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**LEVELS AND TRENDS OF FERTILITY IN OMAN  
AND YEMEN\***

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The views expressed in this paper are those of the author and do not imply the expression of any opinion on the part of the United Nations Secretariat.

## **Introduction**

Oman and Yemen are neighboring countries occupying the southern part of the Arabian Peninsula. The first census of the population of Oman, which was conducted in December 1993, estimated the population size at 2 million, of which 27 percent were non-Omanis. Estimates for 1998 put the population size at 2.3 million (Sulaiman, Al-Riyami and Farid., 2000). In Yemen, the 1994 population census (the first population census after unification in 1990) estimated the population at 15.8 million, of whom 14.9 million were residents (CSO and MI, 1998).

The populations of Oman and Yemen are growing at rapid rates (3.6% and 3.4% per annum, respectively). These rapid growth rates are a result of considerable decline in mortality and continued high fertility. Estimates for 1998 indicated that in Oman the crude birth and death rates were 40 per 1000 and 4 per 1000, respectively (Sulaiman, Al-Riyami and Farid, 2000), while in Yemen estimates for 1996 reported the crude birth rate at 45 per 1000 and crude death rate at 11 per 1000(CSO and MI, 1998).

The absence of reliable demographic information in the past has hampered analyses of the population dynamics in the two countries. This task became feasible with the availability of nationally representative demographic data that were collected by a series of surveys (the 1991/92 and 1997 surveys of Yemen, and the 1988/89, 1995, and 2000 surveys of Oman).

This paper utilizes the data reported by the surveys of Oman and Yemen to study the level and trends of fertility in both countries. The paper will attempt to identify the proximate determinants of fertility trends, as well as the role played by a set of underlying contextual factors on the observed trends in each of the two countries.

## **Fertility Levels and Trends**

Age specific fertility rates (ASFR) and total fertility rates (TFR) estimated for the three-year periods preceding each of the surveys of Oman and Yemen are reported in table (1). At the ASFRs that were prevailing during the late 1980s, Omani women were estimated to bear 8.6 live births by the end of their reproductive careers; their Yemeni counterparts were estimated to bear more than seven (7.7) live births. A study has shown that the TFR of 7.7 live births in Yemen is a product of the fact that Yemeni women begin childbearing at a relatively early age, and that a large proportion of these women reach high parity and they do so at a relatively fast pace (Eltigani, 2001). It is plausible to assume that these same factors were contributing to the very high fertility rate in Oman at that time.

By the mid-1990s the TFR is estimated to have declined by 1.6 live births in Oman, and by 1.2 live births in Yemen, leading to an estimated TFR of births 7.1 live births and 6.5 live births in the two countries, respectively. The rapid decline in TFR in Oman continued through the end of the 1990s. It was estimated that between the 1995 and the year 2000 the TFR has declined by 2 live births reaching 5.1 live births. This means that during a period of slightly more than one decade the TFR in Oman has declined by 3.5 live births.

The decline in the TFR in each of the two countries was associated with changes in the age pattern of fertility. The data displayed in the table show that during the period between the late 1980s and mid-1990s, and despite the fact that Omani women of all age groups (with the exception of those in the age group 45-49 years) have experienced a decline in fertility, the extent of the decline was considerably larger among women in the age groups 15-19 years through 25-

29 years. By the late 1990s, the groups of women experiencing a large decline in fertility, in addition to the mentioned above groups, extended to include those in the age group 30-34 years. On the other hand, in Yemen the groups of women that have experienced a relatively large decline in fertility were concentrated mostly among aged 35 years and older.

The difference in the age pattern of fertility associated with the fertility decline in the two countries indicates that the proximate determinants of fertility are exerting differential impact in each. That is, in Oman the decline in fertility during the period between the late 1980s and mid-1990s is mostly a product of marriage delay among younger cohorts of women. During the period between the middle and late 1990s, marriage delay continued to exert its fertility inhibiting effect among younger women, while the large decline in fertility of the women in the age groups 25-29 years and 30-34 years is related a decline of marital fertility among these groups of women. On the other hand, in Yemen the decline fertility seems to be a product of the decline of fertility within marriage.

The following two subsections briefly discuss changes in the proximate determinants (marriage patterns, duration of breastfeeding, and the use of family planning methods), leading to the observed decline in fertility in the two countries.

### ***Marriage***

As is well known, the proportion of women married, age at marriage, and marriage stability determines the extent and duration of exposure to conception and childbearing. In both societies, marriage and childbearing are viewed as interrelated social and demographic processes, and as sequential phases in the life cycles of women. Thus, upward shift in age at first marriage assumes special demographic significance. Table (2) shows the proportions of single females and estimated median age at first marriage, reported by the surveys in each of the two countries.

It is clear from the table that, in both countries, there is an increase in the proportion of the women in their childbearing years that are single, albeit that the extent of the increase is at significantly different magnitudes. Between 1988/89 and 1995 the proportion of single females have doubled in Oman (from 18% to 36%). By the year 2000 the proportion of these women reached 44%. In Yemen the increase in the proportion of single females was less spectacular (18%).

Most of the increase in the proportion of single females in Oman is due to the increase in the proportions of those single among younger cohorts (particularly those in the age groups 15-19 years through 25-29 years) indicating rise in incidence of marriage delay during recent years. In Yemen, there is almost no change in the proportion of single women among younger cohorts. Rather, the relatively slight increase in the proportion of single females is a result of the increase in the proportion of single women among those 30 years and older.

Estimates of the median age at first marriage shown in the table indicate that, in both countries, age at marriage was and continued to be low. It is clear that there has been a rise in age at first marriage among younger cohorts, those in the age groups 20-24 years and 25-29 years in Oman, and among those in age group 20-24 years in Yemen. The extent of the rise in age at first marriage among younger cohorts is larger in Oman than in Yemen, for example, the median age at first marriage of women in the age group 20-24 years is higher by 4.7 years compared to those in the age group 30-34 years. In Yemen the difference in the median age at first marriage between these two cohorts is 1.3 years. This confirms the earlier observation that the impact of marriage delay on the observed fertility decline is more important in Oman than in Yemen.

### ***Prevalence and Duration of Breastfeeding***

Among the elements influencing the level of marital fertility is the duration of the period of postpartum amenorrhea, associated with the intensity and duration of breastfeeding. Data from the surveys of both countries indicated that breastfeeding is almost universal in both countries, 99% of the children born during the three years preceding the 1995 Oman survey and 97% of children born during the five-years preceding the Yemen 1997 survey were breastfed (Sulaiman, al-Riyami and Farid, 2000, CSO and MI, 1998). These same data also indicated an increase in the mean duration of breastfeeding, from 16 months in 1988/89 to 19 months in Oman, and from 17 months in 1991/92 to 18 months in 1997 in Yemen.

The increase in the duration of breastfeeding in Oman might be a result of the effort promoting this practice by the health care authorities. Since, almost 90% of the births occur in health facilities, mothers receive counseling on proper childcare practices, including information on the benefits of prolonged breastfeeding, before leaving the facility. Health promotion is also carried-out by community volunteers who visit the homes of new mothers and discuss with them health related issues such as immunization of children, breastfeeding, and on proper hygienic practices (Elbahi, 2001). The increase in duration of breastfeeding in Yemen has been attributed to the increase in the cost of infant formula (Central Statistical Organization and Macro International, 1998).

### ***Use of Contraceptive Methods***

Marital fertility can be lowered through the use of family planning methods, which represents deliberate and conscious effort to space or limit childbearing. Reports on the practice of family planning in the two countries indicate that, by the mid-1990s, more than one-third of the ever-married women (35% in Oman and 38% in Yemen) have ever used family planning methods. These percentages are considerably higher than the percentages prevailing during the late 1980s (16% in Oman and 20% in Yemen). The data also indicate that, between the late 1980s and the year 2000, the percentages of the married Omani women practicing family planning has more than tripled (from 9% to 32%). In Yemen the percentage of these women has doubled between 1991/92 and 1997 (from 10% to 21%). The reported method mix in the two countries indicates that more than three quarters (77%) of the Omani married women practicing family planning use modern methods (mostly injectables, female sterilization, and pill). In Yemen less than one half (47%) of the married women using contraceptives at the time of the 1997 survey were using modern methods (mostly the pill and IUD).

Data on use of contraceptive methods by the married women in different age groups reported by the surveys of Oman and Yemen are displayed in figure 1. The data reported by the earlier surveys show that contraceptives prevalence was highest among married women in the age groups 25-29 years through 35-39 years. The same pattern in contraceptive prevalence by age of married women is reported by the later survey in both countries. However, the Figure reveals a large increase in prevalence among both younger and older married Omani women, and among older married Yemeni women.

The levels and trends of fertility in Oman and Yemen, as well as their main proximate determinants, are likely to have been influenced by a number of contextual factors exerting differential impact in each of the two populations. The contextual factors that will be considered include; political stability and economic development, expansion of education opportunities (particularly for females), decline in childhood mortality, and population policy measures. The impact of each of these factors on fertility trends has been extensively discussed in the literature

(e.g., Mason, 1987, Hirschman, 1994, Hirschman and Young, 2000). It should be borne in mind that these factors are neither mutually exclusive nor independent. This makes the problem of strict causal attribution an arduous task.

## **Contextual factors**

### ***Political Stability and Economic Development***

Until 1970 the ruler of present day Oman was known as the Sultan of Muscat (the coastal area) and Oman (the rugged interior imamate). The issue in Oman was one of internal unity, where the historical split between coast and interior had continued through the second half of the nineteenth century and the first part of the twentieth. The dispute between the two areas was exacerbated by the exploration for oil, which began in Oman in 1924. In 1957 the sultan was successful in expanding his authority to the interior. The Al Said (the ruling dynasty) hold over the region remained problematic, however. The isolation and xenophobia that the sultan (Said ibn Taimur) forced on the country left Oman grossly underdeveloped, despite increasing oil export revenues in the late 1960s. The isolation forced on the country in general, and on Dhofar in particular, led to breaking-out of a rebellion in Dhofar in 1964 (Metz, 1993). By 1970 a coalition of Omani military and civilian forces, as well as British forces, forced the Sultan to abdicate to his son Qabus ibn Said Al Said (the present sultan). The new sultan consolidated the Sultanate's hold over the interior, and then solicited help from regional forces to put down the Dhofar rebellion, which he managed to achieve in 1976.

The new sultan, aided by oil export revenues, immediately started to implement a massive economic and social development program. Prior to the commercial exploitation of oil in 1967, the economy consisted of subsistence agriculture and fishing. Social and economic infrastructure was almost non-existent. For example, in the 1960s Oman had only two hospitals, three schools, and ten kilometers of paved roads. In the late 1980s there are 47 modern hospitals, 710 schools, and more than 3000 kilometers of paved roads (Sulaiman, Al-Ghassany and Farid, 1992). The standard of living has enormously improved since the mid-1970s. Oman entered the development process as one of the poorest Arab countries, with a per capita income of \$360 in 1970 (Metz 1993). By 1980s per capita income rose to \$3,140, finally reaching \$6,211 in 1998 (Sulaiman, Al-Riyami and Farid, 2000).

Yemen has experienced a turbulent political history during the last 40 years. The two states forming the current Republic of Yemen emerged through revolutions (in 1962 in North Yemen, and in 1963 in South Yemen). Prior to these revolutions, North Yemen was ruled by an isolationist monarchy that could best be described as medieval, while the southern port city of Aden had been administered as a British Crown colony, with the numerous sultanates of the hinterland loosely federated as British protectorates (Boxberger, 1998). Following the 1962 revolution the Yemen Arab Republic was created in North Yemen. A subsequent civil war between Republicans (supported by Egypt) and Royalists (supported by Saudi Arabia) forces lasted until 1967. In that same year, the People's Democratic Republic of Yemen proclaimed independence in South Yemen. The two emergent Yemeni states followed dramatically different political philosophies, with South Yemen taking a radical Marxist approach and North Yemen being ruled by a succession of conservative military governments (Ibid, p. 121). However, in spite of the vastly divergent policies adhered to by either state, the two parts of Yemen were unified in May of 1990 and the Republic of Yemen emerged.

The attainment of Yemeni unification fostered high expectations that it would create a new opportunity for economic and social development. However, the anticipated progress did not materialize. Divergent domestic interests emerged. Political squabbles continued, particularly between senior politicians from the two former states of Yemen, finally culminating in open warfare between the two factions in May 1994, threatening the unity attained just four years earlier. The May 1994 military strife was put down two months later. The unstable political situation damaged the economy. The Yemeni economy received a severe blow from another front. The Iraqi invasion of Kuwait in August 1990, helped exasperate the already worsening economic conditions. Yemen's refusal to join the anti-Iraqi coalition led to sharp cuts in aid programs by the Gulf Arab countries. In addition, the expulsion of hundreds of thousands of Yemeni workers from Saudi Arabia and other gulf countries deprived the economy of billions of dollars in remittances used to be sent home by these workers. The deterioration in economic conditions in Yemen is reflected in the rising inflation rates, widespread unemployment, and increased poverty. It was estimated that between 1990 and 1995, per capita income was declining by a rate of 9.8% per annum, leading to that per capita income in 1995 (\$270) is equal to 38% of that in 1990 (Mut'har and others, 1996).

This narrative shows that, the political stability that has been enjoyed by Oman over the past 25 years have enabled the authorities to concentrate on designing and implementing a successful and wide ranging modernization program that touched all aspects of the life of the Omani population. On the other hand, Yemen is still striving to muster this stability, a condition without which addressing the complex problems of underdevelopment, including the question of high fertility rate becomes a futile task.

### *Expansion of Education*

It was estimated that during the mid 1970s only five percent of the Omani girls in the age group 6-11 years were enrolled in school (Zurayk, 1979). As part of its modernization drive, the government of Oman has put much emphasis in expansion of education to both males and females. By the late 1980s there has been considerable expansion in enrollment both among males and females of all age groups, table (3). For example, by the late 1980s, 87% of the males and 81% of the females in the age group 6-10 years were enrolled in school. By the mid-1990s these percentages have reached 94% and 92% among males and females, respectively. The rapid expansion in school enrollment among females has led to narrowing of gender gap in education among those in the primary and secondary schools age groups.

In Yemen, World bank estimates for 1965 (cited in Boxberger, 1998) indicated that in South Yemen 23% of the children in primary school age (10% of the girls) were enrolled; of the secondary school age group 11 percent of the total were enrolled, with 5% of the girls. In North Yemen, of the primary school age group, 9% were enrolled (1% of the girls); no girls in the secondary school age group were enrolled (p.121).

The governments of the two former Yemens and of unified Yemen made considerable effort to expand access to education. The data in the table shows that during the early 1990s 72% of the males in the age group 6-10 years were enrolled in school. The corresponding enrollment rate of girls was less than one-half of that of boys (35%). Among males and females in the age group 16-20 years, the disparity in enrollment rates was more striking (61% and 14%, respectively). The data in the Table also shows that by 1997 the enrolment rates of males of all age groups have actually declined, while that of females has increased. For example, among males in the age group 6-10 the enrollment rate has declined to 67%, while that of females in the same age group have increased to 41%. The decline in enrollment of boys during recent years

might be related to that, worsening economic conditions has forced some parents to send their boys to work to help support the family. Also the diminishing prospects of securing a job after finishing school have created a disincentive for obtaining an education.

Efforts to considerably expand school enrollment rates of males and females in Yemen are frustrated by high dropout rates. A study covering the period 1987/88-93/94 has estimated that 41% of the first graders (35% of males and 56% of females) dropout of school before reaching the seventh grade (Mut'har and others, 1996). Numerous social and economic factors contribute to the high dropout rates of girls. Among the social factors is the perception that too much education may limit a girl's marriage prospects, especially in rural areas where the educational levels of men are also low. In sparsely populated areas primary schools may be coeducational. By the time a girl reaches puberty it becomes unacceptable for her to be among unrelated males. Furthermore, the fact that there exists a very limited employment opportunities for educated young females outside major urban areas makes girl's labor more valuable than formal schooling (Boxberger, 1998).

The divergent experience of Oman and Yemen in the area of female education is reflected in the education make-up of the ever-married females. Table (4) shows that, during the late 1990s, the percentage of those with no schooling in Yemen is more than two and one-half times of those in Oman (84% and 31%, respectively). On the other hand, the percentage of the ever-married Yemeni women with at least preparatory school education (4%) is less than one-seventh of their counterparts in Oman (30%). These data on education attainment of females in Oman and Yemen signal a more rapid improvement in the status of women in the former than in the latter country. Thus, it can be argued that the impressive expansion in school enrollment of girls, particularly among those of preparatory and secondary school age has led to the observed rise in age at first marriage in Oman during recent years. Furthermore, the rise in the education status of the married women has contributed to the continued rise in contraceptives prevalence.

### ***Decline in Infant and child Mortality***

During the 1970s, Estimates of infant mortality rate (IMR) and of non-infant child mortality rate (NICMR) were high in both countries. In Oman it was estimated that, during the period 1969-1973, out of every 1000 live births, 140 infants die before reaching their first birthday. Among those reaching their first year of age, 98 per thousand do not reach their fifth birthday (Sulaiman, Al-Ghassany and Farid, 1992). In Yemen, these rates were even higher. During the period 1973-77, the IMR was estimated at 157/1000 live births and NICMR was estimated at 127/1000, (CSO and MI, 1994). By the mid-1990s the IMR and the NICMR have declined considerably in both countries.

Figure 2 shows that the rate of decline in childhood mortality rates is steeper in Oman than in Yemen. During a period of two decades, Oman has managed to reduce the IMR by 90 %, and NICMR by 94%. In Yemen, the IMR has declined by 52% and the NICMR by 75%. However, despite this considerable decline, childhood mortality rate in Yemen continued to be the highest among Arab countries, with the exception of that in Iraq during recent years (Population Reference Bureau, 2000).

This rapid decline in childhood mortality rate in Oman related to the rapid rise in the standard of living, rapid improvement in levels of education, particularly among females, and to expanded coverage of health and sanitation services. It was estimated that in 1995, 82%, 96%, and 78% of the population have access to safe water supply, health, and sanitation services, respectively (United Nations Development Programme, 1998). The same factors that contributed

to the decline in childhood mortality in Oman were playing the same positive role in Yemen, though on a smaller scale. For example, there has been an improvement in coverage of health services, reaching 45% of the population by 1997 (CSO and MI, 1998). Furthermore, despite the recent decline in fertility, the continued reproductive behaviors conducive to high childhood mortality (early childbearing, high parity, and closely spaced births) are a contributing factor to the relatively high child mortality rates in Yemen.

### ***Population Policy***

The government of Oman considers the current birth rate of 40 per 1000 as too high, but it would like to maintain it (Sulaiman, Al-Riyami and Farid, 2000). There is no official population policy for the country. However, Oman is the only country among the Gulf States, which announced a family planning program (Al-Riyami, 1998). In October 1994, the Birth Spacing Services Program was initiated as an integral component of the Maternal and Child Health Care Program in the Ministry of Health. The Program provides information about contraceptives through counseling in MCH clinics. Contraceptives are available and may be obtained for free at all MOH health centers and also through commercial outlets (Sulaiman, Al-Riyami and Farid, 2000).

The Yemeni authorities have come to realize that the rapid population growth (estimated at 2.4% in 1975, 3.1% in 1986, and expected to reach 3.6 in the year 2000) is imposing itself as one of the major national challenges, which hamper efforts toward development and stability requiring immediate policy and practical measures (Central Statistical Organization, 1992). The government drafted a national population strategy for the period 1990-2000. The strategy was adopted as a national policy at the National Population Conference in 1991. Following the conference, the National Population Council was created to oversee implementation of the policy. The strategy, which was endorsed by the Council of Ministers in 1991, set a number of objectives that include:

- Reduction of IMR to 60/1000, and maternal mortality rate from all causes by 50%.
- Reduction of TFR to 6 births per woman by the year 2000.
- Raise contraceptive use among married women to 35%, and expanding family planning services to men.
- Expand basic education to reach an enrollment ratio of 85% or more among the school age population.
- Reduce adult illiteracy to less than 30% among males and to less than 50% among females.
- Raise primary health care coverage to 90%.
- Achieve a population distribution between urban and rural areas that corresponds to the prevailing environmental, economic, and production requirements.
- Protect and improve the environment.

By 1995 little progress to achieve any of these goals was made. The strategy was not translated into detailed programs within the national plans of governmental institutions, and the financial and human resources necessary for implementation were not available. This resulted in that most of the planned programs were not implemented, or when implemented, the implementation was not adequate (Mut'har and others, 1996). A national conference on population policy was held in October of 1996 with the aim of evaluating and assessing progress in implementation of the 1990-2000 population strategy, as well as revising the work plan on population in light of international, regional and local events (CSO and MI, 1998).



Family planning services were offered through MCH/FP programs of the Ministry of Public Health, the private sector (pharmacies), and the Yemeni Family Care Association (YFCA). The family planning service outlets assisted by the YFCA has grown steadily, from 75 centers in 1991, to 126 centers in 1992, reaching 231 centers in 1995 (Abdel Ghani, Bahebeishi and Abdalla, 1996).

## **Conclusions**

The previous discussion has shown that Oman and Yemen, countries that recorded the highest fertility rates during the late 1980s, have experienced appreciable decline in fertility during recent years. This declines in fertility has been brought about by both rise in age at first marriage and by a decline in fertility within marriage in Oman, and by decline in marital fertility in Yemen. A distinguishing feature of the fertility decline in each of the two countries is that in Oman it has been initiated by the younger cohorts of women, while in Yemen women aged 35 years and older led the transition to lower fertility.

The discussion also showed that the underlying contextual factors behind the rapid decline in fertility in each of the two countries differ. In Oman, political stability over the past two and one-half decades facilitated the implementation of a successful and wide ranging socioeconomic development effort leading to a rapid rise in the standard of living, and to a substantial improvement in the stock of human capital of the population. These developments, particularly the improvement in levels of education and of health status, provided the necessary and sufficient conditions for both the observed substantial decline in fertility during recent years, and for further fertility decline in the future. On the other hand, it can be inferred that worsening economic conditions and increasing poverty during recent years is the main factor prompting the fertility decline in Yemen.

The prospects of future fertility decline are embedded in the present realities in the two countries. In Oman continued expansion in school enrollment, particularly among secondary school and college age females, is expected to lead to further rise in age at first marriage. Expansion in school enrollment among these groups of females does not only lengthen the time they spend in schools, but also changes social norms about the proper age of marriage and attitudes regarding family size (Al-Riyami, 1998).

It has been argued that the Omani government provision of free medical care, social services, and education encourages families to continue to have a large number of children, since the monetary cost of children will be low (Eickelman, 1993). Fertility trends since the late 1980s have shown that this argument is not entirely correct. The fact that rapid socioeconomic development, and increased exposure to the outside world has created new aspirations and promoted the diffusion of new ideas about lifestyles in other parts of the world, particularly the West. Many young couples consider a large number of children as costly, and do not fit the image of a modern life style (Al-Riyami, 1998). The availability of modern family planning methods at both government health facilities and at private sector outlets, and the encouragement of government sponsored IEC message to use these methods, for child spacing purposes, will definitely enables most couples to achieve their desire for smaller families, leading to rapid future declines in fertility.

In Yemen fertility is also expected to continue its downward trend. However, this expected decline is not expected to be rapid. Tough economic conditions alone cannot be relied upon to produce a long-lasting transformation of the reproductive behavior. Transformation of reproductive behavior of the Yemeni women can be effected through improvement in their status,

particularly among those residing in rural areas (through expansion of schooling and paid employment opportunities). Improved coverage of health services leading to continued decline in childhood mortality is also essential for a rapid decline in fertility, since it reduces the need to bear a larger than desired number of children.

The decline in the desire for large families among married women reported by the 1997 survey, ideal family size declined from 5.4 children in 1991/92 to 4.5 children in 1997, shows that there exists potential demand for family planning services that needs to be met. The ability of the family planning program to meet current and expected future demand for contraceptive methods could be enhanced through technical and financial support by donors. As has been outlined earlier the non-availability of funding and the non-integration of population programs within the activities of government institutions led to the poor performance of the population strategy in its initial five years.

## References

Abdel Ghani, Nagiba. Bahebeishi, Nagia and Abdalla, Abdel Gabar (1996). Reproductive Health and Reproductive Rights. Paper presented to the Second National Population Conference. Sana'a, Yemen. October 26-29. In Arabic

Al-Riyami, Asya (1998). The Proximate Determinants of Fertility Decline in Oman. Paper presented to the meeting of the New Demography of Arab Countries. Social Research Center. The American University in Cairo. Cairo, Egypt. July 11-12.

Boxberger, Linda (1998). From Two States to One: Women's Lives in the Transformation of Yemen. In *Women in Muslim Societies: Diversity within Unity*, Herbert Bodman and Nayereh Tohidi, eds. Boulder, Colorado: Lynne Rienner Publishers. PP. 119-133.

Central Statistical Organization, Yemen (1992). *National population Strategy 1990-2000 and Population Action Plan*. Ministry of Planning and Development. Sana'a. March.

Central Statistical Organization (CSO), Yemen and Pan Arab Project for Child Development (PAPCHILD) and Macro International Inc. (MI) (1994). *Yemen Demographic and Maternal and Child Health Survey, 1991/92*. Calverton, Maryland: CSO and MI.

Central Statistical Organization (CSO), Yemen and Macro International Inc. (MI) (1998). *Yemen Demographic and Maternal and Child Health Survey, 1997*. Calverton, Maryland: CSO and MI.

Eickelman, Christine (1993). Fertility and Social Change in Oman: women's Perspectives. *Middle East Journal*. Vol. 47, No. 4 (Autumn), pp. 652-666.

ElBahi, Mohamed (2001). Personal Correspondence.

Eltigani, Eltigani (2001). Childbearing in Five Arab Countries. *Studies in Family Planning*. (New York), Vol. 32, No. 1 (March), pp 17--24.

- Hirschman, Charles (1994). Why Fertility Changes. *Annual Review of Sociology*.20: 203-233.
- Hirschman, Charles and Young, Yih-Jin (2000). Social Context and Fertility Decline in Southeast Asia: 168-70 to 1988-90. *Population and Development Review*. (New York), supplement to Volume 26, pp. 11-39.
- Mason, Karen (1997). Explaining Fertility Transitions. *Demography*. Vol.34, No. 4, pp 443- 454.
- Metz, Helem Chapin (1993). *Oman: A Country Study*. Library of Congress. Federal Research Division. Washington, DC: U.S. Government Printing Office. [Http://www.lcweb2.loc.gov/frd/cs/omtoc.html](http://www.lcweb2.loc.gov/frd/cs/omtoc.html). Accessed May 10, 2001.
- Mut'har, M. Mohammed and Others (1996). Population Policies and Programs: The Present Situation and Future Prospects. Paper presented to the Second National Population Conference. Sana'a, Yemen. October 26-29. In Arabic
- Population Reference Bureau (2000). World Population Data Sheet. Washington. D.C. June.
- Sulaiman, Murtadha. Al-Ghassany, Ahmed and Farid, Samir (1992). Oman Child Health Survey, 1988/89. Muscat: Ministry of Health.
- Sulaiman, Murtadha. Al-Riyami, Asya and Farid, Samir (2000). *Oman Family Health Survey, 1995*. Muscat. Ministry of Health.
- United Nations Development Programme (UNDP) (1998). *Human Development Report, 1998*. New York: Oxford University press.
- Zurayk, Huda (1979). The Changing Role of Arab Women. *Population Bulletin of the United Nations Economic Commission for Western Asia*. No. 17: 18-31.

Table 1. Age-specific fertility rates per 1000 women (ASFRs) and total fertility rate (TFR) per woman, estimated from the surveys of Oman and Yemen.

Age group	ASFRs per 1000 women			Change	
	Oman 88/89 <sup>a</sup>	Oman 95 <sup>b</sup>	Oman 2000 <sup>c</sup>	1988/89 - 1995	1995-2000
15-19	220	86	14	-134	-72
20-24	383	270	102	-113	-168
25-29	382	332	272	-50	-60
30-34	323	300	130	-23	-170
35-39	251	222	213	-29	-9
40-44	117	114	136	-3	22
45-49	43	86	43	43	-43
TFR	8.60	7.05	5.05	-1.55	-2.0
	Yemen 91/92 <sup>d</sup>	Yemen 97 <sup>e</sup>		1991/91-1997	
15-19	102	105	-	3	-
20-24	283	279	-	-4	-
25-29	315	301	-	-14	-
30-34	284	258	-	-26	-
35-39	258	196	-	-62	-
40-44	172	105	-	-67	-
45-49	120	54	-	-66	-
TFR	7.67	6.48	-	-1.19	-

Source: <sup>a</sup> Sulaiman, Murtadha. Al-Ghassany, Ahmed and Farid, Samir 1992. Oman Child Health Survey, 1988/89. Muscat: Ministry of Health. Table No. 11.13. P.218.

<sup>b</sup> Sulaiman, Murtadha. Al-Riyami, Asya and Farid, Samir 2000. Oman Family Health Survey, 1995. Muscat. Ministry of Health. Table No. 8.14. P. 120.

<sup>c</sup> Oman Comprehensive Health Survey for Evaluation and Reproductive Health, 2000. Special Tabulation.

<sup>d</sup> Central Statistical Organization (CSO), Yemen and Pan Arab Project for Child Development (PAPCHILD) and Macro International Inc. (MI) 1994. Yemen Demographic and Maternal and Child Health Survey, 1991/92. Calverton, Maryland: CSO and MI. Table No. 3.1. P. 26.

<sup>e</sup> Central Statistical Organization (CSO), Yemen and Macro International Inc. (MI) 1998. Yemen Demographic and Maternal and Child Health Survey, 1997. Calverton, Maryland: CSO and MI. Table No. 3.3. P. 36.

Table 2. Percentages of women aged 15-49 years never married according to age group and median age at first marriage, Oman and Yemen

Age Group	Oman 88/89 <sup>a</sup>	Oman 95 <sup>b</sup>	Oman 2000 <sup>c</sup>	Median age at first marriage <sup>b</sup>	Yemen 91/92 <sup>d</sup>	Yemen 97 <sup>e</sup>	Median age at first marriage <sup>c</sup>
15-19	62.8	84.5	90.4	*	75.3	73.2	*
20-24	12.9	38.7	50.8	18.6	28.2	27.2	18.2
25-29	5.9	9.7	18.8	14.8	9.1	9.5	16.6
30-34	2.7	2.5	5.1	13.9	2.5	3.9	16.9
35-39	1.4	0.7	2.3	13.6	1.0	2.1	15.9
40-44	0.3	0.8	0.9	13.7	0.2	1.5	15.8
45-49	0.1	0.5	0.8	13.5	0.0	0.8	15.7
Total	17.8	35.6	44.4		23.9	28.3	

Source: <sup>a</sup> Sulaiman, Murtadha. Al-Ghassany, Ahmed and Farid, Samir 1992. Oman Child Health Survey, 1988/89. Muscat: Ministry of Health. Table No. 10.1. P.176.

<sup>b</sup> Sulaiman, Murtadha. Al-Riyami, Asya and Farid, Samir 2000. Oman Family Health Survey, 1995. Muscat. Ministry of Health. Table No. 7.1. P. 88. Table No. 7.5. P. 96.

<sup>c</sup> Oman Comprehensive Health Survey for Evaluation and Reproductive Health, 2000. Special Tabulation.

<sup>d</sup> Central Statistical Organization (CSO), Yemen and Pan Arab Project for Child Development (PAPCHILD) and Macro International Inc. (MI) 1994. Yemen Demographic and Maternal and Child Health Survey, 1991/92. Calverton, Maryland: CSO and MI. Table No. 5.3. P. 55.

<sup>e</sup> Central Statistical Organization (CSO), Yemen and Macro International Inc. (MI) 1998. Yemen Demographic and Maternal and Child Health Survey, 1997. Calverton, Maryland: CSO and MI. Table No. 5.5. P. 75.

Table 3. Percentage of males and females enrolled in school at the time of survey according to age group, Yemen and Oman.

Age Group	Oman				Yemen			
	Males <sup>a</sup>		Females <sup>b</sup>		Males <sup>c</sup>		Females <sup>d</sup>	
	1989/89	1995	1989/89	1995	1991/92	1997	1991/92	1997
6-10	87.0	93.8	81.1	91.8	71.6	67.1	34.5	41.2
11-15	93.8	97.2	80.9	93.5	90.2	83.6	33.0	38.4
6-15	95.7	95.5	81.0	92.6	79.4	74.5	33.9	39.9
16-20	61.1	63.8	43.5	58.4	60.7	52.7	14.0	17.2

Source: <sup>a</sup> Oman Child Health Survey, 1988/89. Special Tabulations.

<sup>b</sup> Oman Family Health Survey, 1995. Special Tabulations

<sup>c</sup> Central Statistical Organization (CSO), Yemen and Pan Arab Project for Child Development (PAPCHILD) and Macro International Inc. (MI) 1994. Yemen Demographic and Maternal and Child Health Survey, 1991/92. Calverton, Maryland: CSO and MI. Table No. 2.7. P. 20.

<sup>d</sup> Central Statistical Organization (CSO), Yemen and Macro International Inc. (MI) 1998. Yemen Demographic and Maternal and Child Health Survey, 1997. Calverton, Maryland: CSO and MI. Table No. 2.6. P. 16.

Table 4. Distribution of the ever-married women (15-49) according to highest level of education achieved, Oman and Yemen

	<i>No Schooling</i>	<i>Primary</i>	<i>Preparatory+</i>
<i>Oman88/89</i> <sup>a</sup>	67.8	19.0	13.2
<i>Oman95</i> <sup>b</sup>	49.7	26.9	23.4
<i>Oman2000</i> <sup>c</sup>	31.4	38.3	30.3
<i>Yemen91/92</i> <sup>d</sup>	89.2	6.7	4.1
<i>Yemen97</i> <sup>e</sup>	84.2	11.6	4.2

Source: <sup>a</sup> Sulaiman, Murtadha. Al-Ghassany, Ahmed and Farid, Samir 1992. Oman Child Health Survey, 1988/89. Muscat: Ministry of Health. Table No. 3.9. P.49.

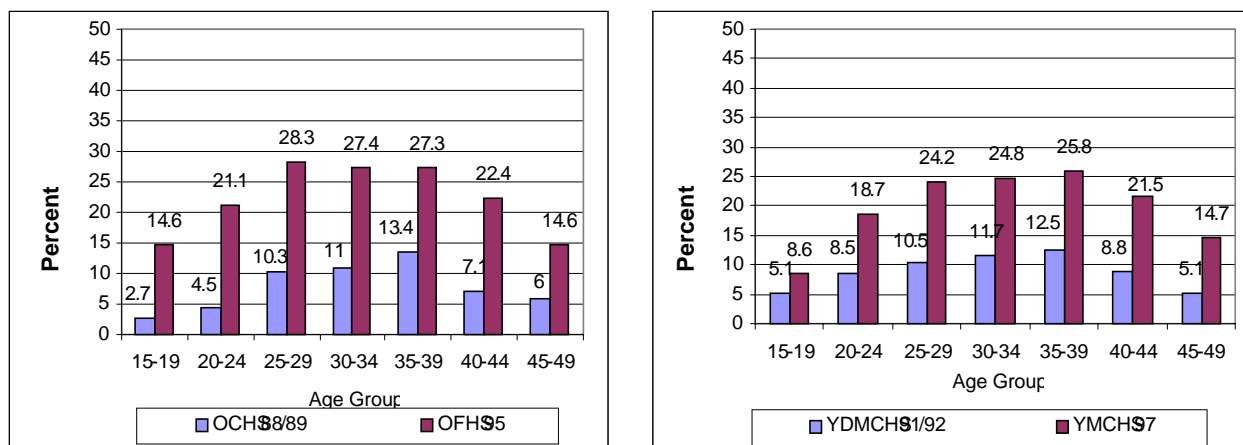
<sup>b</sup> Sulaiman, Murtadha. Al-Riyami, Asya and Farid, Samir 2000. Oman Family Health Survey, 1995. Muscat. Ministry of Health. Table No. 3.9. P. 52.

<sup>c</sup> Oman Comprehensive Health Survey for Evaluation and Reproductive Health, 2000. Special Tabulation.

<sup>d</sup> Central Statistical Organization (CSO), Yemen and Pan Arab Project for Child Development (PAPCHILD) and Macro International Inc. (MI) 1994. Yemen Demographic and Maternal and Child Health Survey, 1991/92. Calverton, Maryland: CSO and MI. Table No. 2.9. P. 22.

<sup>e</sup> Central Statistical Organization (CSO), Yemen and Macro International Inc. (MI) 1998. Yemen Demographic and Maternal and Child Health Survey, 1997. Calverton, Maryland: CSO and MI. Table No. 2.10. P. 22.

Figure 1. Percentages of married women currently using family planning methods, according to age group, reported by surveys of Oman and Yemen



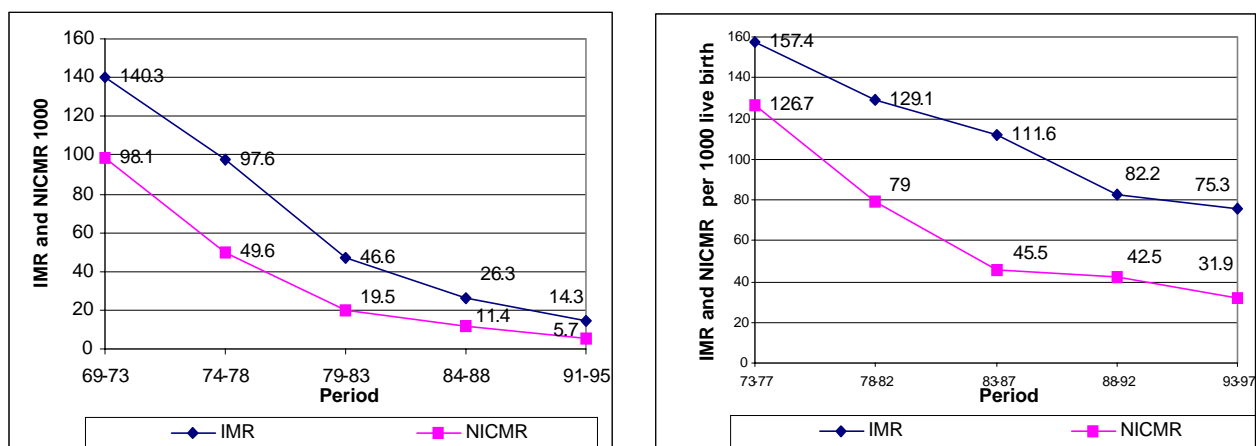
Source: <sup>a</sup> Sulaiman, Murtadha. Al-Ghassany, Ahmed and Farid, Samir 1992. Oman Child Health Survey, 1988/89. Muscat: Ministry of Health. Table No. 12.7. P.234.

<sup>b</sup> Sulaiman, Murtadha. Al-Riyami, Asya and Farid, Samir 2000. Oman Family Health Survey, 1995. Muscat. Ministry of Health. Table No. 7.1. P. 88. Table No. 9.7. P. 136.

<sup>d</sup> Central Statistical Organization (CSO), Yemen and Pan Arab Project for Child Development (PAPCHILD) and Macro International Inc. (MI) 1994. Yemen Demographic and Maternal and Child Health Survey, 1991/92. Calverton, Maryland: CSO and MI. Table No. 4.6. P. 43.

<sup>e</sup> Central Statistical Organization (CSO), Yemen and Macro International Inc. (MI) 1998. Yemen Demographic and Maternal and Child Health Survey, 1997. Calverton, Maryland: CSO and MI. Table No. 4.6. P. 53.

Figure (2) Trends of Infant and Non-Infant Child Mortality Rates in Oman and Yemen



Source: <sup>a</sup> Sulaiman, Murtadha. Al-Ghassany, Ahmed and Farid, Samir 1992. Oman Child Health Survey, 1988/89. Muscat: Ministry of Health. Table No. 4.5. P.62.

<sup>b</sup> Sulaiman, Murtadha. Al-Riyami, Asya and Farid, Samir 2000. Oman Family Health Survey, 1995. Muscat. Ministry of Health. Table No. 7.1. P. 88. Table No. 13.4. P. 193.

<sup>d</sup> Central Statistical Organization (CSO), Yemen and Pan Arab Project for Child Development (PAPCHILD) and Macro International Inc. (MI) 1994. Yemen Demographic and Maternal and Child Health Survey, 1991/92. Calverton, Maryland: CSO and MI. Table No. 12.3. P. 149.

<sup>e</sup> Central Statistical Organization (CSO), Yemen and Macro International Inc. (MI) 1998. Yemen Demographic and Maternal and Child Health Survey, 1997. Calverton, Maryland: CSO and MI. Table No. 7.2. P. 99.

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