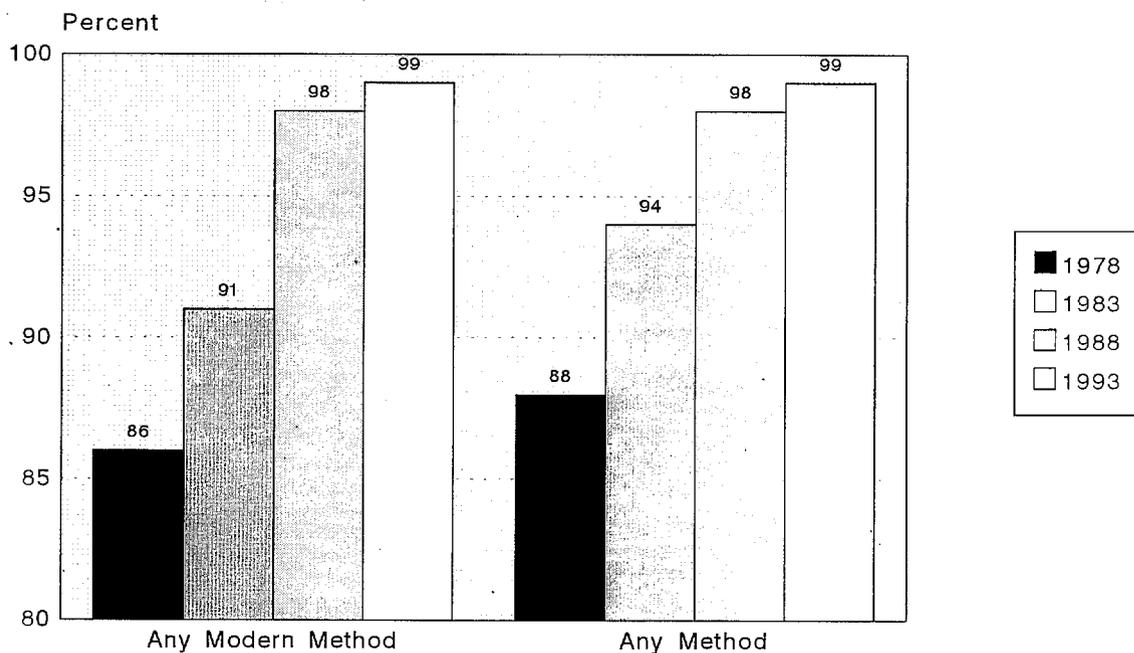


Sources:  
1978 TFS, 1993 TDHS

## Knowledge of Family Planning

- Knowledge of family planning methods has increased considerably since 1978. In 1993, virtually all women knew some method of family planning.
- Knowledge of modern family planning methods is also universal. The proportion of women knowing some modern family planning method has increased from 86 percent in 1978 to 99 percent in 1993.

Figure 12  
Knowledge of Family Planning  
(Percentage of Ever Married Women Age 15-49)

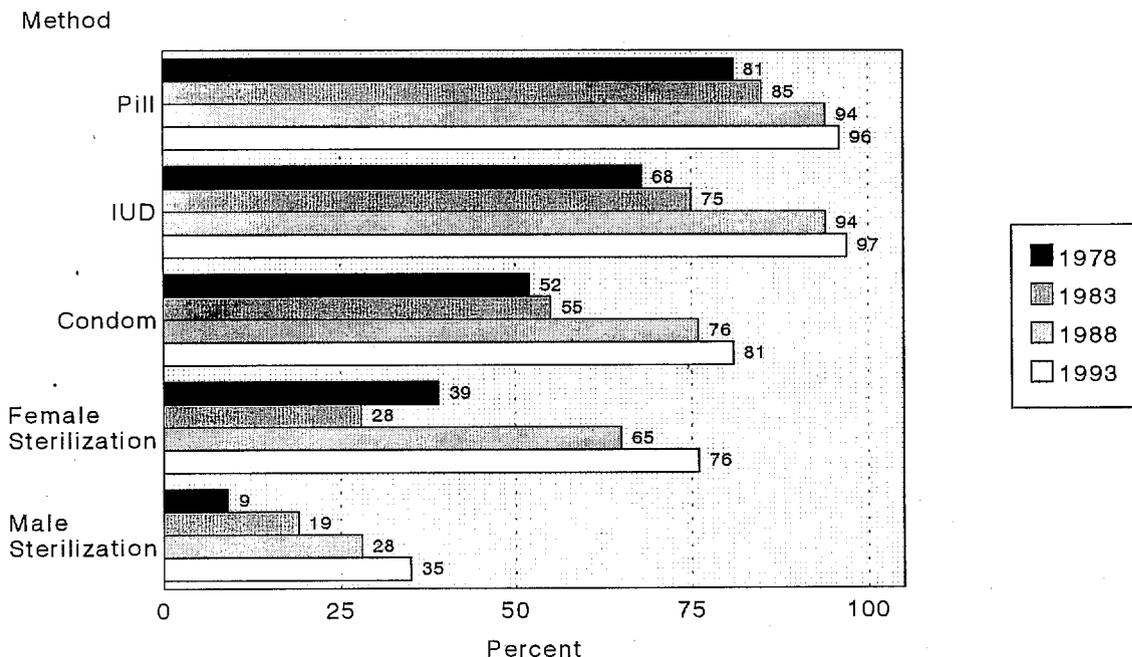


Sources:  
1978 TFS, 1983 TFHS, 1988 TPHS, 1993 TDHS

## Knowledge of Specific Modern Contraceptives

- Women in Turkey know all the major modern contraceptive methods. In 1978, the most widely known method was the pill, known by 81 percent of ever-married women of reproductive age. Increased knowledge of methods was observed in the late 1980s. Knowledge of the pill and IUD became almost universal. Half of women in 1978 knew of the condom; this figure reached 81 percent in 1993.
- Only a third of women knew of female sterilization as a contraceptive method in 1978; the figure increased to three-fourths of women in 1993. In comparison, male sterilization was known by only 9 percent of Turkish women in 1978; in 1993, 35 percent of women declared that they knew male sterilization.

**Figure 13**  
**Knowledge of Specific Modern Contraceptives**  
**(Percentage of Ever-Married Women Age 15-49)**

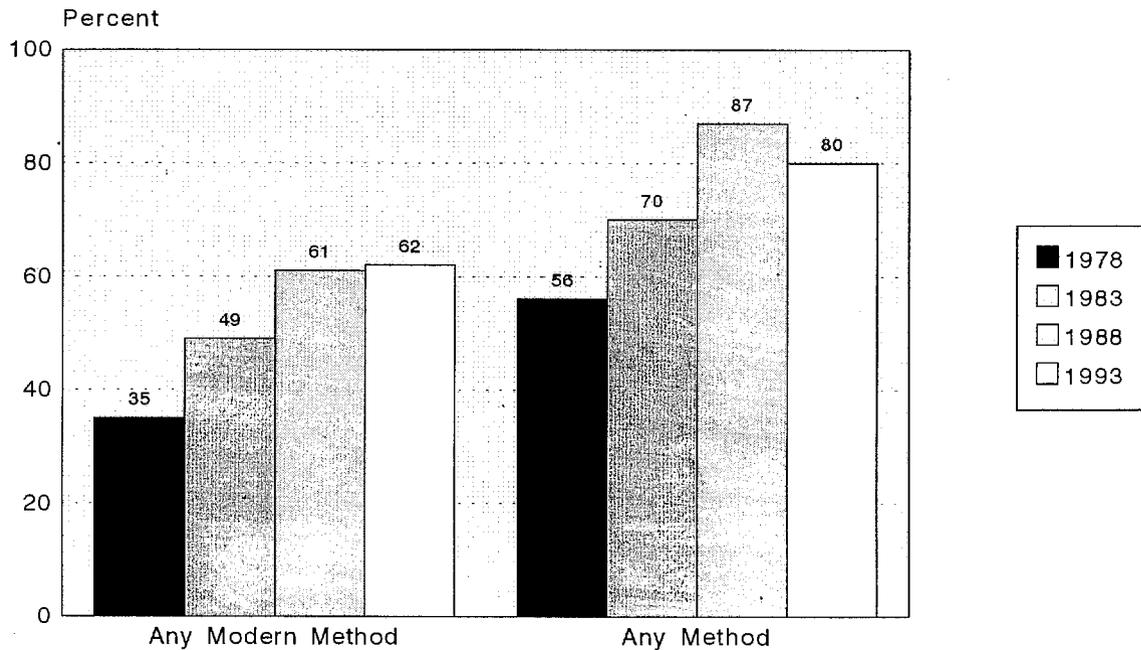


Sources:  
 1978 TFS, 1983 TFHS, 1988 TPHS, 1993 TDHS

## Ever Use of Family Planning

- The proportion of married women who have used a family planning method sometime in their lives has increased substantially over the last 15 years. In 1978, 56 percent of married women age 15-49 reported having ever used a family planning method compared to 80 percent in 1993.
- There is a marked increase in the percentage of married women ever using a modern family planning method. However, in the last 5 years preceding the TDHS, the amount of increase in the percentage of women ever using a modern family planning method has been minimal.

Figure 14  
Ever Use of Family Planning Methods  
(Percentage of Currently Married Women Age 15-49)

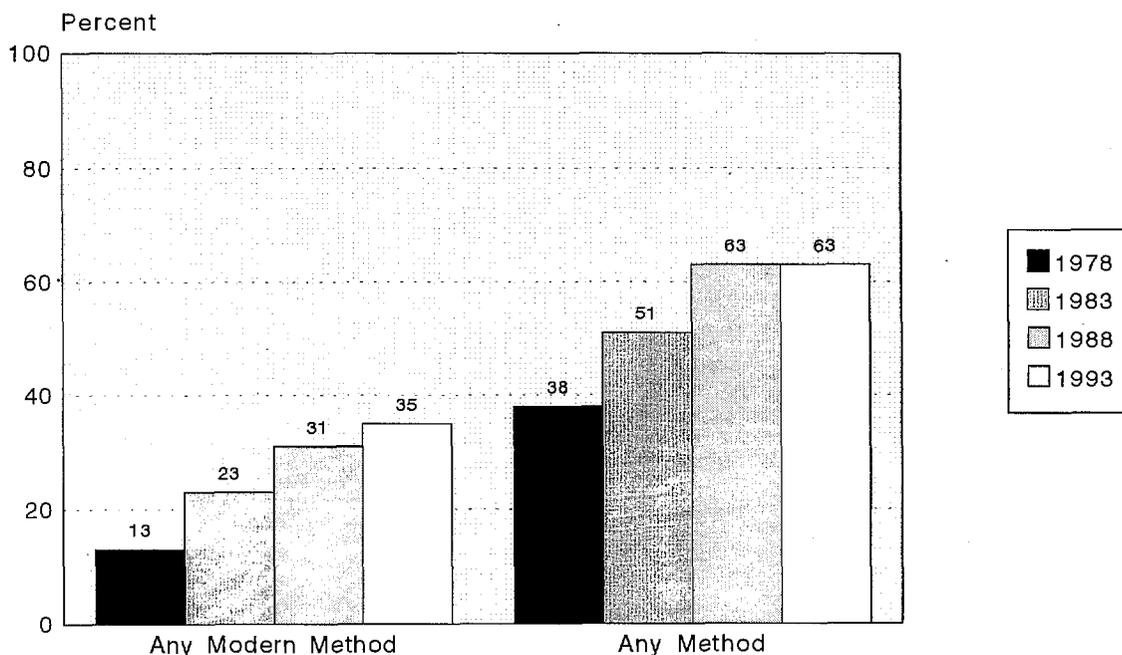


Sources:  
1978 TFS, 1983 TFHS, 1988 TPHS, 1993 TDHS

## Current Use of Family Planning

- The percentage of married women using a family planning method has steadily increased over the 15 years preceding the 1993 TDHS. At the time of the 1993 survey, 35 percent of married women were using a modern method of family planning; this figure was a mere 13 percent in 1978.
- In 1978, 1983 and 1988, the proportion of women using traditional family planning methods were more than those using modern family planning methods. In 1993, the proportion of women using modern methods was 6 percent more than women using traditional methods.

Figure 15  
Current Use of Family Planning Methods  
(Percentage of Currently Married Women Age 15-49)

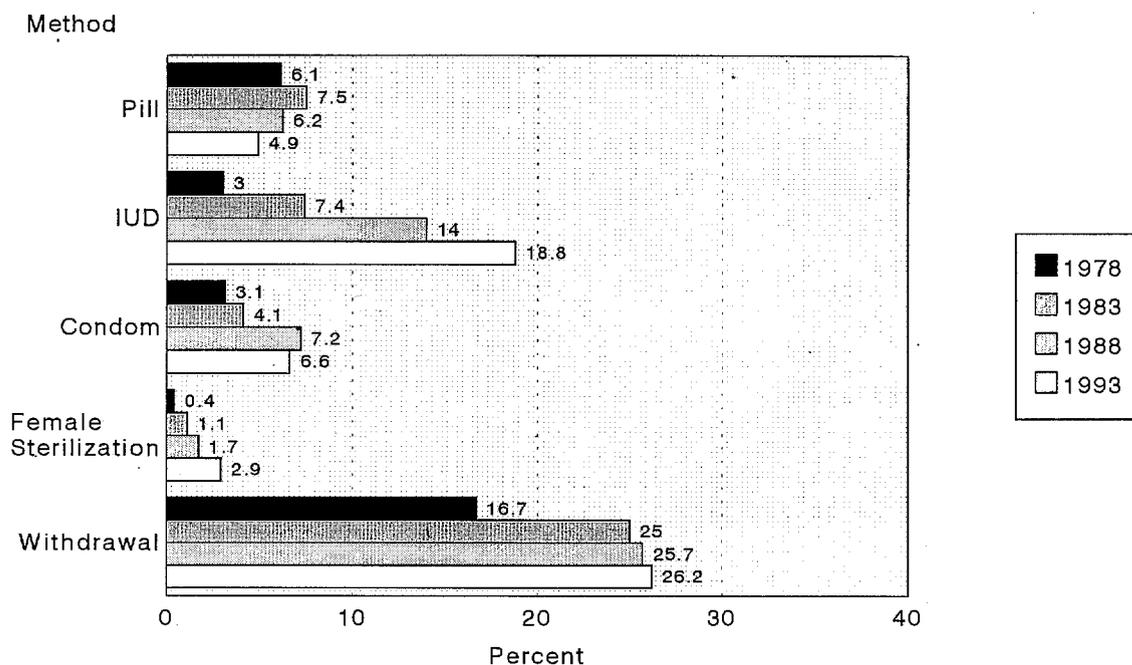


Sources:  
1978 TFS, 1983 TFHS, 1988 TPHS, 1993 TDHS

## Current Use of Specific Contraceptive Methods

- In Turkey, the pill was the most popular of the modern family planning methods in 1978; in 1993, IUD has become the most popular method. The percentage of married women using the IUD increased by 16 percent since 1978. However, the proportions of women using the pill declined over this period despite overall increases in modern family planning use.
- Withdrawal has always been the most widely preferred method among Turkish couples. Since 1978, the proportion of Turkish couples using withdrawal to avoid pregnancies has risen from 17 percent to 26 percent.

**Figure 16**  
**Current Use of Specific Family Planning Methods**  
**(Percentage of Currently Married Women Age 15-49)**

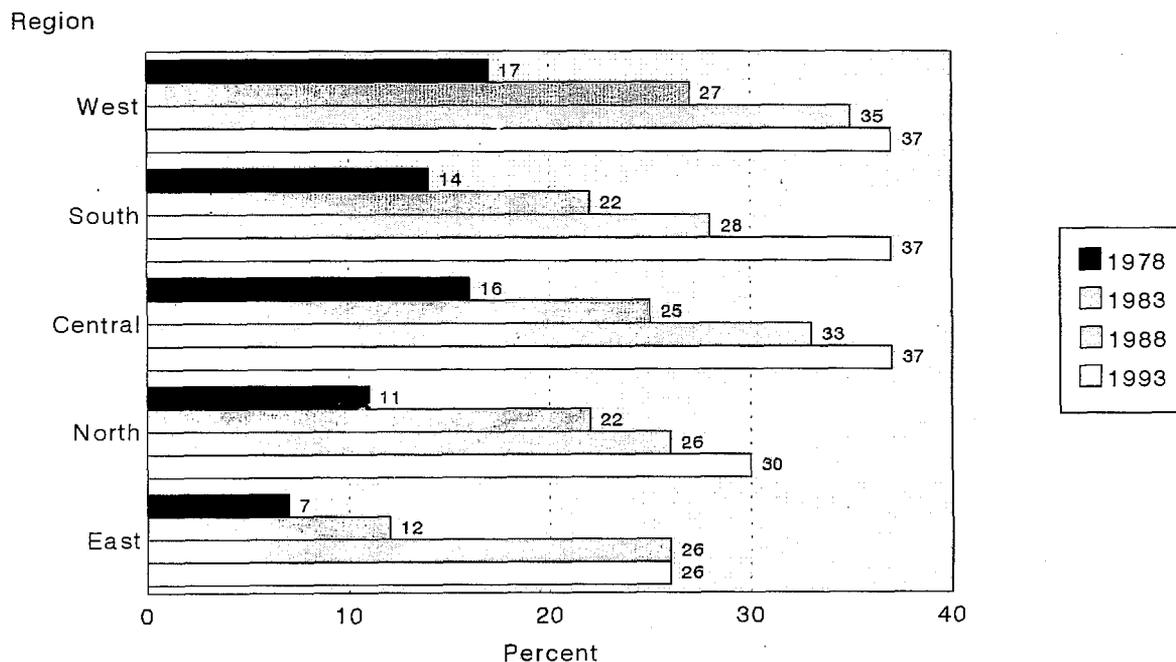


Sources:  
 1978 TFS, 1983 TFHS, 1988 TPHP, 1993 TDHS

## Variations in the Current Use of Modern Contraception by Region

- Higher proportions of modern contraceptive use prevailed in the Western and Central regions in 1978. The prevalence of modern contraceptives increased considerably in the 1983 TFHS; more than one-fifth of women were using a modern method of contraception in all regions, except the East.
- The 1988 survey revealed that the level of modern contraceptive use was increasing in all regions. The change in the East region, however, was especially noteworthy. By 1993, the proportion of modern contraceptive use increased considerably in the Southern region, reaching levels similar to those of the Western and Central regions.

Figure 17  
Current Use of Modern Contraception by Region  
(Percentage of Currently Married Women Age 15-49)

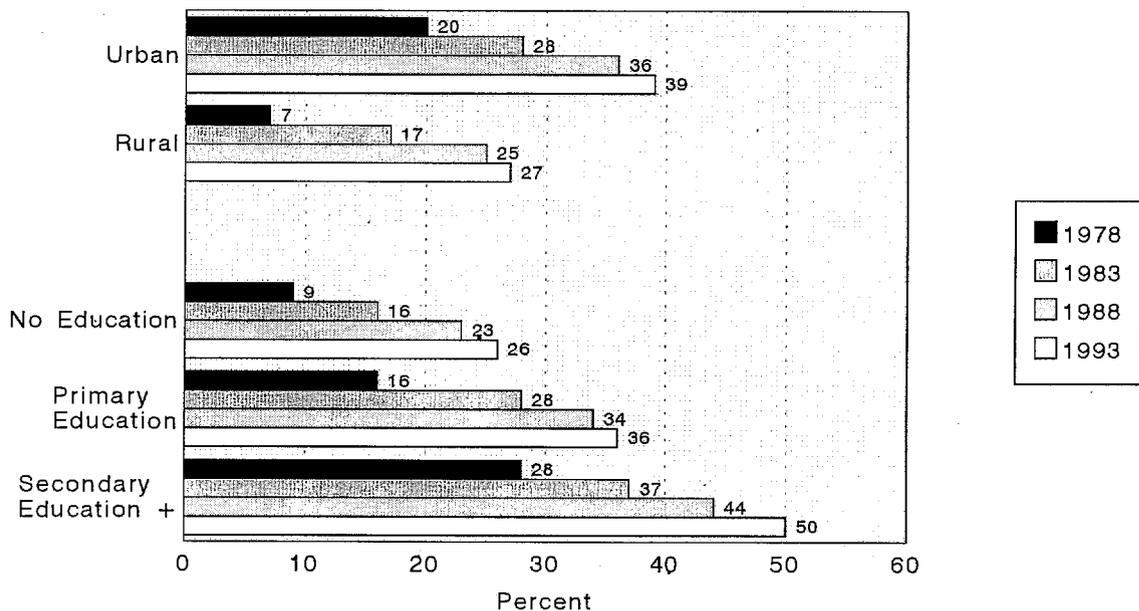


Sources:  
1978 TFS, 1983 TFHS, 1988 TPHS, 1993 TDHS

## Variations in the Current Use of Modern Contraception by Urban-Rural Residence and Education

- The proportion of women using modern contraceptives has increased in both urban and rural areas between 1978 and 1993. The rate of increase has been similar in both urban and rural areas; the differential has thus remained the same.
- The proportion of married women using a modern method of family planning has increased at every level of education.
- Despite the fact that use of modern contraception has become more widespread among educated women, half of women with secondary or more education are still using a traditional method or not using a method at all.

Figure 18  
Current Use of Modern Contraceptive Methods  
by Residence and Education  
(Percentage of Currently Married Women Age 15-49)



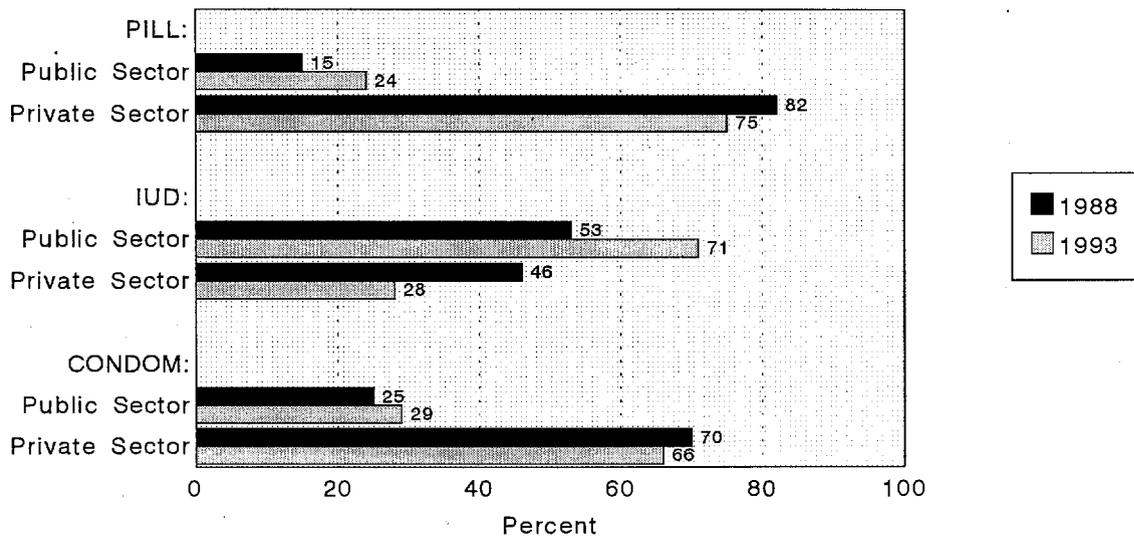
Sources:  
1978 TFS, 1983 TFHS, 1988 TPHS, 1993 TDHS

## Source of Supply

- There have been changes in the pattern of provision of major modern contraceptive methods in recent years; the popularity of public sector sources has increased during the five-year period from 1988 to 1993.
- The most significant change in the source of supply has been observed in the supply of the IUD. This development has paralleled the increase in the prevalence of the IUD, and the intensification of family planning programs on the promotion of this method.

**Figure 19**  
**Source of Supply among Current Users of Selected Contraceptive Methods**

METHOD and Source of Supply

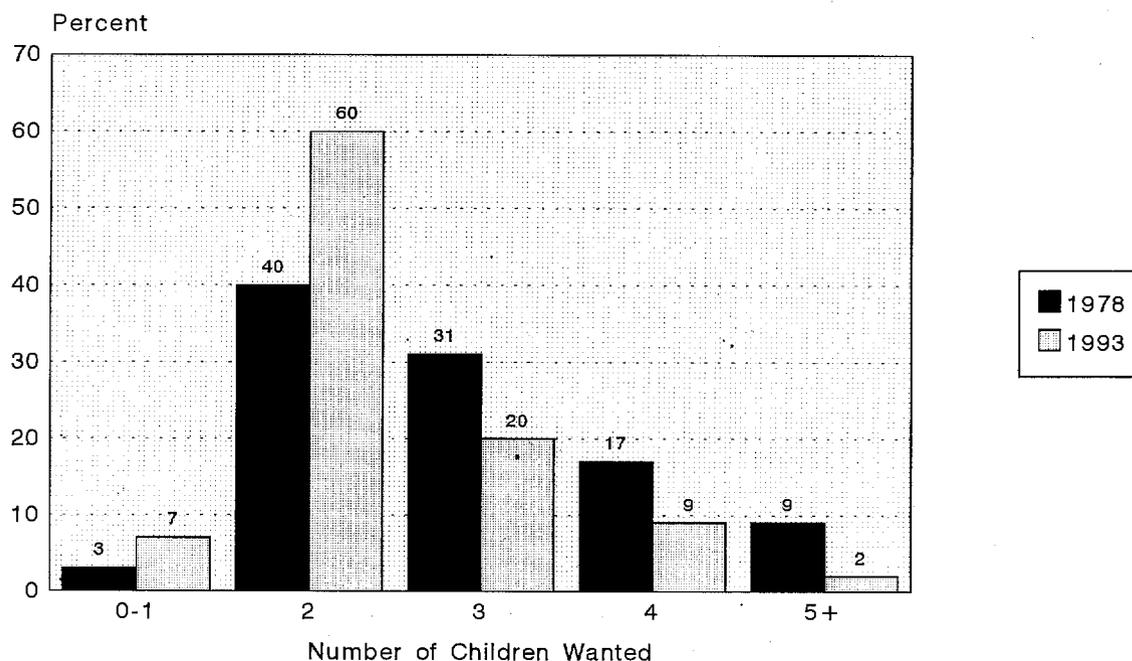


Sources:  
 1988 TPFS, 1993 TDHS  
 Note:  
 Small percentages of "other" sources  
 are excluded from the figure

## Desire for More Children and Ideal Family Size

- The reduction in fertility reflects changes in the fertility preferences of Turkish women. Whereas half of the married women of reproductive age in 1978 desired to stop childbearing, this proportion increased to almost 70 percent in 1993.
- The average ideal family size among Turkish women decreased from 3 children in 1978 to 2.4 children in 1993. Sixty percent of women preferred an ideal family size of two children in the 1993 TDHS; the comparable figure from the 1978 TFS was 40 percent.
- In 1978, 57 percent of women reported an ideal family size of three children or more; this figure declined to 31 percent in 1993.
- The 1993 TDHS results showed that if all unwanted births were avoided, a Turkish woman would have an average of 1.8 births. The corresponding figure in the 1978 TFS was 3 children.

Figure 20  
Ideal Family Size  
(Ever Married Women Age 15-49)

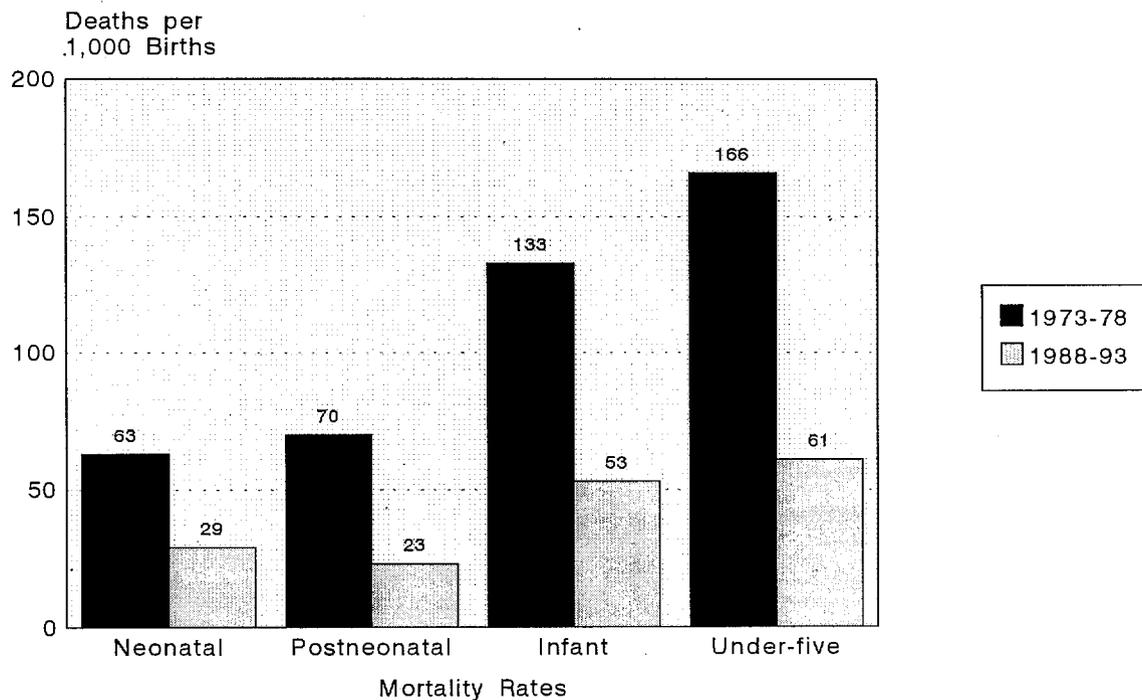


Sources:  
1978 TFS, 1993 TDHS

## Childhood Mortality

- Between the late 1970s and early 1990s, infant and child mortality rates fell sharply. The infant mortality rate was estimated as 133 per thousand live births from the 1978 TFS for the five-year period immediately preceding the survey. The comparable estimate from the 1993 TDHS was 53 per thousand births.
- Child mortality has declined more rapidly than infant mortality; the ratio of infant mortality to under-five mortality has increased from 0.80 to 0.87 in the period under consideration.
- During the last two decades, infant and child mortality in Turkey underwent a period of structural transformation. Results from the 1978 TFS indicated higher postneonatal mortality than neonatal mortality; this relationship reversed in the 1993 TDHS.
- The fast improvement in the survival chances of Turkish children has been achieved by the provision of better quality health services to mothers and children, including national immunization campaigns and maternal and child care programs in priority areas of the country, as well as general improvements in social and economic conditions.

Figure 21  
Childhood Mortality Rates



Sources:  
1978 TFS, 1993 TDHS

## DATA SOURCES

### ■ **Population Censuses**

The first census in Turkey was carried out in 1927. The second census took place in 1935 and from thereon censuses have been carried out regularly at 5-year intervals. The last census was conducted in 1990. All censuses have been conducted under the same de facto principle and completed on a single day. From 1990 onwards, population censuses will be carried out on a de jure basis at 10 year intervals. The State Institute of Statistics is responsible for carrying out population censuses.

### ■ **The Turkish Fertility Survey (TFS), 1978**

The 1978 TFS was conducted under the auspices of the World Fertility Survey (WFS) by the Hacettepe University Institute of Population Studies. It was a cross-sectional survey with a nationally representative equal probability (self-weighting) sample of households. Interviews were conducted with 5,142 households and 4,431 ever-married women younger than 50 years of age. A household and an individual questionnaire were used. The individual questionnaire consisted of seven sections: respondent's background, birth history, marriage history, contraceptive knowledge and use, fertility regulation, work history and husband's background.

### ■ **The Turkish Fertility and Health Survey (TFHS), 1983**

The 1983 TFHS was carried out by the Hacettepe University Institute of Population Studies. Interviews were completed in 6,545 households with 5,398 ever-married women under age 50. The TFHS was carried out with a nationally representative probability sample of households. The sample design was a stratified multistage element sample. A household and an individual questionnaire were used. The individual questionnaire had eight sections: respondent's background, fertility, fertility regulation, availability of contraceptive methods, basic health information, marital history, work history and husband's background.

### ■ **The Turkish Population and Health Survey (TPHS), 1988**

The 1988 TPHS was conducted by the Hacettepe University Institute of Population Studies. The sample of this cross-sectional survey was selected by a multistage stratified cluster sampling procedure. The TPHS covered 6,552 households and 5,257 ever-married women under age 50. A sub-sample of 2,264 husbands were also interviewed. In the TPHS, three questionnaires were used; a household, a woman's and a husband's questionnaire. The woman's questionnaire covered the following topics: respondent's background characteristics, fertility and fertility preferences, contraceptive knowledge and practice, and polygamous marriage. The husband's questionnaire consisted of five sections: respondent's background characteristics,

marriage, fertility and fertility preferences, contraceptive knowledge and practice, and general attitudes and behavior.

■ **The Turkish Demographic and Health Survey (TDHS), 1993**

The TDHS was conducted as part of the worldwide Demographic and Health Surveys (DHS) program. The TDHS had a nationally representative sample of 8,619 households and 6,519 ever-married women under 50 years of age. The TDHS provided information on fertility and childhood mortality, family planning awareness, approval and use, and basic indicators of maternal and child health.

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