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Fertility in Iraq: Trends, Evolution and Influential Factors

Dr Hashem Nimeh Fayyad | December 2012

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Series: Research Paper

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Abstract

This paper seeks to examine Iraq's fertility trends and the changes in fertility levels brought about in the last decades, using the Demographic Transition Theory as the basis of its analysis and conclusion. To achieve this, the study examines how the social, economic, and political changes taking place in Iraq – the affliction of war and internal turmoil – inevitably influence fertility behaviors, and thus development. The paper examines the geographical distribution of fertility through a comparison of fertility rates in the rural and urban areas, and across the governorates of Iraq. When possible, the study seeks to determine the causes that lead to geographical differences in fertility rates. In addition, the paper examines the interacting factors that determine the fertility behavior including: marriage, age structure, internal and external migration, mortality, population policy, household size, women's status, education level, profession, religion, and wars. Before arriving at a conclusion, the author offers a broader perspective on the evolution of fertility trends and the factors that contribute to its developments, offering a number of comparisons between Arab states and other developing and developed countries.

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Introduction

Population fertility refers to the number of live births in any population group. It represents one of the three main components determining the rate of demographic growth, in addition to mortality and migration. Fertility affects the general demographic, economic, and social structure of the population and is a biological factor that is more complex to study than mortality and migration due to the complexity, multiplicity, and instability of its variables. As a result, the subject of fertility has become a vast domain for demographic, sociological, economic, political, and cultural studies.¹ Fertility should be clearly distinguished from the physiological ability to reproduce, which cannot be measured; rather, it is measured based on birth statistics.

The population structure, as well as its development, stability, and changes, are all decided by the mechanisms of population fertility, mortality, and migration. Within this configuration, fertility and mortality are the two main determinants of a population structure and its shifts in the Arab world, while migration retains an important role on the short term mostly in countries with small populations. Fertility supplies society with the needed human resources for its existence, sustainability, and functioning. Together with mortality, fertility renews society, compensates its human resources and maintains its vitality and efficiency. Both factors are the basis for the functioning and change of other demographic variables, such as population size, growth, distribution, age and sex structure. During the process of population replacement, the demographic structure undergoes several stages, ranging from stasis to noticeable shifts, leading the population to either increase, decrease or to remain balanced.²

Despite the fact that population growth is the outcome of these three interrelated demographic variables, in most cases fertility is what ultimately determines the growth and composition of a population. Thus, understanding fertility is not only necessary to comprehend demographic behavior, but it is an essential component of social structure and human condition. For this reason, population fertility has enjoyed the prime focus of population studies since Malthus. With the broad-ranging decline in mortality rates

¹ For further information, see Fadil al-Ansari, *Population Geography* (Damascus: The University of Damascus, 1986), 189.

² For further information, see Hani Umran, "The Demographic Situation in the Arab Homeland: Its Characteristics and the Horizons of its Evolution," in *Studies in Contemporary Arab Society*, ed. Khodor Zakariya, (Damascus: Al-Ahali for Publishing and Distribution, 1999), 26, 41-42.

around the world, analyzing reproductive patterns and the formation of families has become increasingly dominant in population studies.³ This is true despite the rising importance of the subject of migration in population studies in recent years, especially in population geography.

The study of Iraqi women's fertility patterns is of particular importance at this point in time, due to the social, economic, and political changes taking place in Iraq, which include the affliction of war, and its inevitable effect on fertility levels. Due to a dearth of in-depth academic studies addressing this topic, particularly in recent years, this study seeks to track and analyze the changes that have occurred in fertility during the past decades. In addition, this study seeks to examine the interrelated variables that have determined fertility patterns. These refer to the demographic variables that include factors such as marriage, age structure, internal and external migration, mortality, and population policy in addition to social and economic variables that fall under the themes of family size, the status of women, education, employment, religion, and wars.

Data gathered for the purpose of this study has mainly derived from the demographic surveys, reports and statistical data published by the Iraqi Ministry of Planning and Development Cooperation, including the general population census, which is conducted once every ten years (the last of which being the 1997 census). Additionally, the study has utilized statistics published annually by the Central Organization for Statistics, affiliated with the same ministry, as well as Iraqi and Arab academic journals, including those published by the universities of Kufa and Basra and the Iraqi Geographical Society. Other sources included international English-language academic journals, UN publications, publications of the UN-affiliated ESCWA agency, the UN High Commissioner for Refugees, and the publications of the central Dutch statistical office, in addition to other sources and references, in Arabic, English, and Dutch.

The methodology draws its conclusions and deductions from statistical analysis which is exemplified in the extensive use of statistical tables, some of which were designed by the author based on the statistical data provided, while others were taken from their original sources. The paper also includes figures which were produced to draw analysis and conclusions and to elucidate the researched data. A comparative method was also

³ Peng Xizhe, *Demographic Transition in China: Fertility Trends Since the 1950s* (Oxford: Clarendon Press, 1999), 4.

adopted which involves a comparison of Iraq's case with that of other countries in the Arab region as well as other developing and developed countries.

Framing this study is an introduction and a theoretical section which consists of an exposé of the theory of demographic transition, which was used to interpret the changes in the fertility of Iraqi women and the elements affecting it. The introduction also includes an analysis of the evolution of fertility levels over time and their geographic distribution across urban and rural regions, and across the different governorates. An attempt is made to explain the geographic discrepancies in fertility rates, followed by a more detailed analysis of the secondary variables that are subsumed under the main variables, i.e. the demographic and socio-economic variables affecting fertility. Lastly, a conclusion will summarize the main findings of this study.

Three main hypotheses frame this study: firstly, the fertility rate of Iraqi women has declined in recent decades. Secondly: Fertility rates vary according to time and place. And thirdly, a broad host of interrelated determinants affect fertility levels.

The existing literature

Among the most notable studies dealing with the subject of fertility in Iraq is Fadil al-Ansari's book *The Population Problem: The Case of Iraq* (1980). The book devoted a chapter to studying the natural population growth in Iraq, including the evolution of fertility levels and factors contributing to the changes, including religion; the social, economic, and demographic structure, and the geographic distribution of fertility. The dynamic of fertility in Iraq was also briefly discussed in his study *Population Geography* (1986). Additional key information can be found in the surveys and reports of the Iraqi Ministry of Planning. The most relevant of these is the "Iraq Living Conditions Survey 2004," a study dedicated to the composition of the population composed of three parts: the evolution of fertility levels, the factors affecting them, and their geographic distribution. This key survey was conducted following a ten-year rupture in demographic studies, and was developed in collaboration with the Central Organization for Statistics of the Iraqi Ministry of Planning, the United Nations Development Program, and the Norwegian Institute for Applied International Studies. Despite the harsh conditions in Iraq at the time, the fieldwork, which covered all Iraqi governorates, was conducted successfully. Also worth mentioning is the "Iraq Household Socio-Economic Survey 2007," which included data on fertility and was executed as part of the technical cooperation program between the Ministry of Planning and the World Bank. The Ministry of Planning report, published with the support of the United National

Development Program, entitled "Iraq: National Report on the Status of Human Development 2008," proves valuable as well. This report briefly alluded to fertility rates, marriage age, female educational attainment, rural-to-urban migration, and forced displacement both domestically and abroad. Furthermore, a chapter was devoted to the study of women's empowerment.

Of equally valuable use is the "Report on the Social and Economic Effects of the Phenomenon of Unmarried Women in Iraq" (2008), prepared by Abd al-Razzaq Jasem Hassoun, which pertained to the evolution and reasons for women not marrying in Iraq. Similarly, the "Report on the State of the Population of Iraq 2010," also published by the Ministry of Planning with support from the United Nations Population Fund, studied the evolution of demography in Iraq: the sex and age distribution, the rates of population growth between governorates, the stages of demographic transition, the rates of fertility and mortality, internal and external migration, the demographic "window" in Iraq, and growth scenarios alongside their effect on development.

Lastly, the "Iraq Women's Integrated Social and Health Survey," published in March 2012 by the Ministry of Planning, proved key in its examination of education, equality, family security, the preparation of women for their reproductive role, reproductive health, fertility rates, family planning methods, support for mothers, and the empowerment of women and their protection from violence.

The reports and surveys mentioned above were also supported by various studies that touched on the theme of fertility, including MA and PhD dissertations and Iraqi academic journals.

The Evolution of Fertility Levels

The theory of demographic transition

This renowned theory explains the relationship between the crude birth rate and the crude death rate in a given population. The theory was employed to explain the pattern of demographic growth in Western Europe and was first popularized by Frank Notestein in 1945.⁴ According to this theory, there are four stages that societies go through in a demographic transition.⁵ The first stage tends to be slow and largely stable, due to the high rates of both births and deaths. This stage is usually manifested in agricultural societies with a tribal or traditional social structure, and which are yet to enter modern life. This category currently includes very few regions in the world. In the second stage, the speed of growth increases due to the decline of the mortality rate in a manner quicker than the decline in fertility, due to the improvement of health, educational, and economic conditions. In developed industrial countries, this stage took place over a century, while developing countries have entered this phase hastily, taking advantage of the ongoing progress in the fields of preventative medicine and medical treatment. Many developing countries are still undergoing this phase, with a rate of population growth exceeding two percent annually. In the third stage, the rate of population growth begins to gradually decline due to the decline in births (the rate of population growth ranges between one and two percent annually); this stage is dubbed “the transitional stage”. In the fourth stage, demographic growth reaches an equilibrium, and may even begin to decline. European countries are currently undergoing this stage with a population growth rate of under one percent annually.⁶ In conclusion,

⁴ The essence of the relationship between modernization and the lowering of the rates of mortality and fertility, in addition to the three stages of transition, were fully explicated by Thompson in 1929. The main components of the theory were also examined by the French demographer Adolf Landry in 1909 and 1934, as well as in the numerous studies on species and human demography that were published by Carr-Saunders in 1922, 1934, and 1936. See Bart J. de Bruijn, *Foundations of Demographic Theory: Choice, Process, Context* (Groningen: Rijksuniversiteit, 1999), 47.

⁵ Onn Wickler, *Arab Political Demography*, (Brighton and Portland: Sussex Academic Press, 2005), 1:34-35.

⁶ Al-Ansari, *Population Geography*, 123-125. In 1987, Van de Kaa used the term “the second demographic transition” to refer to the significant and unexpected changes that have deeply affected fertility and mortality trends in Western European countries since the mid-1960s. These changes included the shrinking of the size of families, an increase in the abstention from having children, and an increase in nonmarital childbearing, a higher rate of delayed marriages, fatherhood, and motherhood, increased

demographic transition is a dynamic that affects all human societies, with a varying cycle that depends on the socio-economic structure of society.

The general rules implicit in the theory of a demographic transition apply to the Arab world. The first stage of demographic transition continued until the mid-1940s, and was characterized by a high rate of mortality and births, leading to only a slight gap between these two determinants of population growth. As a result, demographic growth during that period was very slow. The second stage extended, in most Arab countries, until the 1980s, featuring a sharp rise in the rate of population growth due to the acute decline in mortality rates while fertility continued to rise. This led to an expanding gap between births and mortalities that reached over four percent annually in some countries, and around three percent in most countries; this represented an unprecedented phase of demographic growth leading to this stage being coined as the "demographic explosion". As for the third phase, the transitional phase, it began with the end of the 1980s and has remained a slow transition toward equilibrium: the rate of births has begun to decline in most Arab countries that achieved some progress in the social fields (such as education and culture) and in the economy, and with the increased urbanization and evolution in the status of women. The fourth stage is yet to begin in the Arab world. However, it should be noted that Arab countries are not completely similar in this regard, as they feature great differences in their respective transitions depending on their economic, social, cultural and health conditions.⁷

The interpretive power of the theory of demographic transition stems from the linkage between the general characteristics of demographic change with social and economic change, which is often subsumed under the "modernization" rubric. Different viewpoints exist regarding the theory; for instance, Seereiter and Greenhalgh argue that the theory has not only failed in experimental tests, but that it has also damaged experimental research and must be discarded. Others, such as Kirk and Mason, argue that the theory

rates of cohabitation without marriage, and an increase in divorce rates. These developments are not isolated, as they are closely interlinked, and the same trends can be observed in numerous countries. For further information, see Joop de Beer and Fred Deven, *Diversity in Family Formation: The 2nd Demographic Transition in Belgium and the Netherlands* (Dordrecht: Kluwer Academic Publisher, 2000), 1-117. The launching of this notion was an attempt to theorize the significant demographic transition that was taking place, and to study its causes, dimensions, and deep future repercussions on the demographic, social, and economic structure of Western European countries.

⁷ For further information, see Mansur al-Rawi, *The Population of the Arab Homeland: An Analytic Study of Demographic Problems*, (Baghdad: Bayt al-Hikma, 2002), 1:204-206.

may have some faults, but that these deficiencies allow for further research that can strengthen the theory.⁸ In a manner similar to modernization theory, some versions of the geographic transition theory tend to deny the history of the Third World and assume that modernization will take place by replicating Western characteristics.⁹ Since modernization and Westernization have spread to other countries, the populations of these countries are assumed to follow the same stages of demographic transition as Western countries. According to Kirk, this is exactly what is taking place, with the decline in fertility rates becoming an international phenomenon.¹⁰

When discussing the applicability of the theory of demographic transition to developing countries, the difference between the current conditions of these countries and those of Europe during the 19th century must be considered, whether at the economic level or at the level of sociological and demographic variables that constitute the heart of the theory. Modern-day demographic evolution and the current social and economic circumstances cannot easily be compared to their historical trends.¹¹

According to Onn Winckler, where the theory is applied to Arab states, three main issues emerge. The first is that it is very clear that the patterns of socio-economic and political transformations in developing countries during the second half of the 20th century, including Arab states, were often different from those taking place in advanced Western countries. For instance, great differences existed in terms of the role of woman in economic and political life, the level of industrialization, the sources of government income, the average income, and the political structure. Each of these factors has had a significant influence on demographic behavior in general and on fertility patterns in particular.

A second issue is that in advanced Western countries, social and economic development, especially in terms of the rise of living standards, was the main factor advanced by the theory of demographic transition to explain the sharp decline in mortality rates, followed by a decline in fertility rates. Conversely, the decline in mortality rates in many developing countries has been the result of external factors,

⁸ Graham Elspeth, "What Kind of Theory for What Kind of Population Geography?" *International Journal of Population Geography*, no.6 (2000), 261.

⁹ *Ibid.*, 262.

¹⁰ *Ibid.*, 265.

¹¹ Muhammad Boumiz, *An Introduction to the Study of Demography and Population Geography*, (Casablanca: New Najah Publishing, 1992), 94.

notably the assimilation of modern health services.¹² In this regard, Onn Winckler's study appears insufficient, as it does not assign a role to the transformations in the social and economic structure, resulting in the development of production, the spread of education, and the rise in the level of culture and awareness. For instance, there is a strong inverse correlation between women's education and fertility levels, as well as the rise of women's participation in the category of the economically active population and the increase in urbanization as a proportion of the total population.¹³ These are the main factors affecting demographic transition in countries such as those of the Arab Maghreb, according to Keith Sutton.¹⁴ The assimilation of health services could not have been as effective without these larger transformations. This study will examine the role of these transformations in the evolution of fertility levels, despite the fact that these shifts were not as acute as those that took place in developed countries, a situation that applies to many developing states.

Finally, the theory does not take into account three factors that have had a major effect on fertility patterns: migration, the effect of government population policies, and the cultural-religious factor, which not only varies from one society to another, but also within the same society and between different generations.¹⁵ The third factor may contribute to keeping fertility levels high; however, its influence tends to weaken with the deepening of socio-economic transformations in society. For this reason, society is witnessing religious families adopting family planning methods.

According to Onn Winckler, despite the criticism of the theory of demographic transition, it nonetheless remains a useful framework for the analysis of demographic changes from a historical viewpoint. As for its applicability in developing countries, this

¹² Winckler, *Arab Political Demography*, 39.

¹³ According to the United Nations, the economically active population can be defined as "all persons...who provide the supply of labor during a specified time reference, as employed or unemployed (including those who are 'without work,' 'currently available for work,' and 'seeking work'), for the production of economic goods and services. [...] If an individual was contributing in an 'own-account productive activity,' he is 'correctly classified economically active'; otherwise, he will be considered as a dependent," (United Nations Statistics Division, "Economic Activity," <http://unstats.un.org/unsd/demographic/sconcerns/econchar/econcharmehods.htm>). See also Fathy Muhammad Abu Yana, *Population Geography*, 5th ed. (Beirut: Arab Renaissance Publishing 2000), 343-344.

¹⁴ Keith Sutton, "Demographic transition in the Maghreb," *Geography: an International Journal* 84 no. 2 (1999): 111-116.

¹⁵ Winckler, *Arab Political Demography*, 39-40.

question goes beyond a mere academic debate and has a great practical significance in terms of the adequate population policy that should be adopted.¹⁶ It is far from proven that Arab states—and other developing countries—will follow the same path of Western societies with the same chronological order and the same outcomes, especially in terms of the time periods, specific demographic characteristics, and the degree of change.¹⁷ This is due to the fact that currently available technological means may allow Arab societies to skip stages. For instance, since the beginning of demographic transition in Arab countries, modern Western birth-control methods have been available. These means tend greatly to affect demographic evolution. On the other hand, developing countries are also characterized by state intervention in the demographic domain, while the European demographic revolution was built upon a liberal demographic policy.¹⁸ From my perspective, the theory can be developed in order to take into account the general context of the social and economic structure in developing countries, and this issue must remain the center of a fruitful academic discussion.

The evolution of fertility levels in the case of Iraq

Since fertility is one of the most important determinants of population growth, the rate of this growth is important to examine. According to the Iraqi Central Organization for Statistics the population of Iraq has increased from 3.4 million in 1934 to 31.7 million in 2010 and, according to the United Nations 3.1 million in 2011. A discrepancy can be noted between the data of the Iraqi Central Organization for Statistics and that of the United Nations' Population Division (see Table 1 and Figure 1). It must be noted that the data of the Central Organization for Statistics is based on estimations that replicate the rate of population growth between the census of 1987 and that of 1997, since the periodic population census was not conducted in 2007. The annual rate of population growth has risen and reached its peak of 3.8 percent annually in 1977, and then it began to decline, with some negligible spikes.

¹⁶ Ibid., 40.

¹⁷ Yunis Hammadi Ali, "The Principles of Demographics," in Mansur al-Rawi, *The Population of the Arab Homeland*, 207.

¹⁸ Boumiz, *An Introduction to the Study of Demography*, 94. For more details on the applicability of this theory in Arab countries, see Hashem Nimeh Fayyad, "The Theory of Demographic Transition: the Concept and its Application. An Analytic Study with a Special Focus on Arab Countries," *Alam al-Fikr Journal*, Kuwait (forthcoming).

**Table 1: Population and average annual growth rate
for the period 1934-2011¹⁹**

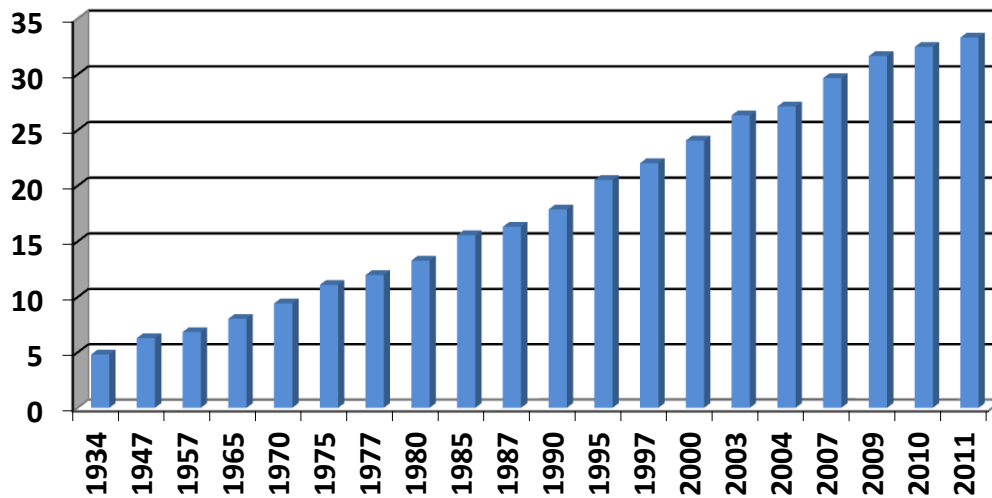
Year	Population in millions		Average annual growth (%)	
	UN Population Division	Central Organization for Statistics	UN Population Division	Central Organization for Statistics
*1934	-	3.380	-	1.8
*1947	-	4.816	-	2.7
*1957	-	6.299	-	2.7
1960	6.847	-	-	-
*1965	7.976	8.047	3.1	3.1
1970	9.356	9.440	3.2	3.2
1975	11.020	11.124	3.3	3.3
*1977	-	12.000	-	3.8
1980	12.962	13.300	3.2	3.4
1985	15.236	15.585	3.2	3.2
*1987	-	16.335	-	2.4
1990	17.341	17.890	2.6	3.0
1995	20.206	20.536	3.1	2.8

¹⁹ Ministry of Planning, "Iraq Living Conditions Survey 2004," (2005), 2:42, <http://www.fao.org/ais/mideast/iraq/imira/Tabulation%20reports/eng%20analytical%20report.pdf>; UNHCR *Statistical Yearbook 2004*, 39, UNHCR *Statistical Yearbook 2007*, table 6/2, and UNHCR *Statistical Yearbook 2010*, table 1/2, <http://www.unhcr.org/pages/4a02afce6.html>; Ministry of Planning, "Report on the State of the Population of Iraq 2010," 20; for the year 1978: Nisreen Mahmoud Hamza, "The Availability of the Human Work Force in Iraq 1977," *The Iraqi Geographic Association Journal*, 17 (1986): 195; for the year 2010: UN, *World Population Prospects: The 2010 Revision*, <http://esa.un.org/wpp/index.htm>.

*1997	-	22.046	-	2.99
2000	23.224	24.086	2.8	2.95
2003	24.700	26.340	2.1	2.97
2004	-	27.140	-	2.97
2007	-	29.682	-	-
2009	-	31.664	-	**3.1
2010	***31.672	32.481	2.9	-
2011	-	33.330	-	-

*Years of the general census
 ** Average annual growth 1997-2009
 *** Average estimate

Figure 1: Population according to the Central Organization for Statistics for the period 1934-2011 (in millions)²⁰



²⁰ Unless otherwise stated, all figures were produced by the author based on preceding tables.

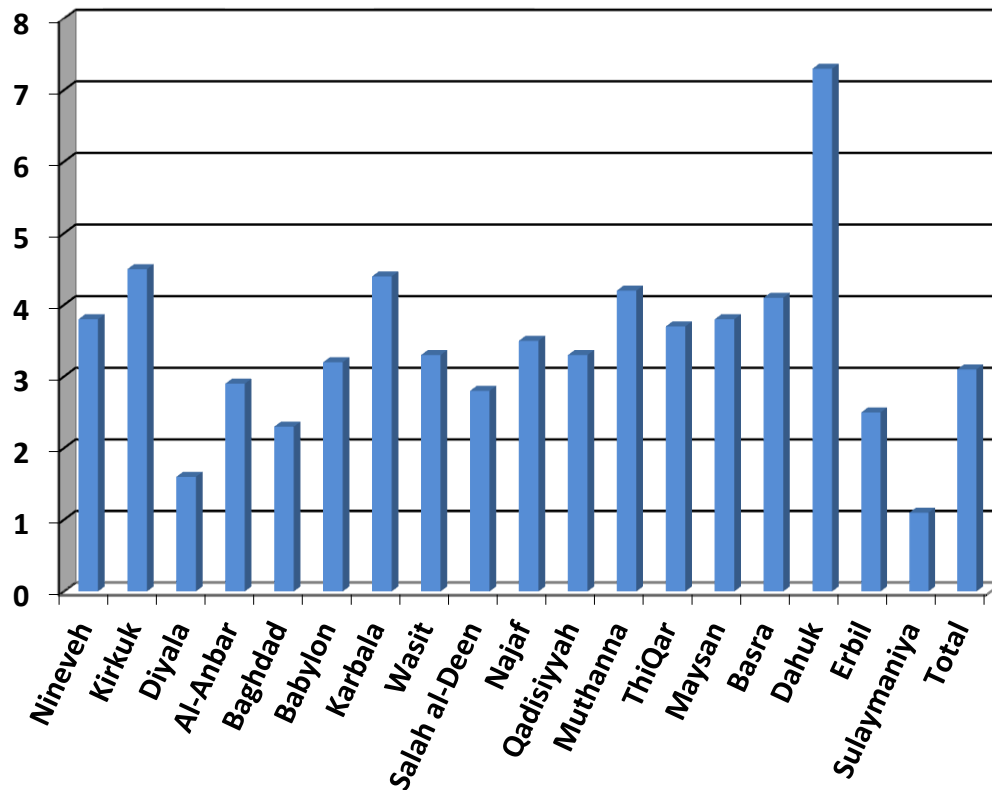
Based on population growth, according to governorates, in the period of 1997 – 2007 (Table 2 and Figure 2), a noticeable discrepancy exists between governorates, with the rate of growth ranging from 19.8 percent in Kirkuk over the ten years and 49.4 percent in Karbala, with a general percentage of 34.6 percent. This discrepancy is difficult to explain in the absence of detailed data for each governorate, but one can conclude that the variation in net internal and external migration—which accelerated during the 1990s—and the variation in the rates of births and mortalities and economic growth can, together, explain this phenomenon.

Table 2: Population, growth rates, and their percentages by governorate in Iraq for the period 1997-2009²¹

Governorate	Total Population in 1997	Total Population in 2009	Percentage from population total in 2007	Average population growth 1997-2009 (%)
Nineveh	2,042,852	3,237,918	9.5	3.8
Kirkuk	753,171	1,290,072	3.0	4.5
Diyala	1,135,223	1,370,537	5.3	1.6
Al-Anbar	1,023,736	1,451,583	5.0	2.9
Baghdad	5423964	7,180,889	24.1	2.3
Babil	1,181,751	1,727,032	5.6	3.2
Karbala	594,235	1,003,516	3.0	4.4
Wasit	783,614	1,158,033	3.6	3.3
Salah al-Deen	904,432	1,259,298	4.0	2.8
Najaf	775,042	1,180,681	3.6	3.5
Qadisiyyah	751,331	1,121,782	3.3	3.3
Muthanna	436,825	719,824	2.1	4.2
ThiQar	1,184,796	1,846,788	5.4	3.7
Maysan	637,126	1,009,565	2.8	3.8
Basra	1,556,445	2,555,542	6.4	4.1
Kurdistan Region				
Dahuk	402,970	968,901	1.7	7.3
Erbil	1,095,992	1,471,053	5.2	2.5
Sulaymaniya	1,362,739	1,551,974	6.4	1.1
Total	22,046,244	32,104,988	100%	3.1

²¹ Ministry of Planning, Department of Statistics, *Statistical Yearbook 2007*, table 2/5 and Table 2/7; and "Report on the State of the Population of Iraq 2010," 20, table 2. The percentages compared to the total population were calculated by the author.

Figure 2: Average population growth by governorate for the period 1997-2009 (%)



In any society, the evolution of fertility is related to several social, economic, political, cultural, and environmental factors. As a result, fertility rates tend to vary from one society to another, from one place to another, and from one population group to another within the same society. In the case of Iraq, the subject lacks in-depth studies measuring the effect of these factors on fertility. However, what is certain is that the rate of fertility has witnessed a tangible decline in the recent years, due to numerous factors, despite remaining relatively high. This tends to mirror general fertility trends in many developing countries. The past six decades have witnessed a clear decrease in fertility rates in the least developed countries, with the total fertility rate going down from 6.5 to 4.4 children per woman.²² In all Arab countries, this rate has mainly

²² UN, World Population Prospects: The 2010 Revision, <http://esa.un.org/undp/wpp/excel-data/fertility.htmxxxi>.

declined during the past two decades; however, a comparison shows that this drop began two decades after the decline that occurred in many other developing states, and, additionally, with a slower pace.²³ Nevertheless, the decline that was witnessed in Iraq was slower compared to countries such as Lebanon, Tunisia, and Morocco. Here, the difficulty lies in determining the rate of this decline and the contribution of each specific factor to this process.

According to UN medium estimates (Table 3 and Figure 3), the crude birth rate has declined from 53.2 births per thousand during the period 1950-1955 to 36.6 per thousand during the period 2005-2010, despite a slight rise in the birth rate in the period between 1960 and 1975. As for the crude death rate, it maintained a steady decline from 25.8 per thousand in 1950-1955, until it rose again between 1980-1985 (mainly as a result of the immense human losses witnessed during the Iraq-Iran War) and settled at 6.3 per thousand. Significantly, current estimates differ from previous UN estimates, which clearly indicated a rise in the mortality rate after 1990 due to the war resulting from the occupation of Kuwait and the economic sanctions that were thereafter imposed on Iraq. Numerous international organizations have also claimed a similar rise in the mortality rate.

Nonetheless, due to the general decline in the mortality rate, the natural increase rate has remained elevated, ranging between 2.7 percent during the period 1950-1955 and 3.0 percent between 2005-2010. Official figures, on the other hand, are much lower than the UN estimates for the post-1990 period both for the birth rate and the mortality rate. According to this data, the natural rate of demographic growth has decreased from 2.3 percent in 1990-1995 to 1.3 percent in 2000-2005.

The so-called "demographic explosion" in developing countries is a result and an aspect of a complex process that began in the years of independence: the modernization of traditional patterns in order to reproduce the structures inherited from the colonial period, coexisting alongside economic and cultural backwardness. Under the traditional pattern of natural reproduction, which was a characteristic of pre-capitalist societies, demographic balance was based on extremely high rates of mortality and fertility. As a result, the annual population growth of colonies and dependent countries throughout the first half of the 20th century remained slower than the rates in colonial countries, with an average of about one percent. For further information, see Keniajinskaya, *Population Growth and the Nutritional Problem in Developing Countries*, translated from Russian to Arabic (Moscow: Al-Taqqaddum [Progress] Publishing, 1983), 83.

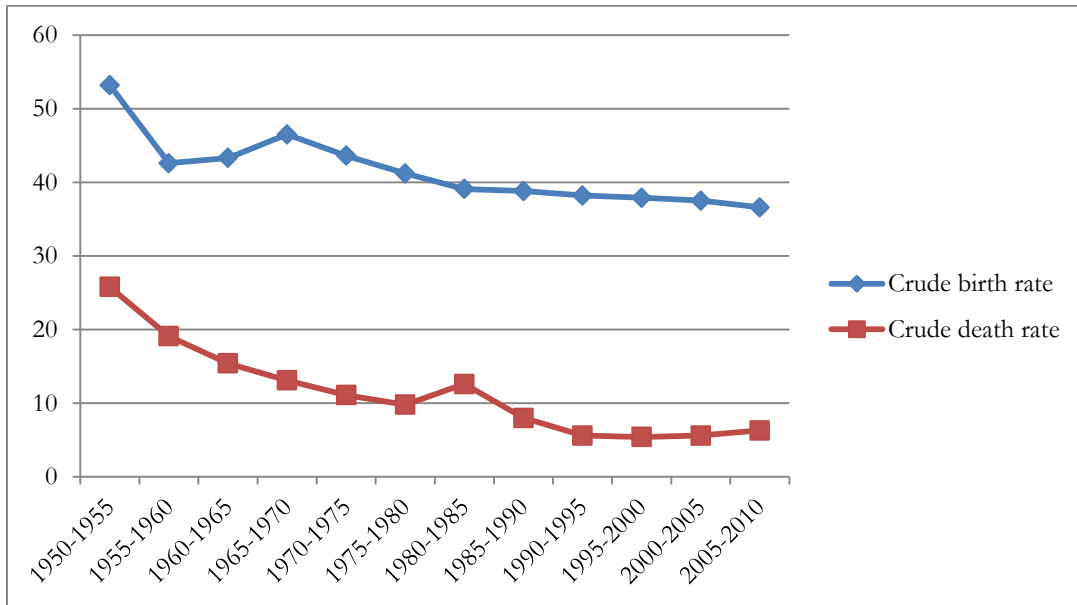
²³ Winckler, *Arab Political Demography*, 141.

Table 3: Iraq Crude birth rate and death rate and the rate of natural increase for the period 1950-2010: UN medium estimates²⁴

Period	Crude birth rate (Births per 1,000)	Crude death rate (Deaths per 1,000)	Rate of natural increase (%)
1950-1955	53.2	25.8	2.7
1955-1960	42.6	19.1	2.3
1960-1965	43.3	15.4	2.8
1965-1970	46.5	13.1	3.3
1970-1975	43.6	11.1	3.2
1975-1980	41.2	9.8	3.1
1980-1985	39.1	12.6	2.6
1985-1990	38.8	8.0	3.1
1990-1995	38.2	5.6	3.3
1995-2000	37.9	5.4	3.2
2000-2005	37.5	5.6	3.2
2005-2010	36.6	6.3	3.02

²⁴ UN, *World Population Prospects: The 2010 Revision*, 1:95, 236, 296,
http://esa.un.org/wpp/Documentation/pdf/WPP2010_Volume-I_Comprehensive-Tables.pdf.

Figure 3: Average UN estimates for Crude birth rates and death rates for the period 1950-2010 (births and deaths per thousand)



Relying on these official figures, however, is misleading due to their lack of accuracy in registering the aforementioned demographic shifts. Indeed, this tends to be the case in a large number of developing countries. Generally speaking, one can conclude that Iraq is currently undergoing the second stage of demographic transition, since the rate of population growth exceeds two percent according to the Central Organization for Statistics and the United Nations. In terms of the fertility rate, the UN predictions have come true with a rapid decline in the fertility rate of Iraqi women, with total fertility rate declining from 7.30 children per woman in 1950-1955 to 4.86 children per woman in 2005-2010 (Table 4 and Figure 4).

Table 4: Total fertility rate (number of children per woman) in Iraq according to the United Nations: average estimates²⁵

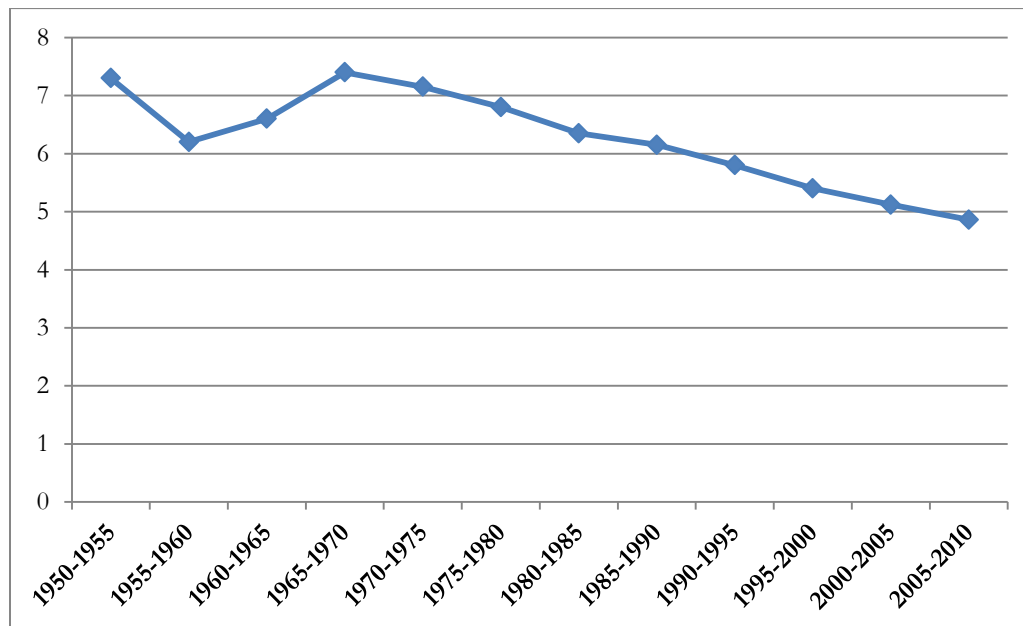
Years	Total fertility rate
1950-1955	7.30
1955-1960	6.20
1960-1965	6.60
1965-1970	7.40
1970-1975	7.15
1975-1980	6.80
1980-1985	6.35
1985-1990	6.15
1990-1995	5.80
1995-2000	5.40
2000-2005	5.12
2005-2010	4.86

²⁵ UN, *World Population Prospects: The 2010 Revision*, 1:266

http://esa.un.org/wpp/Documentation/pdf/WPP2010_Volume-I_Comprehensive-Tables.pdf; for the period 1970-1975: "Iraq Living Conditions Survey 2004," 2:78,

<http://www.fao.org/ais/mideast/iraq/imira/Tabulation%20reports/eng%20analytical%20report.pdf>.

Figure 4: Trajectory of the total fertility rate according to United Nations average estimates



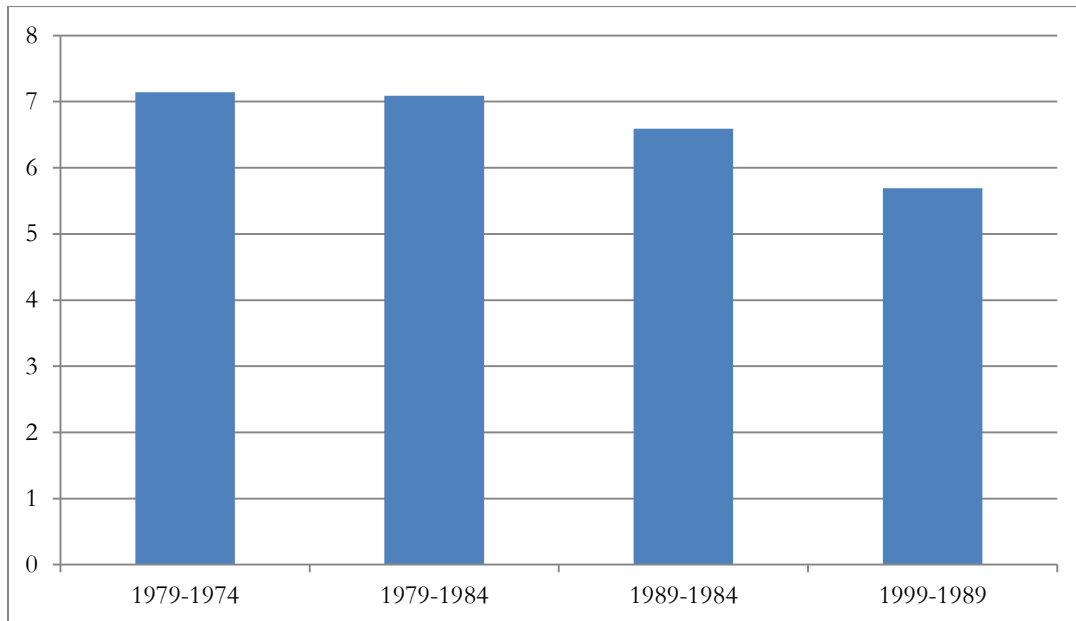
However, the results of the 1999 mortality survey, while affirming the decline in fertility rates, showed that the rate of decline was not as fast as predicted by the United Nations. According to the survey, fertility rates in Iraq have evolved as follows:

Table 5: Total fertility rate according to the 1999 mortality survey in Iraq²⁶

Years	Total fertility rate
1974-1979	7.14
1979-1984	7.09
1984-1989	6.59
1989-1999	5.69

²⁶ Blacker J., Jones G., and Ali M., "Annual Mortality Rates and Excess Deaths of Children Under Five in Iraq, 1991-1998," *Population Studies* 57, no. 2 (2003): 219.

**Figure 5: Total fertility rate according to the 1999 mortality survey
in Iraq**



The trend of declining fertility was also confirmed by the “Iraq Living Conditions Survey 2004”. The survey showed that the fertility rate during the period 1994-1998 was 4.7, declining to 4.0 in 1999-2003. Moreover, there was a steady decline during the five years of the reference period and the years preceding it. As a result, overall fertility had reached 3.8 children in 2003, with an average rate of 4.2 in urban areas and 6.2 in the countryside during the first period (1994-1998) and 3.7 and 5.2, respectively, for the second period (1999-2003). A reduction was also taking place in the base of the population pyramid, with the age group (0-4) declining in numbers, but remaining slightly larger than the (5-9) age group. On the other hand, the data of the Central Organization for Statistics indicates that the total fertility rate reached 4.3 in 2006,²⁷ and in the 2011 survey, the average number of living children by Iraqi women aged between 45 and 49 (used as the reference group for total fertility) reached an average of 5 children,²⁸ which means that the figures available are lacking in accuracy.

²⁷ Ministry of Planning, “Report on the State of the Population of Iraq 2010,” (2011), 24, http://cosit.gov.iq/english/cosit_surveys.php

²⁸ Ministry of Planning, “Iraq Women’s Integrated Social and Health Survey,” (2012), 45, <http://reliefweb.int/sites/reliefweb.int/files/resources/I-WISH%20Report%20English.pdf>.

Moreover, the estimates of the Living Conditions Survey diverge from the previous surveys that were based on the 1997 population census. The former used the population/fertility rate method, which gives the estimated number of non-registered newborns in the year preceding the census or the survey. This method may become ineffective in the event of a continuing decline in fertility rates.²⁹ Compared with a number of Arab, neighboring and Western countries, it becomes apparent that the fertility rate in Iraq remains elevated (see Table 6 and Figure 6).

**Table 6: Total fertility rate for the period 2005-2010
in selected countries: average estimate³⁰**

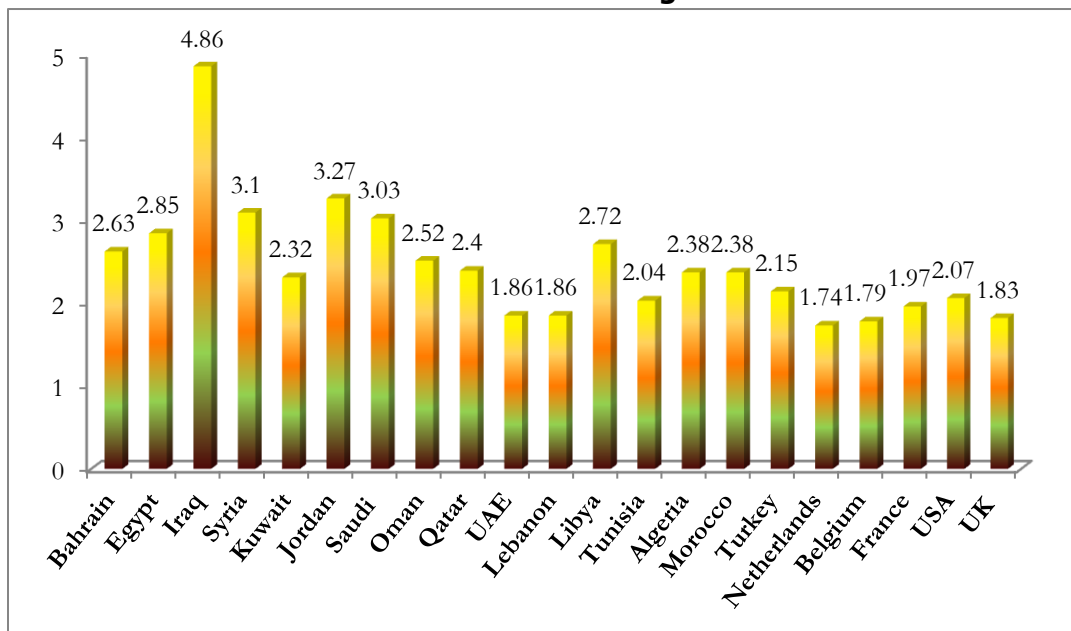
Country	Fertility
Bahrain	2.63
Egypt	2.85
Iraq	4.86
Syria	3.10
Kuwait	2.32
Jordan	3.27
Saudi	3.03
Oman	2.52
Qatar	2.40
UAE	1.86
Lebanon	1.86
Libya	2.72
Tunisia	2.04
Algeria	2.38

²⁹ For further information, see Ministry of Planning, "Iraq Living Conditions Survey 2004," 2:48, <http://www.fao.no/ais/mideast/iraq/imira/Tabulation%20reports/eng%20analytical%20report.pdf>.

³⁰ UN, *World Population Prospects: The 2010 Revision*, 1:116-120, http://esa.un.org/wpp/Documentation/pdf/WPP2010_Volume-I_Comprehensive-Tables.pdf.

Morocco	2.38
Turkey	2.15
Netherlands	1.74
Belgium	1.79
France	1.97
USA	2.07
UK	1.83

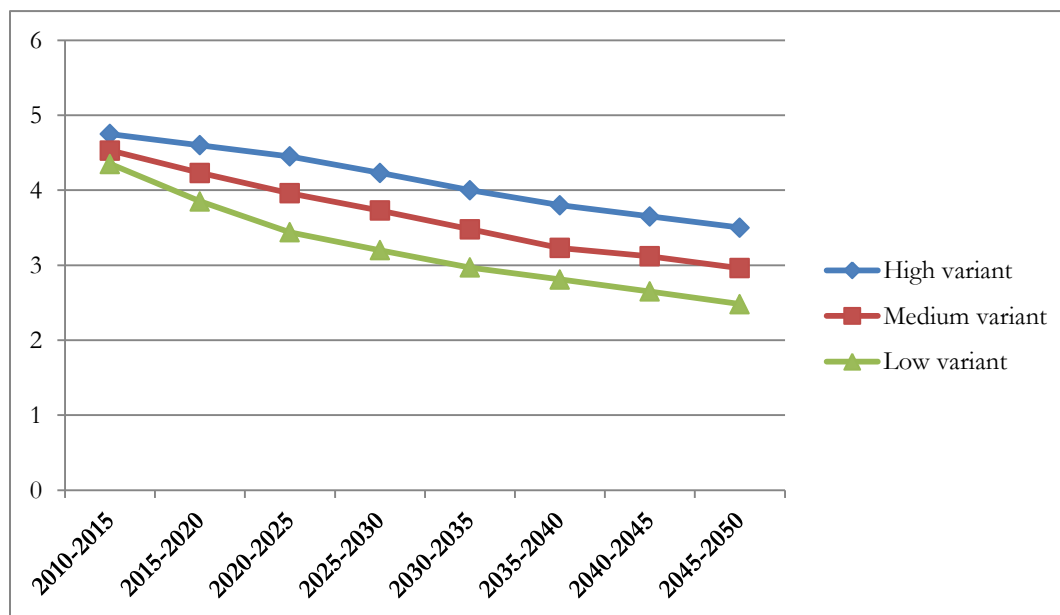
Figure 6: Total fertility rate for the period 2005-2010 in selected countries: average estimate



The fertility rate in Iraq is expected to continue to decline in the coming decades, whether according to high, low, or medium variants, reaching 2.96 children according to the latter scenario in the period 2045-2050, based on United Nations estimates (see Figure 7). This evolution is consistent with the general trend of fertility rates in the least-developed countries, where fertility rates are expected to fall in the coming 50 years until they reach the replacement level of 2.19 children per woman in the period

2030-2035, with the rate declining further afterward.³¹ It should be noted that societies with a fertility rate below the replacement level will be subjected to a natural demographic decline.

Figure 7: Total fertility rates for Iraqi women during the period 2010-2050: estimates³²



A natural question to pose at this point would be: when will Iraq enter the phase of the demographic “gift,” also known as the “demographic window”? This state results from the lowering of the birth rates in a society whose majority is composed of children and dependents (the rate of real or economic dependency in Iraq remains quite elevated, at 452 percent in 2004),³³ leading to a society where the working-age productive

³¹ UN, *World Population Prospects: The 2002 Revision*, xxvii, xxxi, http://www.un.org/esa/population/publications/wpp2002/WPP2002_VOL_3.pdf.

³² UN, *World Population Prospects: The 2010 Revision*, 1:264-293, http://esa.un.org/wpp/Documentation/pdf/WPP2010_Volume-I_Comprehensive-Tables.pdf.

³³ The rate of economic dependency, also known as the real or effective dependency, was calculated by the author, representing the total population in the year 2004 divided by the number of the workforce in the same year, multiplied by 100. This was based on the figures in “Iraq Living Conditions Survey 2004,” 2:120.

population represents the largest proportion of the total population. In other words, the growth rate of the economically active population (15-64 years) surpasses the growth of dependent population groups, represented by the young (under 15 years of age) and the senior population (65 years and older). A lowered dependency rate helps to raise the rate of savings offering an opportunity to support domestic investment, leading to growth and employment. This demographic condition presents the opportunity to improve the quality of life and the living standard of citizens, to lower unemployment rates, and to witness a relatively high level of development, which would have positive repercussions on education and health in the country. These positive outcomes are however conditioned by the existence of the financial institutions and markets that work to mobilize savings and direct them to more productive investments. An increase in the working-age population may have a positive impact on investment and income through employment, but it may have negative repercussions if the job market fails to absorb this increase. Similarly, a lower fertility rate provides women with a larger opportunity to contribute to the workforce, but this effect depends on other factors, both social and cultural.

On the other hand, the lower number of children allows for increased investment in their education, which delays their entry into the job market. According to the statistical data analyzed, Iraq remains far from entering this phase. Therefore, if no effective population policy were to be adopted, Iraq would remain outside the scope of the demographic "gift" until 2013. Furthermore, the country will need a longer period, extending until the year 2020, to enjoy the fruits of this "gift"—assuming that it was properly exploited. It must be noted that several Arab countries have entered the phase of the demographic gift, such as: Lebanon, Tunisia, Algeria, Bahrain, Kuwait, Qatar, and the United Arab Emirates.³⁴

³⁴ For further information, see Ministry of Planning, "Report on the State of the Population of Iraq 2010," 30; Heba Ahmad Nassar, *Demographic Transition, Employment and Labor Migration in the Arab Region*, (paper presented at the United Nations Expert Group Meeting on International Migration and Development in the Arab Region: Challenges and Opportunities, Beirut, 15-17 May 2006), 2-3, http://www.un.org/esa/population/meetings/EGM_Ittmig_Arab/P12_Nassar.pdf.

The geographic distribution of fertility

Compared to the year 2002, 2003 witnessed a decline in crude birth rate in most governorates (with the exception of the governorates of the Kurdistan Region, see Table 7 and Figure 8). The sharpest decline was registered in al-Anbar at 11.2 per thousand, and the least decline was in Karbala (zero per thousand). Other governorates saw a rise in the birth rate, led by Maysan at 4.2 per thousand. This reported decline rate, especially in al-Anbar, is unlikely to be realistic; and despite the short time span of this comparison, it remains difficult to explain these significant divergences. Part of the anomaly may have resulted from the general decline in fertility rates, while a more significant portion can be attributed to the difficulty of registering newborns due to the war conditions in 2003, the forced displacement that accompanied the war and the possibility of inaccurate registration.

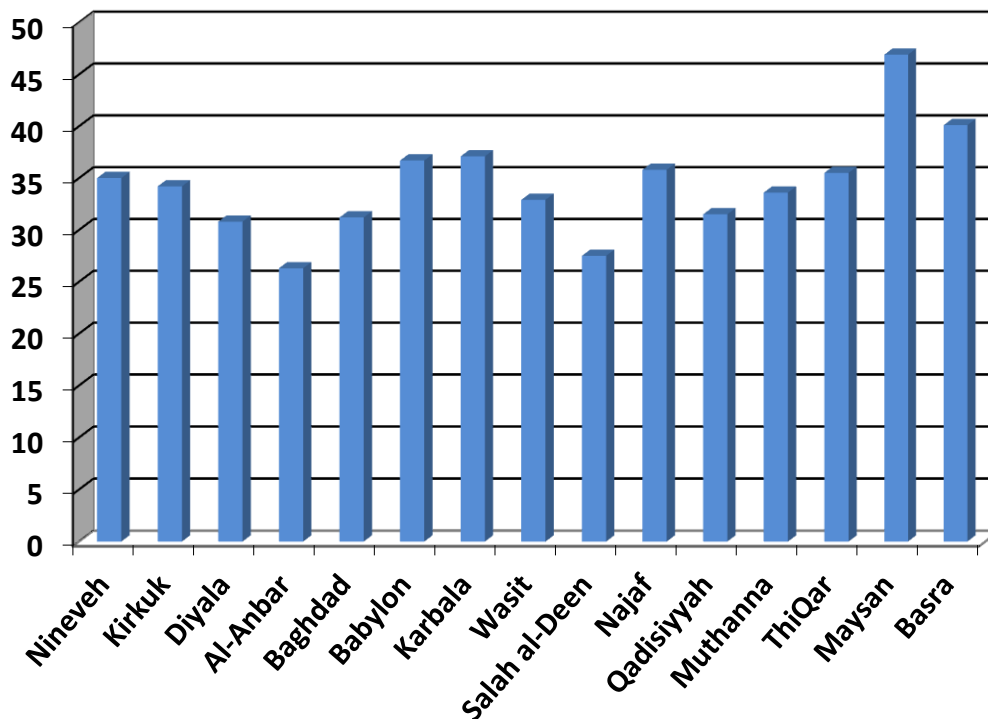
Table 7: Crude birth rate by governorate for the years 2002 and 2003 (births per thousand)³⁵

Governorates	Crude birth rate in 2002	Crude birth rate in 2003	Percentage difference
Nineveh	35	28.2	-6.8
Kirkuk	34.2	33.0	-1.2
Diyala	30.8	28.5	-2.3
Al-Anbar	26.3	15.1	-11.2
Baghdad	31.2	26.8	-4.4
Babil	36.7	35.6	-1.1
Karbala	37.1	37.1	0
Wasit	32.9	34.1	1.2
Salah al-Deen	27.5	27.4	-0.1
Najaf	35.8	38.2	2.4
Qadisiyyah	31.5	27.3	-4.2
Muthanna	33.6	30.2	-3.4
ThiQar	35.5	31.8	-3.7
Maysan	46.9	51.1	4.2
Basra	40.1	35.7	-4.4

³⁵ Crude birth rates and percentage differences calculated by the author, based on figures from the Ministry of Planning, Department of Statistics, *Statistical Yearbook 2004*, 210; and Ministry of Planning, "Population Report," (2008), 7.

Kurdistan Region			
Dahuk	-	-	-
Erbil	-	-	-
Sulaymaniya	-	-	-
Total	29.2	26.2	-3

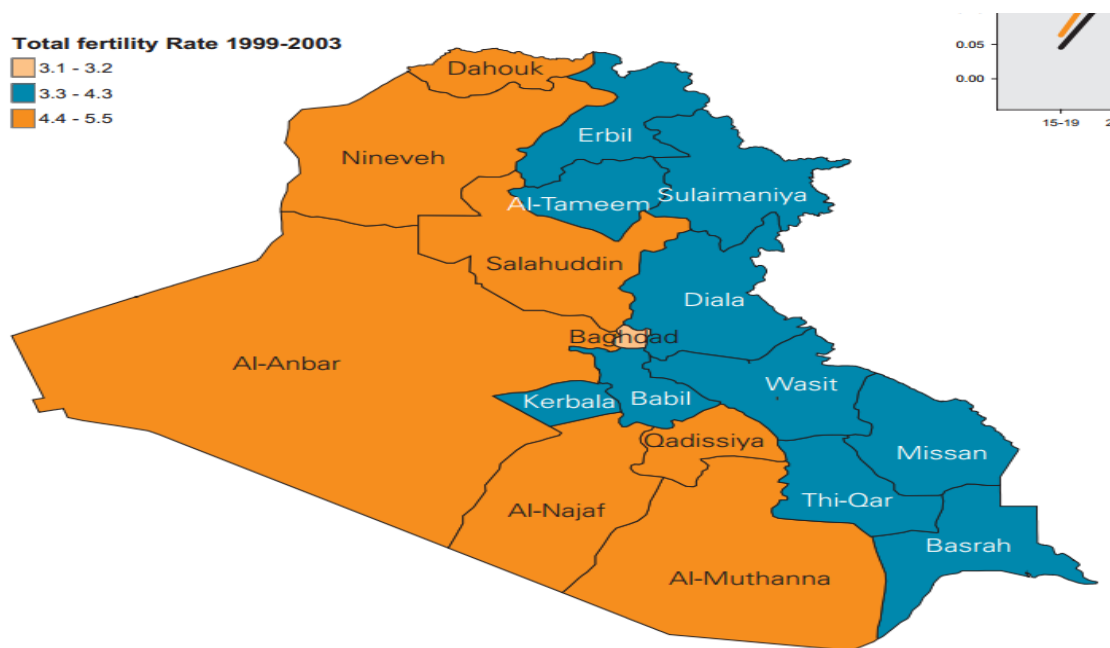
Figure 8: Crude birth rate by governorate in 2002 (births per thousand)



The geographic distribution of the total fertility rate according to the governorates for the period 1999-2003 shows that the lowest rate, ranging between 3.1 and 3.2, is in Baghdad. The other governorates can be divided into two groups: a western one, with seven governorates, where the highest rate ranges between 4.4 and 5.5; and an eastern group, with a rate ranging between 3.3 and 4.3 (see Figure 9). This distribution does not reveal significant divergences between governorates. The variation between fertility rates in Baghdad and other governorates are linked to the fact that Baghdad's socio-economic structure is more developed than that of other governorates, since Baghdad is the capital and hosts the majority of industrial, commercial, educational, cultural, and health institutions. For example, in 2004 Baghdad's population enjoyed the

highest literacy rate (79 percent) for the population aged 15 and older.³⁶ As a general rule, there is an inversely proportional relationship between the level of development and fertility levels. As for the other governorates, it is not easy to determine the causes of variation in fertility rates, but they may be linked to the exposure of western governorates to the desert and the Bedouins who had settled in western Iraq in different epochs, since Bedouin traditions favor a large number of children. In addition, other variables do exist but are devoid of verifiable data which could objectively determine the extent of their effect on fertility.

Figure 9: Total fertility rate in Iraqi governorates for the period 1999-2003³⁷



According to the 2007 survey, the distribution of fertility between rural and urban areas shows that the percentage of children under 15 tends to be low in the countryside of the governorates, with the exception of Nineveh and ThiQar (Table 8 and Figure 10).

³⁶ Ministry of Planning, "Iraq: National Report on the Status of Human Development," (2008), 198, table 12, http://planipolis.iiep.unesco.org/upload/Iraq/Iraq_HDR_English.pdf.

³⁷ Ministry of Planning, "Iraq Living Conditions Survey 2004," (2005), 3:15.

<http://www.fao.no/ais/middeast/iraq/imira/Tabulation%20reports/english%20atlas.pdf>.

On the other hand, the lowest percentage of children under 15 are present in the urban parts of ThiQar (49.4 percent) and the highest percentage in Diyala (61.6 percent), which can be attributed to the phenomenon of rural migration, which increases the urban population and raises the percentage of youth among them. This is a result of the backwardness of the social, economic, health, and cultural structure in rural areas, in addition to the higher level of infant mortality in the countryside compared to the cities.

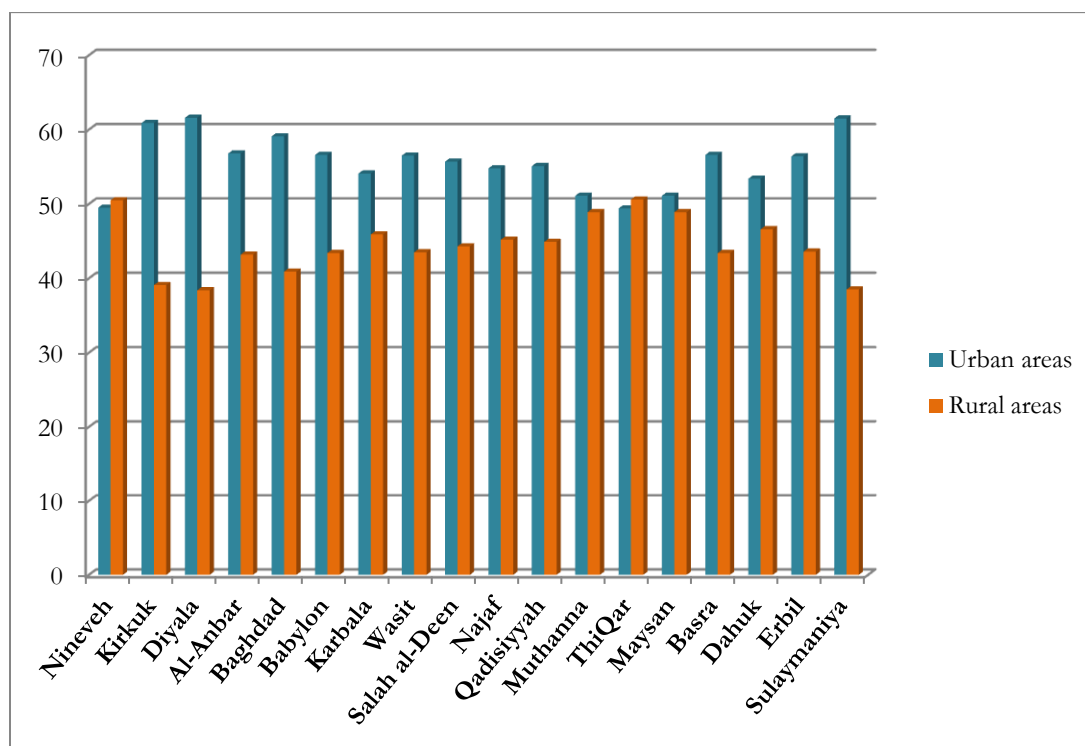
Table 8: Distribution of children under 15 years of age, out of the total population in the 2007 survey, in urban and rural areas, by governorates (%)³⁸

Governorate	Percentage in urban areas	Percentage in rural areas	Percentage of total population
Nineveh	49.5	50.5	45.1
Kirkuk	60.9	39.1	35.7
Diyala	61.6	38.4	36.6
Al-Anbar	56.8	43.2	40.6
Baghdad	59.1	40.9	35.5
Babil	56.6	43.4	40.7
Karbala	54.1	45.9	41.4
Wasit	56.5	43.5	39.3
Salah al-Deen	55.7	44.3	40.9
Najaf	54.8	45.2	43.5
Qadisiyyah	55.1	44.9	41.3
Muthanna	51.1	48.9	44.0
ThiQar	49.4	50.6	44.5

³⁸ Percentages calculated by the author based on: Ministry of Planning, "Iraq Household Socio-Economic Survey 2007," (2008), 2:59, <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/MENAEXT/IRAQEXTN/0,,contentMDK:22032522~menuPK:313111~pagePK:2865066~piPK:2865079~theSitePK:313105,00.html>

Maysan	51.1	48.9	47.3
Basra	56.6	43.4	40.8
Dahuk	53.4	46.6	43.1
Erbil	56.4	43.6	38.6
Sulaymaniya	61.5	38.5	34.6
Total	54.9	45.1	39.8

Figure 10: Distribution of children under 15 years of age, out of the total population in the 2007 survey, in urban and rural areas, by governorates (%)



Factors Affecting Fertility

A great number of factors and elements influence fertility rates, including biological, demographic, and socio-economic factors. Studying these variables is indispensable for interpreting the trends of population growth and the demographic structure, and for the purpose of conducting family-planning studies.

Demographic factors

Marriage

Since birth is a biological process, everything that affects the reproductive relationship between males and females also affects the birth rate, and since the vast majority of births in Iraq take place within legitimate marital relationships, anything that affects these relationships also impacts the birth rate.

Some factors affecting these relationships are temporary, while others are more stable. These can also be divided into inherent factors, affecting pregnancy itself, and external factors that impact reproduction in general. At any rate, all these factors are perpetually linked, making it difficult to interpret variations in fertility through a single variable.³⁹

The period during which a woman is capable of giving birth is called "the reproductive phase," extending from the age of 15 to the age of 49. As a result, the longevity of marriage and the total number of these 35 years that are spent within a marital relationship determine, to a large extent, the fertility rate, especially when contraceptive methods are not widespread. This has prompted researchers to study the relationship between fertility and age at the first marriage, the type of marriage, and the number of marriages undertaken by women during the reproductive age.

There is an inverse relationship between age at first marriage and the number of births; thus, women who are in the age group 40-44 years and who were married before the age of 15 have, on average, more children than those who were married at an older age. Therefore, a young marriage age and long marriage both contribute to a higher fertility level. Similarly, there is correlation between women's marital status and fertility

³⁹ Al-Ansari, *Population Geography*, 213.

levels – due to women going in and out of marriage (caused by divorce or becoming widows), leading women to lose their prime time for pregnancy.⁴⁰

Data indicate that the marriage age in Iraq is consistently rising for men and women.. The majority of women born in the years between 1920 and 1929 were married at age 19, while the men were married, on average, at 25. On the other hand, the majority of women who were born in the 1970s were married at the average age of 23, compared to an average age of 28 for men (Table 9).

The average age at first marriage is noticeably lower for women in the three northern governorates (Kurdistan) compared to Iraqi women in other regions, with the Kurdistan governorates currently featuring the highest average.⁴¹ This was confirmed by the 2011 survey, with the average reaching 26 years for women in Iraqi Kurdistan, as opposed to 22 years in the rest of Iraq.⁴² This discrepancy can be explained by the relative socio-economic development that occurred in the region after exiting the control of the central government following the 1991 uprising; as well as the region enjoying a better situation in terms of security and stability compared to the rest of Iraq, especially after the regime change in 2003. On the other hand, the average age of marriage for men in the Kurdish governorates is similar to its level in the rest of Iraq. Baghdad features a higher average marrying age for men compared to the three Kurdistan governorates — a rate that is, however, equal to the average found in the south of Iraq for men born between 1940 and 1949. This discrepancy can be explained by the presence of the majority of commercial, industrial, educational, and cultural establishments in the capital, leading to a more developed socio-economic structure than the rest of Iraq, and, consequently, to a higher marrying age.

⁴⁰ Hashem Nimeh Fayyad, "Population Fertility: Its Level, Evolution, and the Factors Affecting it," unpublished paper.

⁴¹ Ministry of Planning, "Iraq Living Conditions Survey 2004," 2:45-46.

⁴² Ministry of Planning, "Iraq Women's Integrated Social and Health Survey," 44.

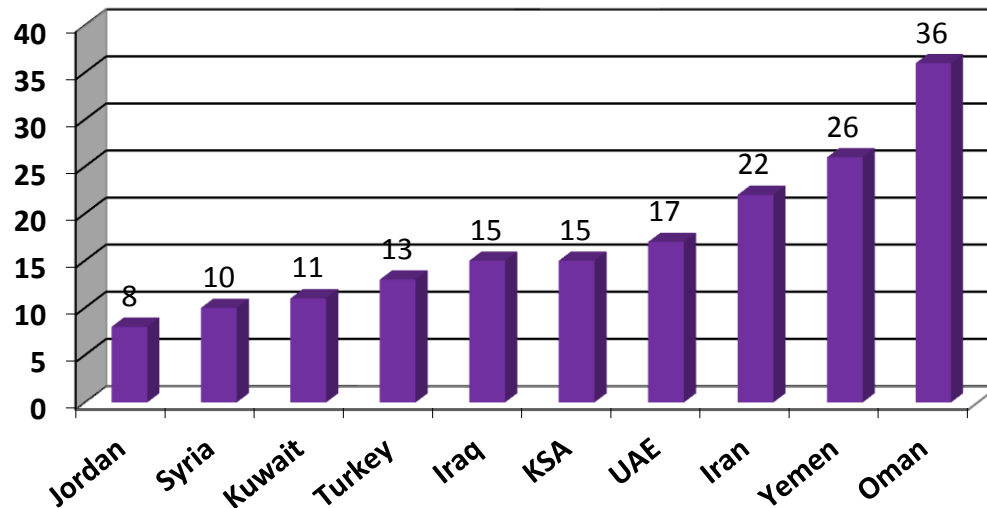
Table 9: Median age at marriage by gender and region⁴³

Birth year	Male					Female				
	South	Center	North	Baghdad	Average	South	Center	North	Baghdad	Average
1940-1949	26	25	25	26	25	20	20	19	20	20
1950-1959	26	25	24	27	26	21	20	19	20	20
1960-1969	26	25	25	27	26	21	21	20	22	21
1970-1979	28	27	28	32	28	23	22	25	23	23

Figure 11 shows that the percentage of women who marry between the ages of 15 and 19 in Iraq has currently reached 15 percent of the total, a higher proportion than in the majority of neighboring countries, but still lower than the United Arab Emirates, Iran, Yemen, and Oman. This figure is proof of the persistence of early marriage practices in Iraq.

⁴³ The geographical division used in this survey of 2004 is based on the following regions: the South includes Basra, Muthanna, ThiQar, Maysan, Najaf, Qadisiyyah, Wasit, Karbala, and Babil; the center includes al-Anbar, Salah al-Deen, Nineveh, Kirkuk, and Diyala; the North includes Dahuk, Erbil, and Sulaymaniya; and the governorate of Baghdad. Ministry of Planning, "Iraq Living Conditions Survey 2004," 2:45, table 26, and 3:10, <http://www.fao.no/ais/middeast/iraq/imira/Tabulation%20reports/english%20atlas.pdf>.

Figure 11: Currently married women who married between the ages of 15 and 19: a regional perspective (%)⁴⁴



The economic sanctions that were imposed on Iraq after the year 1990 have also affected marriage practices. Dennis Halliday, a former UN official who lived in Iraq for a long period of time, said that the economic crisis has impacted family life on numerous levels which include a rise in divorce rates and a decline in marriages as a result of young Iraqis not being able to afford the costs of marriage. An increase was also visible in the number of single mothers.⁴⁵ This has inevitably contributed to the decline in fertility rates, leading to a slowing of population growth. For example, the meager growth of the city of al-Hilla in the governorate of Babil can be traced to the decline in new marriages, leading to a decline in births, and the rise in mortalities. This situation was incited by the closure of many factories that were located in the city, due to the lack of primary materials, in addition to the inadequacy of the wages paid to employees. As a result, a greater portion of the population experienced a return to agriculture, with the rise of the prices of agricultural goods in the Iraqi market, especially staple products. All these dynamics were the product of the economic embargo.⁴⁶ Conversely, a noticeable rise in the number of marriages has taken place

⁴⁴ Figure created by the author based on: Ministry of Planning, "Iraq Living Conditions Survey 2004," 2:47, tables 5-28.

⁴⁵ Amatzia Baram, "The Effects of Iraqi Sanctions," *Middle East Journal* 2 (2000): 220.

⁴⁶ Abbas Fadil al-Saadi, "The Growth and Density of the Population of the City of al-Hilla in Iraq," *The Journal of Geographic Studies* 5 (2004): 44.

since the regime change in 2003 throughout Iraq, which was due to the improvement of the tangible economic situation of the general population. Prior to 2003, a large number of unmarried Iraqis, both males and females, abstained from marriage due to its costly demands and the decline of living standards during the embargo. The recent spike in the number of marriages has contributed to the shrinking of the average family size, either because these families are yet to have children, or because they chose to have fewer children.⁴⁷

The percentage of unmarried women in the 15-49 age group rose from 26.7 percent in the 1987 census to 33.8 percent in the 1997 census, and to 38.1 percent in the 2006 survey (Table 10 and Figure 12). The percentage of women aged 35 or more and who remain unmarried also rose from 3.8 percent in the first census to 5.7 percent in the most recent one. This percentage will undoubtedly increase further when adding divorcees and widows and those whose marital status was not determined.⁴⁸

**Table 10: Distribution of women aged 15-49
by marital status in 2006 (%)⁴⁹**

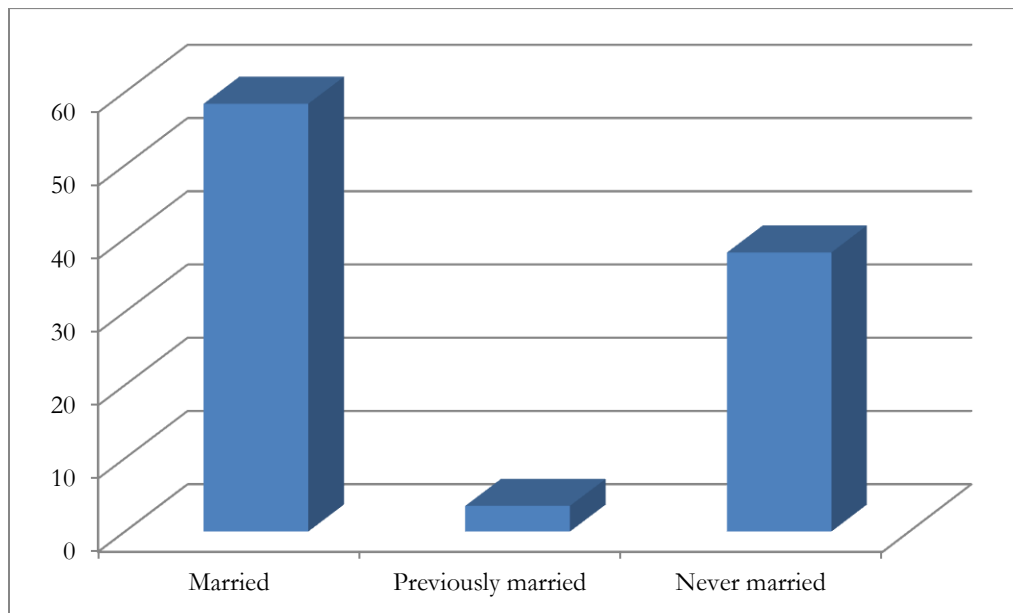
Marital status	Married	Formerly married	Never married
Percentage	58.4	3.5	38.1

⁴⁷ Naji Sahm Rasan, "Family Size in the Urban Parts of the Wasit Governorate: A Study in Population Geography," *Kufa Journal of Letters* (Kufa University) 2 (2008): 112.

⁴⁸ For further information, see Abed al-Razzaq Jasim Hassoun, ed., *The Social and Economic Effects of Unmarried Women in Iraq*, (Baghdad: Ministry of Planning, 2008), 10-11.

⁴⁹ Abed al-Razzaq Jasim Hassoun, ed., *The Social and Economic Effects of Unmarried Women in Iraq* (Baghdad: Ministry of Planning, 2008), 16, table 3. See also COSIT and Kurdistan Regional Statistics Office, *Findings from Iraq, Multiple Indicator Cluster Survey 2006*, 1:74, http://www.childinfo.org/files/MICS3_Iraq_FinalReport_2006_eng.pdf.

**Figure 12: Distribution of women aged 15-49
by marital status in 2006 (%)**



A field study conducted in 2007 revealed that the urban population of the al-Hayy and Badra districts in the Wasit governorate enjoys the longest marriages on average with 16.6 years and 15.4 years, respectively. Those figures went hand in hand with large average family sizes of 6.8 and 7.2 members, respectively. Moreover, the cases of females marrying at an age below the legal age of 15 years were most common in the district of Badra (10 percent), and least in the district of al-Kut.⁵⁰ This no doubt contributes to the increased fertility rates in districts such as Badra.

Males typically tend to choose young wives, even when this involves a large age difference. This trend is clearest among the rural population, or those of rural origins who inhabit cities. This state of affairs is the result of multiple social factors, the most notable of which being the desire to produce a large number of children. In the urban areas of the Wasit governorate, the average age of the wife is 33.5 years, as opposed to 40.1 years for the husband, with this average varying between the administrative districts of the governorate. The age difference is highest in the district of Badra, where the average age of the wife is 32.5 years and that of the husband is 41 years. This age

⁵⁰ For further information, see Rasan, "Family Size in the Urban Parts of the Wasit Governorate," 120-121.

difference reflects the rural background of the majority of the district's population, who tend to have more children, since that leads to increased power and prestige in these areas. The higher the economic and social level of the population, the lower the age difference tends to be, as in the district of al-Kut, where the average age of the wife is 33.3 years, while husbands are 39.2 years old on average. The same figures in the Namaniya district are 33.1 years for wives and 38.3 years for husbands. This shows that males with more developed living, social, and cultural levels tend to choose wives who are closer in age and at a similar level of education and social class.⁵¹

In terms of the general growth of the total population, it is noticeable that polygamy has a negative impact on fertility, especially in societies where the proportion of males and females is balanced. Polygamy leads to depriving a number of males from the opportunity to marry, thus reducing the total number of births.⁵² Furthermore, polygamy lowers the incidence of sexual relations for each individual wife, reducing her total fertility. However, this study argues that these considerations do not currently apply to Iraq, due to the various wars that have afflicted the country and that led to the death of hundreds of thousands of men, in addition to a massive increase in migration outside of Iraq, with the majority of migrants being males (in Norway, males comprise 67 percent of total Iraqis in the country, 64 percent in the Netherlands for the first generation of migrants, 59 percent in Finland, 56 percent in Sweden, and 55 percent in Denmark).⁵³ When taking into account the fact that average life expectancy for females is for biological reasons higher than that for males, and since there is an imbalance in the ages of females and males upon marriage (as indicated by the figures above), polygamy ceases to have a negative impact on fertility, which could be a temporary situation. Nevertheless, polygamy in Iraq is in decline, as is the case in other Arab and Islamic countries.

Among the Iraqi diaspora, the rise in divorce rates is noticeable. In London, for instance, where a majority of Iraqi immigrants live, 9 percent of men and 18 percent of women are divorced or separated.⁵⁴ These are extremely high rates if compared to Iraq where the percentages were 0.27 percent for men and 0.28 percent for women in

⁵¹ Ibid, 118-119.

⁵² Al-Ansari, *Population Geography*, 97.

⁵³ For further information, see Hashem Nimeh Fayyad, *Iraq: Studies in External Population Migration* (Baghdad: Al-Ruwad Publishing, 2006), 16.

⁵⁴ Shatha Jafar, *Health Needs Assessments Study of the Iraqi Community in London, 1998-1999* (London: Iraqi Community Association, 1999), 14.

1997,⁵⁵ and 0.10 and 1.4 percent, respectively, in 2011.⁵⁶ The higher incidence of divorce for immigrants is caused by a number of complex social, economic, cultural, and psychological factors; and this situation negatively affects fertility rate.

Age structure

Age structure has a significant effect on the evolution fertility rates. Younger societies feature a higher proportion of individuals who are candidates for marriage and reproduction. Table 11 and figure 13 show that the age structure in Iraq became younger between the 1965 and the 1987 censuses, but that was followed with a sharp decrease in the percentage of the young population (0-14 years) until it reached 39.8 percent. Conversely, there was a rise in the size of the middle age group (15-59 years) to 55.1 percent, while the percentage of the older population has decreased to 5.1 percent in 2007. The figures of the 2004 and 2007 surveys are extremely close, and the slight variations between them may be attributed to the composition of the sample and its margin of error. In countries with high levels of human development, the percentage of the age group younger than 15 years is 19.6 percent, while it reaches 44.9 percent in countries with low levels of human development, according to 2006 and 2007 figures—which is the same percentage registered in Iraq in the 1997 census.⁵⁷

⁵⁵ UN, "Bulletin on Vital Statistics in the Economic and Social Commission for Western Asia (ESCWA) Region," (New York: 2003), 146, table 3.

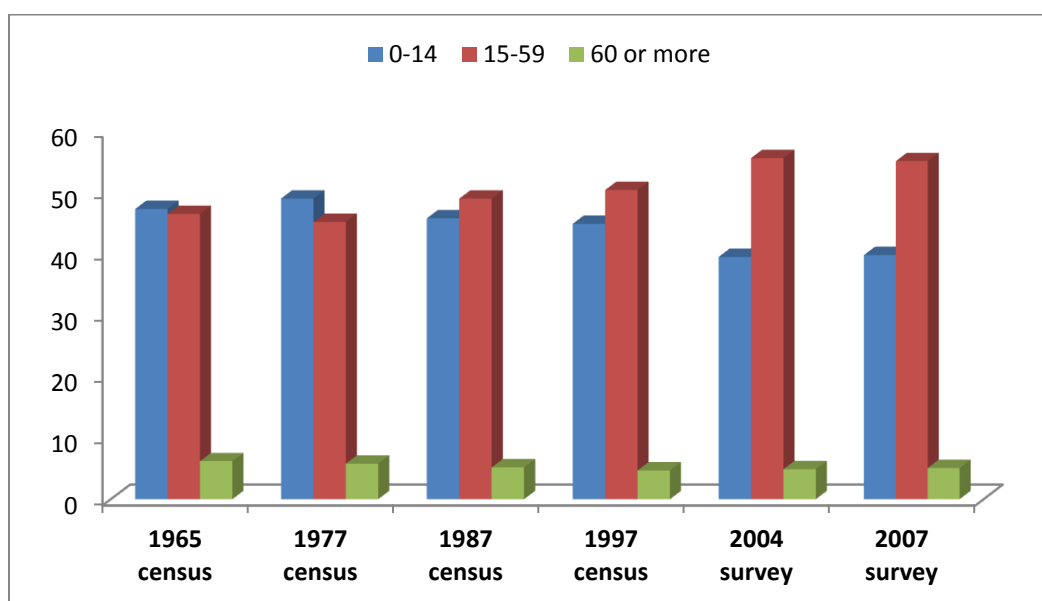
⁵⁶ Ministry of Planning, "Iraq Women's Integrated Social and Health Survey," 37.

⁵⁷ For further information, see Ministry of Planning, "Iraq: National Report on the Status of Human Development 2008," 55.

Table 11: Age structure in Iraq by broad age groups for the period 1965-2007 (%)⁵⁸

Age group	1965 census	1977 census	1987 census	1997 census	2004 survey	2007 survey
14-0	47.3	49.0	45.8	44.9	39.5	39.8
15-59	46.5	45.2	49.0	50.4	55.6	55.1
60 or more	6.2	5.8	5.2	4.7	4.9	5.1
Total	100	100	100	100	100	100

Figure 13: Age structure in Iraq by broad age groups for the period 1965-2007 (%)



⁵⁸ Table and percentages for the years 1987, 1997 and 2007 calculated by the author, based on: *Statistical Yearbook 1987*, 48, *Statistical Yearbook 1992*, 41, and *Statistical Yearbook 1997*, table 2/4, <http://www.unhcr.org/pages/4a02afce6.html>; Ministry of Planning, "Iraq Household Socio-Economic Survey 2007," (2008), 2:56, tables 1-4, <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/MENAEXT/IRAQEXTN/0,,contentMDK:22032522~menuPK:313111~pagePK:2865066~piPK:2865079~theSitePK:313105,00.html>; for the year 1965: Al-Ansari, *The Population Problem: the Case of Iraq* (Damascus: Publications of the Cultural Ministry, 1980), 90-91.

Table 12 shows the development of the levels of age fertility, which has declined in all age groups except for the 15-19 years group, where the figure rose from 56 to 68 during the period 1997-2006.⁵⁹ This data confirms the decline in the fertility rate.

Table 12: Age-specific fertility rate for the period 1997-2006⁶⁰

Age group	Age fertility 1997	Age fertility 2006
15-19	56.2	68
20-24	210	187
25-29	276.2	221
30-34	257.9	188
35-39	196.5	136
40-44	101.4	56
45-49	31	9

At the level of governorates, and according to the 1997 census, Muthanna governorate registers an extremely high percentage for the 0-4 age group (18.8 percent of the total), while the young age group (0-14 years) represented 47.0 percent of the total, which is higher than its counterparts in the Middle Euphrates region (which includes the governorates of Babil, Karbala, Najaf, Qadisiyya, and Muthanna). On the other hand, the 15-59 years age group in Muthanna represented 47.4 percent of the total, which is lower than the Middle Euphrates average of 50.4 percent. Moreover, the 60 years and older age group rose to 5.7 percent in Muthanna compared to 4.6 percent in the Middle Euphrates.⁶¹ The high percentage of the young population and the lower percentage of the middle age group in Muthanna indicate a high birth rate and a low mortality rate. On a different front, the sex ratio in the governorate has varied from one year to another, due to the multiple migration waves from and into the governorate; with a ratio registering 96.7 and 101.8 and 94.2 males per 100 females in the 1977, 1987, and

⁵⁹ Age fertility is calculated by dividing the total number of births for mothers in a specific age group by the number of females in the same age group, and the (5-digit) figure is usually multiplied by 1000.

⁶⁰ Ministry of Planning, "Report on the State of the Population of Iraq 2010," 22, table 3.

⁶¹ For further information, see Adnan Kadhim Jabbar al-Shibani, "The Demographic Characteristics of the Population of the Muthanna Governorate," *al-Sudayr Journal* (Kufa University), 10 (2005): 184.

1997 censuses, respectively. In 1997, the ratio in Muthanna was lower than its counterparts in the governorates of Qadisiyya and Najaf, where it was 97 and 98 males per 100 females, respectively.⁶²

The urban areas of the Qadisiyya governorate present a good example of the effect of the age structure on general fertility rates, thanks to the availability of statistical data on the region based on the 1997 census. Numbers reveal that the highest fertility rate (338 per thousand) was in the 20-24 years age group, with the fertility rate progressively declining after this age. However, the 12-14 years and 15-19 years age groups also feature high fertility rates, with 306.2 per thousand in the second age group—evidencing the impact of early marriage on increased fertility (Table 13 and Figure 14).

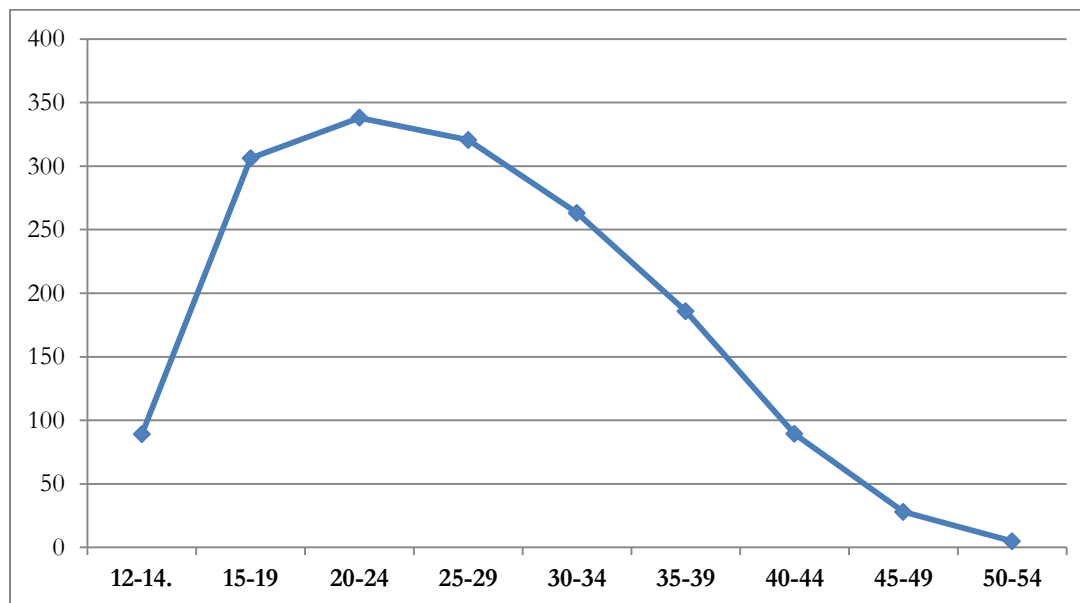
Table 13: General age fertility rates of females living in the urban area of Qadisiyya governorate, according to the 1997 census⁶³

Age group	Married and divorced women	Number of live births	General fertility rate (per thousand)
12-14	146	13	89.0
15-19	3158	967	306.2
20-24	8557	2892	338.0
25-29	12237	3923	320.6
30-34	11320	2979	263.2
35-39	7811	1451	185.8
40-44	8387	749	89.3
45-49	6469	181	28.0
50-54	19332	93	4.8
Total	77541	13261	1624.8

⁶² Al-Shibani, *ibid.*, 184.

⁶³ Ministry of Planning, 1997 Population Census, quoted in al-Gharibawi, Raad Abd al-Hussain, "The Population Situation for the Urban Sector of the Qadisiyya governorate and Future Projections for the Period 2005-2010," *Geographic Research Journal* (Kufa University) 6 (2005).

Figure 14: General age fertility rates of females living in the urban area of Qadisiyya governorate, according to the 1997 census



The population structure in Iraq remains young. Table 14, as well as the population pyramid (Figure 15), show a general decline in fertility, meaning that the 0-4 years age group is shrinking. However, it remains larger than the 5-9 years age group, which is due to the large number of women who are in childbearing age. Consequently, the general dependency rate is extremely high at 74 percent, with the rate of child dependency reaching 68.4 percent.⁶⁴ The data shows large variations between different geographic regions in terms of the dependency ratio, the highest level of child dependency was registered in the Salah al-Deen governorate (85.4 percent), with the lowest level in Sulaymaniya (54 percent). This results from the variation in fertility rates according to region, as well as the effects of migration. The population pyramid shows a high number of women in the 55-59 years age group, which was probably due to the error of the employees who conducted the interviews.⁶⁵ In the 1997 census, the percentage of women in this category was 1.9 percent, as opposed to 2.0 percent for

⁶⁴ The dependency ratio is defined as the number of individuals aged 0-14 years, added to the number of individuals aged 65 years and older, and divided by the number of the population aged 15-64 years. As for the child dependency ratio, it represents the number of individuals aged 0-14 years divided by the population aged 15-64 years.

⁶⁵ Ministry of Planning, "Iraq Living Conditions Survey 2004," 1:15-20, 2:42-44, http://cosit.gov.iq/english/pdf/english_tabulation.pdf

men.⁶⁶ The pyramid also features a deviation in the age structure of men, which does not present the expected “staircase” shape for men aged 40-49 years. This reflects the influence of the Iraq-Iran war, since this age group was performing military service during the war.⁶⁷ This data confirms the effect of the age structure on fertility rates, since the rise in the age of first marriage for females has contributed to the lowering of fertility in the Arab world, which has become a general trend in recent years.⁶⁸

Significantly, fertility also has a deep influence on the age structure, since its rise leads to the increase in the percentage of the young population and the widening of the base of the population pyramid and the shrinking of the percentage of the elderly population. This has numerous demographic, economic, and social repercussions, which affect the rates of population growth.

Table 14: Age structure by gender in 2004 (%)⁶⁹

Age group	Males	Females	Total
4-0	6.9	6.7	13.7
9-5	6.6	6.4	13.0
14-10	6.5	6.3	12.8
19-15	5.5	5.6	11.1
24-20	5.2	5.1	10.3
29-25	4.3	4.1	8.4
34-30	3.5	3.6	7.1
39-35	2.7	2.8	5.5
44-40	1.9	2.2	4.0
49-45	1.8	1.9	3.6

⁶⁶ The percentages were calculated by the author based on: Ministry of Planning, Central Organization for Statistics and Information Technology (COSIT) data (2007), table 4/2, http://cosit.gov.iq/english/cosit_surveys.php; also see <http://data.un.org/CountryProfile.aspx?crName=Iraq>.

⁶⁷ Ministry of Planning, “Iraq Living Conditions Survey 2004,” 1:15-20, 2:42-44.

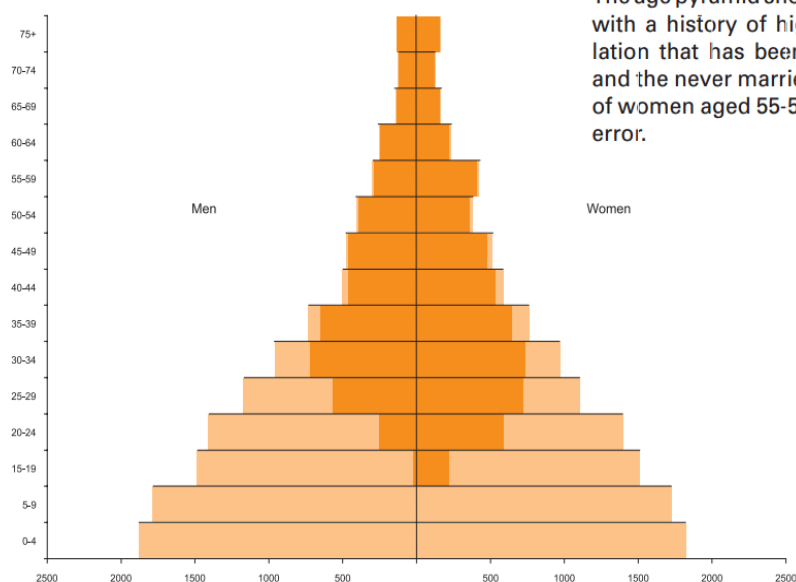
⁶⁸ The United Nations, *The Arab Woman 1995: Trends, Statistics and Indicators* (New York, 1998), 15.

⁶⁹ Ministry of Planning, “Iraq Living Conditions Survey 2004,” 1:17.

54-50	1.5	1.4	2.9
59-55	1.1	1.6	2.7
64-60	0.9	0.9	1.8
69-65	0.5	0.6	1.1
74-70	0.5	0.5	0.9
75 +	0.5	0.6	1.1
Total	50	50	100

Figure 15: The population pyramid in 2004⁷⁰

Age and gender structure



There are similarities between the Iraqi population pyramid and those of other developing countries that are experiencing similar social and economic conditions. On the other hand, the Iraqi population pyramid differs from those of countries that attract labor migrations, such as the majority of the Arabian Gulf countries, whose pyramid

⁷⁰ Ministry of Planning, "Iraq Living Conditions Survey 2004," (2005), 13, <http://www.fafo.no/ais/middeast/iraq/imira/Tabulation%20reports/english%20atlas.pdf>.

shows bulges in its sides, representing the young age groups, leading to a pyramid base that appears smaller than its middle.⁷¹

Migration

Migration is one of the main factors that influence fertility as a result of the interaction between its demographic effects and the resulting changes in the population number and the age and gender structures. Migration has a clear negative effect on fertility rates in migrant-producing regions, leading to a higher marriage age and lengthier periods between births, with the separation of spouses due to travel.⁷²

The patterns of internal migration in Iraq were not clear prior to the year 1947, when the country began to witness an immense rural-to-urban migration, which intensified further during the 1950s, 1960s and 1970s. This phenomenon was created by the deplorable social and economic conditions of the Iraqi countryside. According to the Ministry of Planning, the annual average of internal migration from the countryside rose from 19,600 migrants in the mid-1950s to 40,000 in 1958-1962, reaching 57,000 migrants per year in 1960-1970. Baghdad alone received half of these migrants. Statistics also show that 80,000-90,000 migrants have left the countryside to urban areas each year in the period 1973-1975.⁷³ The total number of net rural-to-urban migrants was 937,000 during the period 1957-1965 and 1.047 million in the period 1965-1977.⁷⁴ As a result, the cities of the central governorates registered the highest rates of population growth, as a result of the influx of migrants coming from the southern governorates, especially the Maysan governorate.⁷⁵

During the 1990s, Iraq witnessed a reversed, albeit limited, migration pattern that saw a movement from the cities to the countryside. This migration was caused by the rise in the prices of local agricultural products, as a result of the international sanctions and state subsidies, in addition to the government's policy mandating the sale of all crops to the state and the decline of wages due to rampant inflation. These factors encouraged some urban residents who owned agricultural land, or had access to it, to return to the countryside and exploit these assets and achieve high rates of profit. However, this

⁷¹ Hamza, "The Availability of the Human Workforce in Iraq 1977," 203.

⁷² Fayyad, "Population Fertility: Its Levels, Evolution, and Influencing Factors," 21.

⁷³ Richard F. Nyrop, *Iraq: A Country Study* (Washington: American University, 1979), 76.

⁷⁴ United Nations, *Internal Migration of Women in Developing Countries* (New York: 1993), 52.

⁷⁵ Hamza, "The Availability of the Human Workforce in Iraq 1977," 197-198.

phenomenon was not accompanied by major shifts in demographic indicators, such as total fertility rates.⁷⁶ This migration trend needs more research in order to obtain thorough conclusions on fertility.

On the provincial level, the number of migrants to the city of al-Hilla, center of the Babil governorate, and who were born in other governorates increased to 10,876 individuals in 1965 (Table 15 and Figure 16) and if one adds those who were born in the districts of the Babil governorate (outside of al-Hilla), the total number of immigrants in the city would rise to 15,575. This means that 18 percent of the al-Hilla population in 1965 was born outside of the city, which would explain the rise in the natural increase rate of population in al-Hilla in 1965. By 1977, the total number of internal migrants to the city rose to more than 19,000, an increase reflecting the amelioration of the urban living standards in the city compared to earlier periods. In the 1987 census, the Babil governorate appeared to be attracting migrants from the other governorates, especially those of Basra, Baghdad, and Qadisiyya, which represented 75 percent of incoming migration. The Iraq-Iran War was the prime reason for the migration of people residing in the border areas toward Babil.⁷⁷ By 1997, total migration into the city of al-Hilla reached 32,174 migrants.

⁷⁶ Ministry of Planning, "Iraq: National Report on the Status of Human Development," 56-59.

⁷⁷ For further information, see al-Saadi, "The Growth and Density of the Population of al-Hilla in Iraq," 42-43.

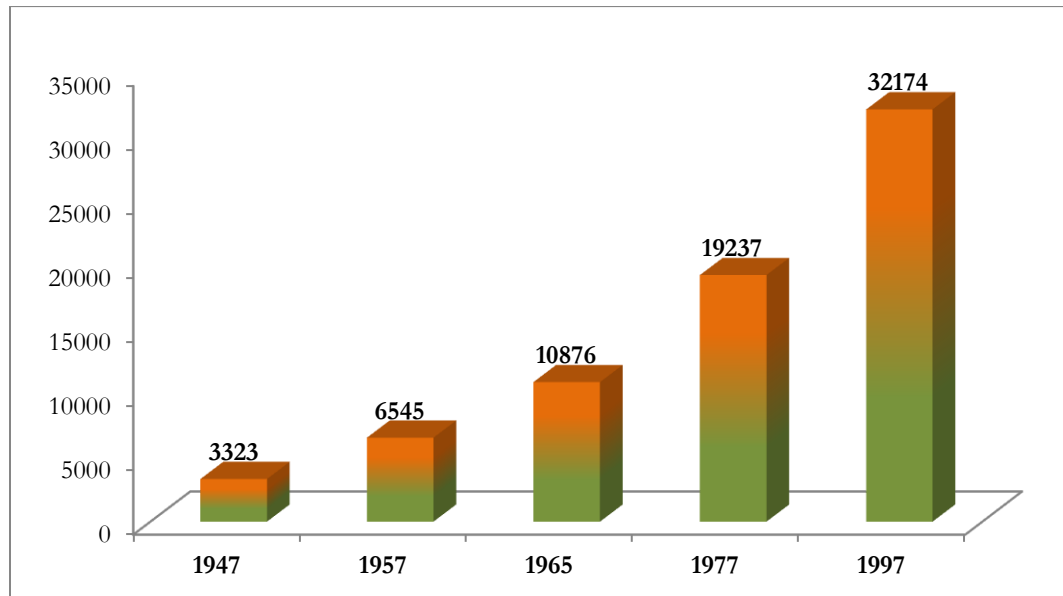
Table 15: Al-Hilla population, growth rates, and incoming migration, according to censuses conducted in the period 1947-1977⁷⁸

Year of census	Population in the city	Population of the Babil governorate	% of the governorate's population	Annual growth (%)		Annual increase	Incoming migration from other governorates	Average incoming migration (%)
				Governorate	City			
1947	36577	261206	14	-	-	-	3323	9.3
1957	54353	354779	15.3	3.1	4.0	1778	6545	12.3
1965	84104	448168	18.8	3.0	5.6	2975	10876	13.3
1977	161056	592016	27.2	2.3	5.6	6413	19237	12.3
1987	217902	897877*	24.3	4.2	3.1	5685	-	-
1997	257495	1181751	21.8	2.8	1.7	3959	32174	12.6

* with the exception of the Mahmoudiya district.

⁷⁸ Al-Saadi, "The Growth and Density of the Population of the City of al-Hilla in Iraq," 43, table 1.

Figure 16: Incoming migration to the city of al-Hilla, according to censuses conducted in the period 1947-1977.



In the Basra governorate, temporary migration out of the governorate as a result of the effects of the Iraq-Iran War reached 364,478 migrants in 1987, with a net migration of -305,268, leading to the decline of the rate of population growth in the city of Basra to 3.4 percent during the period 1977-1987, one percent less than the population growth rate for the entire Basra governorate, which also declined due to outgoing migration.⁷⁹

In the period 1977-1997, the number of individuals migrating to the urban parts of the Qadisiyya governorate was 28,717 migrants while outgoing migration reached 80,832, with a net migration of -52,115, equaling 3.1 percent of the governorate's total population. This indicates the negative impact of migration on the population growth in the governorate, leading to a decrease in fertility rates.⁸⁰

Conversely, the clear rise in the population growth of the center of Kufa district in the Najaf governorate in the period 1977-1997 was partly due to the influence of incoming

⁷⁹ Abbas Abd al-Hasan Kadhim, "The Population Situation in the City of Basra and its Effects on Basra's 2003 Urban Plan," *al-Basra Literature Journal* (University of Basra) 39 (2005): 111-132.

⁸⁰ Raad Abd al-Hussain al-Gharbawi, "The Population Situation for the Urban Sector of Qadisiyyah governorate and Future Projections for the Period 2005-2010," *Geographic Research Journal* (Kufa University) 6 (2005), 211.

migration from other governorates, in addition to the rise in natural population growth due to the development witnessed in the district in cultural, economic, and health domains. This has contributed to lowering the mortality rate, especially among children, leading to a rise in fertility rates.⁸¹

The Muthanna governorate has seen annual variations in migration waves. At one point, the governorate was migrant-producing, with a net migration of -14,187 individuals in 1977 due to the underdeveloped state of the local economy and services. Later, the governorate began to attract migrants, with a net migration of 8,757 in the 1987 census, which came as a result of the governorate's remoteness from military operations during the Iraq-Iran War and to the improvement of the economic situation. The governorate, however, became once again a net migrant exporter, with a net migration of -9,212 migrants in 1997 due to the refugees' return to their regions of origin after the end of the war; this is in addition to the deterioration of the economic situation during the period of economic sanctions on Iraq in the 1990s, which caused an influx of migrants seeking employment (see Table 16 and Figure 17).⁸² In Muthanna in 1987, war was the second motivation for incoming migration, with 8.6 percent of the total; a factor that declined to third place in 1997.⁸³ As a result, the population growth rate has vacillated, registering an increase in the period 1977-1987 (reaching 3.9 percent), and a relative slowing in the period 1987-1997 (3.3 percent).⁸⁴

In 1987, those working in agriculture in Muthanna governorate decreased to 20.7 percent of the total workforce, surging to 55.7 percent in 1997 and surpassing all other occupational sectors in the governorate. This phenomenon demonstrates the role of reverse migration into the countryside due to the increase in the economic return of agriculture, especially after the year 1990.⁸⁵

⁸¹ Rana Abd al-Hussain Jasim and Kifah Dakhil Abais, "A Spatial Analysis of Population Growth in the Center of the al-Kufa District for the Period 1977-1997 and Future Projections until the Year 2017," *Kufa Journal of Letters* (Kufa University) 2 (2008): 256.

⁸² Al-Shibani, "The Demographic Characteristics of the Population of Muthanna Governorate," 183.

⁸³ Abd al-Sahib Naji al-Baghdadi and Hussain Jaz Nasir, "Migration Trends in Muthanna Governorate for the Period 1977-1997," *Geographic Research Journal* (Kufa University) 5 (2004): 160-169.

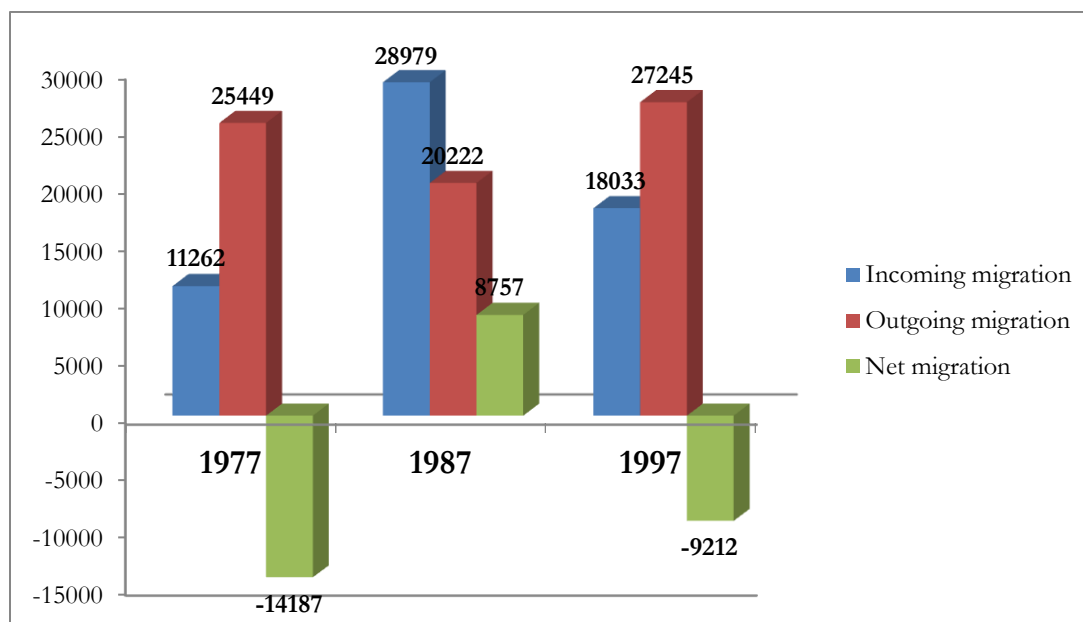
⁸⁴ Al-Shibani, "The Demographic Characteristics of the Population of Muthanna Governorate," 183.

⁸⁵ Data from the 1997 census, quoted in al-Shibani, *ibid.*, 169-170.

**Table 16: Incoming and outgoing migration and net migration
in Muthanna governorate in the period 1977-1997⁸⁶**

Population census	Incoming migration	Outgoing migration	Net migration
1977	11262	25449	-14187
1987	28979	20222	+8757
1997	18033	27245	-9212

**Figure 17: Incoming and outgoing migration and net migration
in Muthanna governorate in the period 1977-1997**

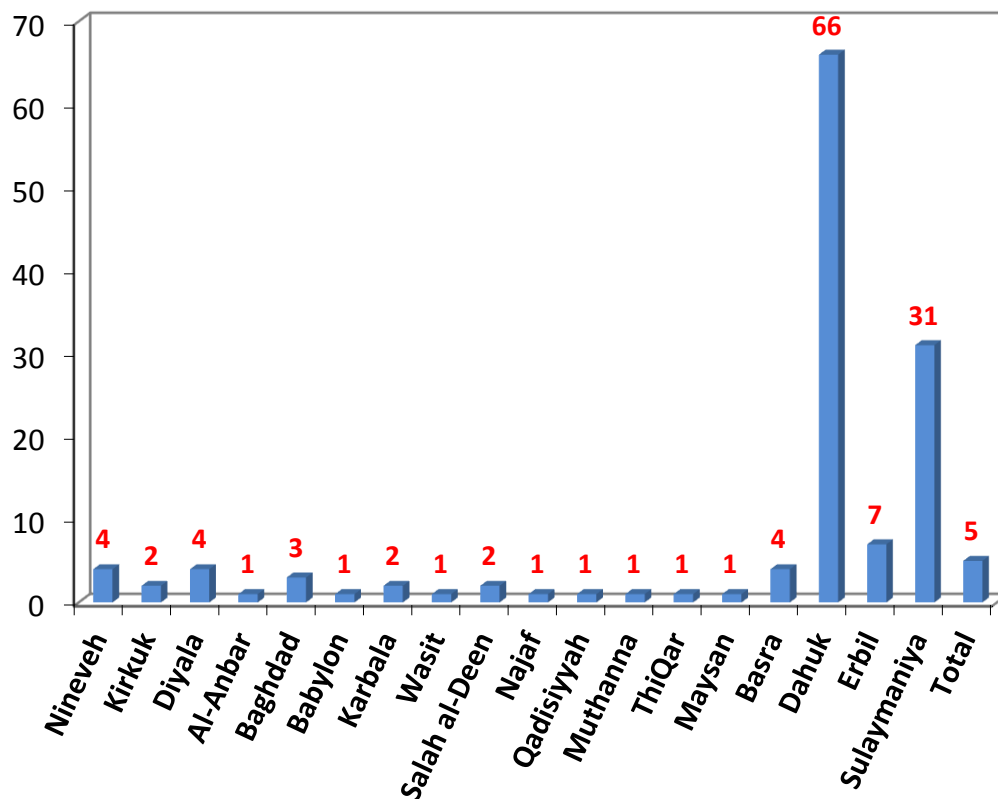


Migration between governorates affects fertility rates, in accordance with net incoming and outgoing migration. On the other hand, the relocation of a large portion of the population into the cities as well as the conditions of urban life tend to lower the rate of births among this population, compared to those who remain in the countryside.

⁸⁶ Ministry of Planning, Department of Statistics, *Statistical Yearbooks 1977, 1987, and 1997*, in al-Shibani, "The Demographic Characteristics of the Population of the Muthanna Governorate," 171.

According to the 2004 survey, five percent of Iraq’s population was forced to relocate due to war: six percent of the urban population and four percent of the countryside. In some governorates, this rate was much higher, such as Duhok where 66 percent of the population was displaced (see Figure 20).⁸⁷ This movement, and the instability that it caused, must have had an inverse impact on fertility rates.

Figure 18: Individuals forced to relocate due to war, by governorate (percentage of total population)⁸⁸



The wave of forced displacements intensified in 2006 and 2007 due to a deterioration of the security situation and to the sectarian violence taking hold of Iraq (see Figure 19). According to the United Nations High Commissioner for Refugees, the number of internally displaced Iraqis, including the homeless, reached 2,647,300 individuals in

⁸⁷Ministry of Planning, "Iraq Living Conditions Survey 2004," 1:27, http://cosit.gov.iq/english/pdf/english_tabulation.pdf

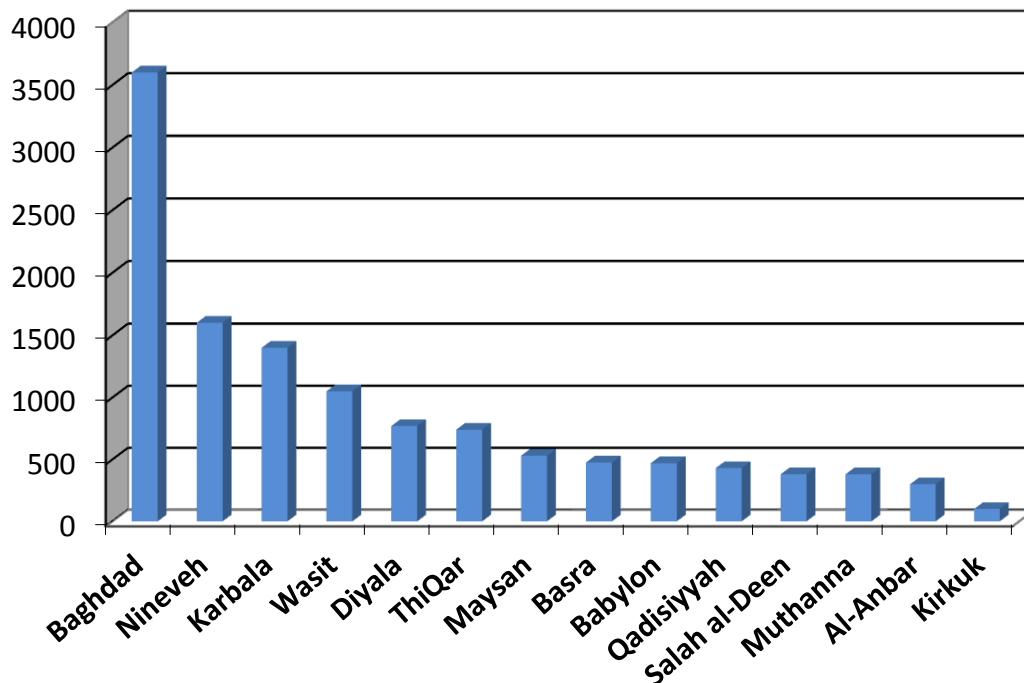
⁸⁸ Ministry of Planning, "Iraq Living Conditions Survey 2004," 1.

2009. This number represents those who received aid and protection from the Commissioner for Refugees. It should be noted that 195,890 displaced Iraqis had returned to their homes in 2008, and that the total number of the displaced decreased to 1,824,962 by the end of 2010, with 294,770 returning home during the same year.⁸⁹ The Commission was planning to lower the total number to 550,000 displaced by December 2011, through programs helping refugees to return to their homes. According to the Ministry of Migration and the Displaced, the number of families returning from internal displacement in 2011 reached 40,035 by mid-September. This resulted from the relative improvement in the security situation, which prompted families to return to their places of origin.

This massive forced displacement has left its negative impact on the conditions of thousands of families, due to the instability and to the poor living and health conditions endured by many refugees. The situation was made worse by the refusal of a number of governorates to receive refugees, under the pretext that they did not possess sufficient resources to host them. As a result, one may assume that this displacement had the effect of lowering the birth rate, raising the mortality rate, and reducing the average family size—despite the lack of precise data on this matter.

⁸⁹ UNHCR, *Global Trends*, (New York: 2010), 39, <http://www.unhcr.org/gr10/index.html#/home>.

Figure 19: Internally Displaced Persons (IDPs) due to forced displacement, by governorate, until 2006⁹⁰



Large numbers of Iraqis migrated or were forcibly displaced abroad in recent decades, especially after 1968. This type of migration intensified during the Iraq-Iran War, and after the invasion of Kuwait in 1990 and the resulting Second Gulf War, the suppression of the 1991 uprising, and the imposition of the economic embargo against Iraq.⁹¹ After the third war and the occupation of Iraq in 2003, with the resulting instability and security deterioration, the numbers of Iraqi refugees increased, especially in Middle Eastern countries. In 2008, Iraqi refugees numbered two million in Syria, Jordan, Iran, Egypt, Lebanon, Turkey, and several Gulf countries.⁹² By the end of 2006, Iraq became the second country in the world in terms of the number of refugees it has produced, after Afghanistan. The number of Iraqi refugees also began to increase in industrial countries (see Figure 20 and Table 17, keeping in mind that Table 17 does not reflect

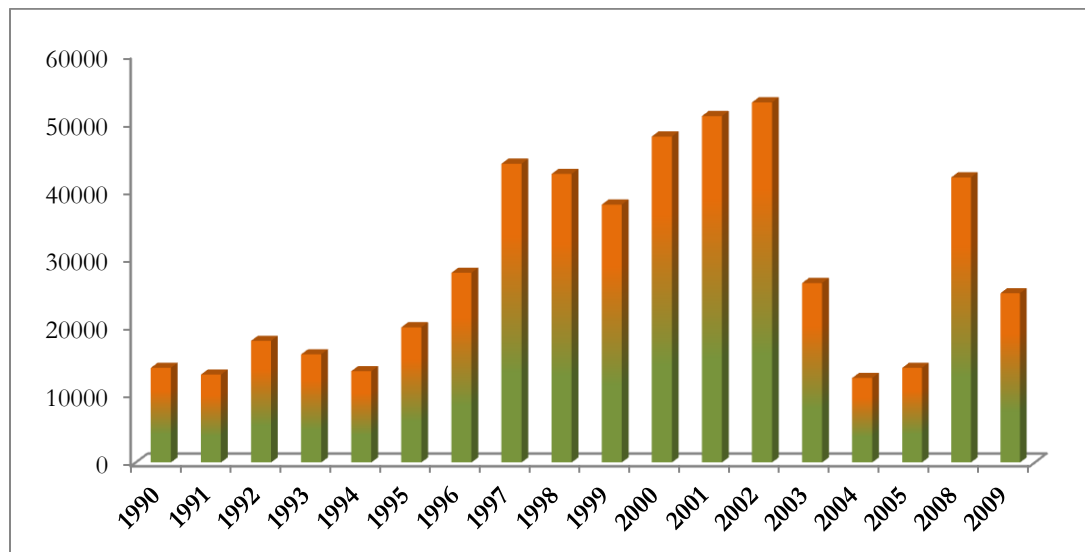
⁹⁰ Figure created by the author, based on figures from the Ministry of Migration, "Report on Forced Displacement," (2006); for further information see <http://www.unhcr.org/pages/49e486426.html>

⁹¹ For further details on the migration resulting from the Kuwait invasion, see Hashem Nimeh Fayyad, "Population Migration and the Second Gulf War: An Analytic Study," *The Free University Annual Journal* (VU University, Netherlands) 1 (2006): 96-133.

⁹² UNHCR, *2008 Iraq Situation Supplementary Appeal*, 2. <http://www.unhcr.org/491953e92.html>

the number of Iraqis in the mentioned countries, but the number of those whose asylum applications have been approved). For example, the number of Iraqis in Sweden had reached 161,979 individuals in 2010,⁹³ while the number of Iraqi refugees in that country was 31,500 in 2009. In Great Britain, the number of Iraqis reached 350,000 in 2003 according to British Prime Minister Tony Blair,⁹⁴ while the number of refugees in the same year was 23,400. Other European countries also host large numbers of Iraqi refugees and immigrants; in Norway for instance, the number of Iraqi refugees reached 7,253 by the end of 2009.⁹⁵

Figure 20: Asylum applications presented by Iraqis in industrial countries for the period 1990-2009⁹⁶



Undeniably, migration has inversely affected the fertility rate in Iraq. Many of the emigrants were in the age of marriage, or were married and could not travel with their spouses; not to mention the fact that the majority of emigrants were male. These factors, among others, have contributed to lowering the rate of marriage among

⁹³ *Statistical Yearbook of Sweden 2012*, 101.

⁹⁴ For further information, see Nadir Abd al-Ghaffur Ahmad, *The Migrant Iraqi Minds: Between Depletion and Investment* (London: Al-Rafid Institute, 2003), 27.

⁹⁵ UNHCR, *Statistical Yearbook 2009*, 77, table 5.

⁹⁶ Figure created by the author, based on figures from UNHCR, *Statistical Yearbooks*, <http://www.unhcr.org/pages/4a02afce6.html>

women, as indicated in studies that were conducted in recent years. Emigration also contributes to raising the proportion of the elderly and the sick in Iraq, because the healthy youth are the ones who usually emigrate, which also contributes to lowering fertility.

**Table 17: Iraqi refugees in selected countries in the period 1990-2009
(in thousands)⁹⁷**

Year	Australia	Iran	Germany	Netherlands	Saudi Arabia	Sweden	Syria	Denmark	Canada	UK	USA
1990	-	1.1133	-	-	-	-	3.8	-	-	-	-
1991	-	1.2184	-	-	32.9	11.4	4.0	1.8	-	-	-
1992	-	1.2501	-	1.8	27.7	14.4	5.4	2.9	-	2.8	4.7
1993	-	645.0	-	2.9	24.0	16.8	35.5	3.7	-	3.1	9.3
1994	-	613.0	-	5.5	18.0	18.5	36.3	4.3	6.7	3.6	14.4
1995	-	595.5	-	8.7	13.0	19.5	33.9	5.3	7.3	4.2	18.0
1996	9.7	579.2	-	14.0	9.7	20.2	26.8	5.9	8.2	4.7	20.6
1997	9.0	570.8	-	18.4	5.7	21.4	21.1	7.0	8.0	5.1	25.4
1998	9.8	530.6	-	24.4	5.4	22.6	19.4	8.3	6.6	6.0	22.3
1999	10.4	510.0	-	24.9	5.4	23.6	3.4	10.5	6.0	6.4	19.4
2000	10.5	386.0	-	25.3	5.2	25.6	1.8	11.8	5.8	9.5	19.3
2001	10.5	386.0	-	26.0	5.1	25.9	1.7	12.6	6.0	12.0	19.1
2002	11.9	201.7	72.7	26.2	5.1	25.7	1.7	12.5	5.7	19.5	12.0

⁹⁷ UNHCR, *Statistical Yearbooks: 2001*, 92; *2002*, 93-94; *2003* (Annex 1), 2; *2004* (Annex 2), 16; *2005*, 124; *2006*, table 5; *2007*, 77, table 5; *2009*; and UNHCR, "Refugees and Others of Concern to UNHCR," (2000) 2/6 – 3/6, <http://www.unhcr.org/pages/4a02afce6.html>

2003	12.2	150.2	73.5	28.6	0.7	23.9	2.4	11.8	5.4	23.4	10.5
2004	11.5	93.2	68.1	27.6	0.4	22.0	14.4	11.5	5.4	22.0	8.6
2005	10.9	54.0	52.9	26.6	0.4	21.0	24.9	10.7	4.8	22.4	6.0
2006	11.1	54.0	36.2	21.8	-	23.8	700.0	9.9	-	22.0	19.7
2007	5.8	54.0	36.2	21.6	-	21.9	700.0	8.9	-	22.0	-
2009*	5.7	47.9	49.0	16.8	-	31.5	1050	54.7	-	21.3	5.4

* Data covering until the end of 2009.

In immigrant communities, Iraqi women tend to have a low fertility rate. From a sample of families surveyed in a number of Western countries, 45 percent of these families turned out to have three children or less.⁹⁸ In the Netherlands, the average in 2005 was three children for Iraqi women born in the period 1955-1959. Furthermore, a third of Iraqi women in the Netherlands who are 55 years of age have no children. In 2004 less than 500 Iraqi women migrated to the Netherlands, with 60 percent of them aged between 15-50 years, and over half of them unmarried.⁹⁹ In 2009, the fertility rate declined to 2.56 among first generation Iraqi women, i.e. those born outside the Netherlands (see Table 18 and Figure 21). In Great Britain, 53 percent of Iraqi families number between 2-4 members.¹⁰⁰ This decline in fertility rate can be explained through several causes, including the difficulties that large immigrant families must face in fulfilling their material needs, especially if these immigrants had arrived to their host country as asylum-seekers. Furthermore, the vast majority of immigrants is composed of the educated who carry school and university diplomas, and who tend to feature a lower fertility rate, due to their awareness of the advantages of a smaller family, as well as to adapt to the living requirements in advanced Western countries, where fertility rates tend to be extremely low. In addition, families must shoulder a great financial burden in order to educate their children; moreover, the noticeable rise in divorce and separation rates in countries of immigration have also contributed to lowering fertility.

⁹⁸ Kadhim al-Miqdadi, "Some of the Diseases and Causes of Iraqi Infant Mortality Abroad," *New Culture Journal* 318 (2006): 64.

⁹⁹ Centraal Bureau voor de Statistiek, *Bevolkingstrends*, 1st Kwartaal (2006): 27-28.

¹⁰⁰ Suzanne Muna, *How We Are Here, A Survey of the Profile, Structure, Needs, Hopes and Aspirations of the Iraqi Community in Britain 1995-1996* (London: Iraqi Community Association, 1996), 71.

Other factors worth mentioning in addition to the ones listed above, include the rise in the average age of the Iraqi woman at the birth of her first child, such as in the case of the Netherlands, where the average age increased from less than 27 years to 28 years during the period 1990-2009.¹⁰¹

This decline in the rate of fertility abroad potentially contributes to the lowering of the general fertility rate for Iraqis. Now that Iraqi immigrants in developed countries are able to visit Iraq, or to resettle permanently in the country (the new Iraqi constitution permits the holding of dual citizenship), this can also contribute to lowering fertility to a certain extent, due to the transposition of the aforementioned fertility patterns from the West to Iraq. This phenomenon, however, is only taking place in a limited manner at the moment, due to the unstable security situation and the economic difficulties in Iraq. This effect was first noted by the renowned geographer John Clark who wrote in 1985 that "the increase in the international labor migration of Muslims into Western European countries may eventually aid in lowering fertility (in the countries of origin)". This opinion was also affirmed by Keith Sutton when he wrote about "the demographic transition in the Arab Maghreb" in 1999.¹⁰²

¹⁰¹ For further information on the fertility rates of Iraqi women compared to other communities in Netherlands, see Hashem Nimeh Fayyad, "Labour's Immigration from Maghreb to Europe, the Case of Netherlands: a Comparative Analytic Study," (Doha: Arab Center for Research and Policy Studies, 2012), 71-76.

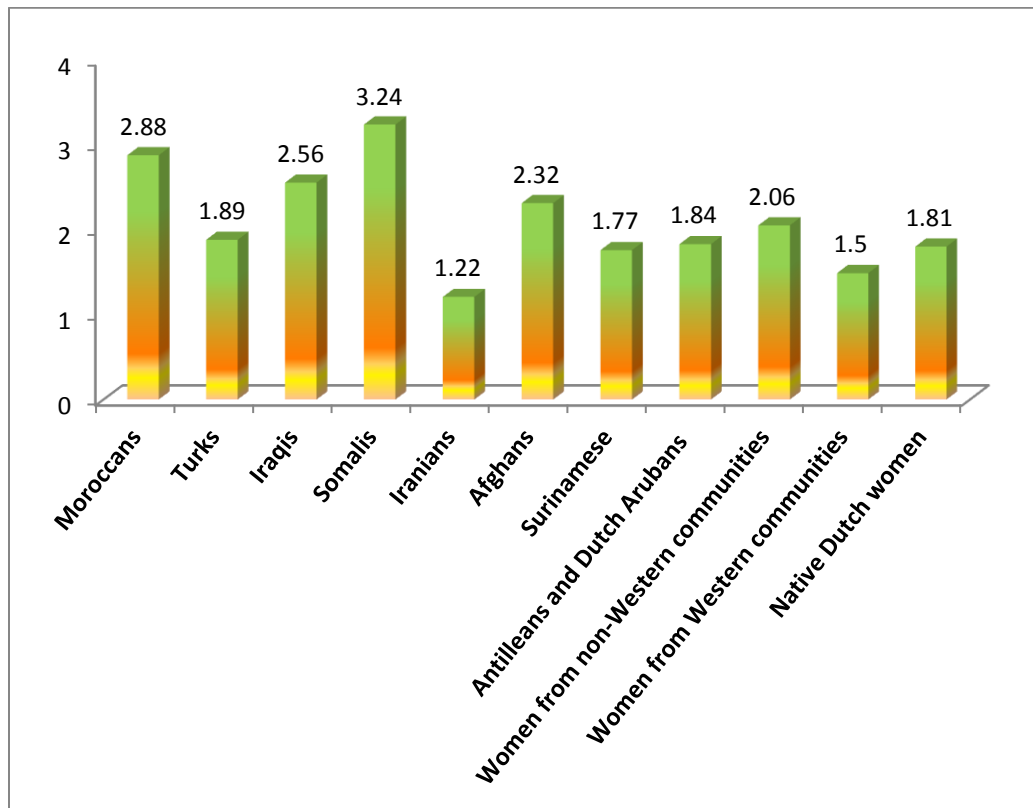
¹⁰² Sutton, "Demographic Transition in the Maghreb," 111.

Table 18: Total fertility rate for first and second generation women of immigrant communities residing in the Netherlands for the period 1996-2009¹⁰³

Group	First Generation				Second Generation		
	1996	2000	2004	2009	2000	2004	2009
Moroccans	3.37	3.50	3.25	2.88	1.65	1.90	2.04
Turks	2.53	2.53	2.25	1.89	1.48	1.56	1.69
Iraqis	3.12	3.18	2.84	2.56	-	-	-
Somalis	4.86	4.41	3.19	3.24	-	-	-
Iranians	1.24	1.46	1.27	1.22	-	-	-
Afghans	1.94	2,35	2.74	2.32	-	-	-
Surinamese	1.51	1.77	1.71	1.77	1.57	1.57	1.72
Antilleans and Dutch Arubans	1.59	1.87	1.75	1.84	1.76	1.72	1.80
Women from non-Western communities	2.31	2.51	2.26	2.06	1.69	1.67	1.76
Women from Western communities	1.55	1.58	1.48	1.50	1.52	1.51	1.61
Native Dutch women	1.47	1.65	1.69	1.81	-	-	-
Total	1.53	1.72	1.73	1.79	-	-	-

¹⁰³ Centraal Bureau voor de Statistiek, *Bevolkingstrends*, 4^e Kwartaal, (2010), 31.

Figure 21: Total fertility rate for first generation women belonging to immigrant communities in the Netherlands in 2009



Mortality

A close link exists between fertility and mortality. Higher infant mortality rates tend to cause an increase in births, in order to compensate for the frequent loss of newborns. Conversely, a decrease in mortality rates is usually paralleled by a decrease in birth rates. Assuming that fertility remains stable, a decline in mortality would lead to a noticeable increase in the percentage of the young population, which would impose an increased burden in supporting these children, a dynamic that often leads to family planning policies that promote the reduction of the size of the family.

Table 19 shows the development of the mortality rate in Iraq since 1965. An important decline in the mortality rate took place here, particularly during the 1980s. Mortality rates however featured a sharp increase during the 1990s as a result of the economic sanctions. In fact, 1996 featured the most acute rise in mortality, reflecting a rate exceeding ten deaths per thousand Iraqis, representing a clear example of the

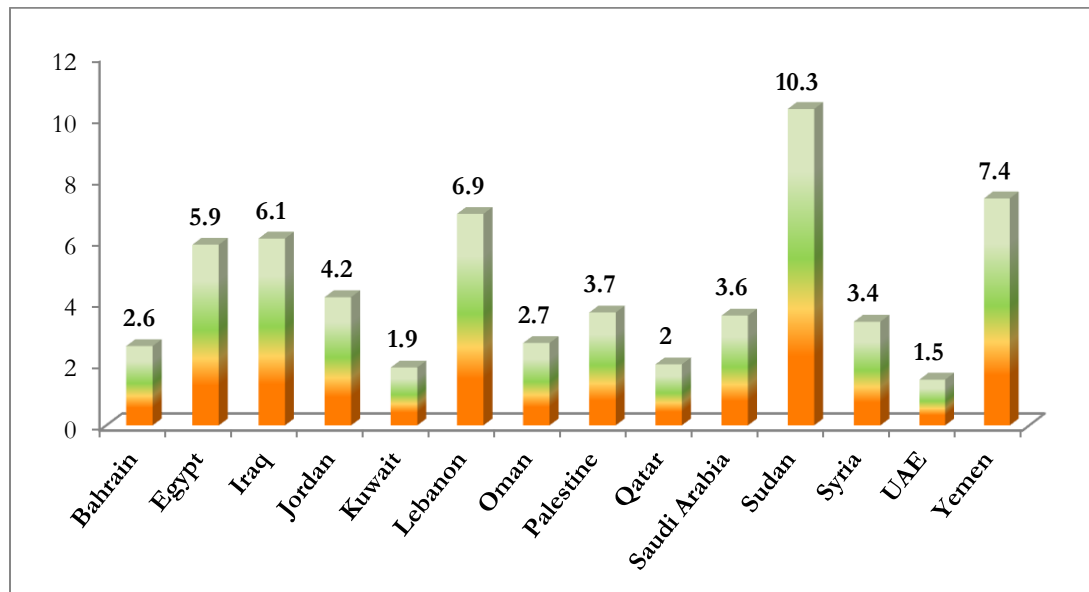
worsening conditions that came as a result of the sanctions on the living and health standards of Iraqis. Significantly, previous UN estimates claimed a higher mortality rate than the data in Table 19. Compared to other countries in the region, Iraq comes in fourth place in terms of the crude death rate in the period 2005-2010, after Sudan, Yemen, and Lebanon (Figure 22). According to this paper, had it not been for wars and sanctions, the mortality rate in Iraq would have been closer to those of the Arab Gulf countries, the lowest in the region.

Table 19: Crude death rate during the period 1965-2005
(per thousand)¹⁰⁴

Year	1965	1973	1975	1978	1980	1984	1986	1988	1990-1995	1994	1996	1995-2000	2005-2010
Average	6.3	17.8	11.1	10.1	13	12.6	7.9	8.6	7.5	9.6	9.8	10.1	5.6

¹⁰⁴ Amatzia Baram, "The Effect of Iraqi Sanctions," *Middle East Journal* 2 (2000): 199; UN, *World Population Prospects, The 2010 Revision*, <http://esa.un.org/wpp/index.htm>.

Figure 22: Crude death rates in selected countries during the period 2005-2010 (per thousand)¹⁰⁵



The data produced by two parallel family surveys in the south, center, and north of Iraq (undertaken by UNICEF in 1999) has shown that the mortality rate of children below five years of age has steadily decreased between 1974 and 1990, reaching 63 per thousand live births in the period 1984-1990. This rate then rose dramatically to 118 per thousand in 1991, the year of the Gulf War. According to this data, the estimated number of additional mortalities resulting from the Second Gulf War and its repercussions ranged between 400,000, by one estimate, and 500,000 according to another.¹⁰⁶ This figure was sufficient to cause a noticeable change in the population pyramid, meaning that the low number of children between the ages of 0-4 years may be explained through the rise in the mortality rates, rather than a decline in fertility rates¹⁰⁷.

During the late 1970s and the early 1980s, the mortality rates in Iraqi Kurdistan were consistently higher compared to the governorates of the center and the south. By the

¹⁰⁵ Figure created by the author, based on figures from UN, *Statistical Abstract of the ESCWA Region*, 30, (2011), table 1-2, <http://www.escwa.un.org/information/pubaction.asp?PubID=651>

¹⁰⁶ Ali, M., Blacker, J. and Jones, G., "Annual Mortality Rates and Excess Deaths of Children Under Five in Iraq, 1991-1998," *Population Studies* 57, no. 2 (July 2003): 217.

¹⁰⁷ Ministry of Planning, "Iraq Living Conditions Survey 2004," 2:44.

end of the 1980s, the mortality rates in Kurdistan declined to reach levels comparable to those of the late 1970s. After the Gulf War in 1991, there was a sharp decline in its mortality rates, but between 1993 and 1998, the pace of decline slowed down.¹⁰⁸ It seems that the rise in mortalities in Kurdistan was due to the military operations waged by the central government since the early 1960s against the Kurdish movement. As for the more recent decline in mortalities in Kurdistan, arguably, this is a result of the region exiting the grasp of the central government following the 1991 uprising, as well as the fact that economic sanctions did not impact Kurdistan in the same degree as the rest of Iraq.

Between the years 1991-1999, Dr. Richard Garfield conducted a broad independent study on child deaths resulting from the economic sanctions. The study has shown that, between August 1990 and March 1998, between 106,000 – 227,000 children under the age of five died in Iraq with the higher figure being cited as the most probable one due to the sanctions and catastrophes resulting from the invasion of Kuwait. This meant that during that period an average of 1850 children died each month, i.e. 60 children daily on average—a terrifying figure.¹⁰⁹

The years of economic sanctions have witnessed the shrinking of the share of each Iraqi from the Gross National Product. These sanctions were hardest on the individuals and families with poor and middle incomes. According to the estimates of the FAO organization in 1995, two thirds of Iraqis suffered a dangerous decline in their standard of living, with the average family income reduced to a third of what it had been in 1988.¹¹⁰ In the period 1979-1988, the daily average for the consumption of calories in Iraq was 3,189 calories for each individual. In 1993-1996, this rate declined to 2,268 calories due to the sanctions. When the Oil for Food program was implemented, this average rose to 2,424 calories per day.

In fact, the years of the period 1991-1996 were very difficult ones for most Iraqis. According to UNICEF, Iraq witnessed a 72 percent rise in malnutrition among children aged less than five, a hardly surprising outcome.¹¹¹ This decline in living standards, in

¹⁰⁸ Ali, Blacker, and Jones, "Annual Mortality Rates and Excess Deaths of Children Under Five in Iraq, 1991-1998," 221.

¹⁰⁹ Baram, "The Effects of Iraqi Sanctions," 202-204.

¹¹⁰ Ministry of Planning, "Iraq: National Report on the Status of Human Development 2008," 42.

¹¹¹ Baram, "The Effects of Iraqi Sanctions," 202-205.

addition to malnutrition, contributed to elevating the mortality rate, especially among children, leading to a decline in the general fertility rate.

The 2004 survey has shown that the average mortality rate for children in their first year reached 32 per thousand in 1999-2003 and 35 per thousand in 2006, according to the Iraqi Central Organization for Statistics. These estimates are well below those of the United Nations, which cited mortality rates of 73 per thousand children in 1990-1995 and 94 per thousand in the periods 1995-2000 and 2000-2005.¹¹² As for mortality among children less than five years of age, it reached 41 per thousand in 2006 (see Table 20), which is noticeably lower than previous estimates in Iraq.

**Table 20: Child mortality rate for the period 1989-2006
(per thousand)¹¹³**

Period	Infant mortality rate	Under 5 mortality rate
1989-1993	25	36
1994-1998	30	38
1999-2003	32	40
2006	35	41

It appears that the rates of infant and child mortality have consistently risen during the last 15 years. The data produced by the 2004 survey have indicated a great deterioration in the conditions of children. Furthermore, these indicators should be read in the context of falling child mortalities in all neighboring countries.¹¹⁴

As for the distribution of the mortality of infants and children under five years of age, wide variations have been registered among governorates. The lowest rate, 15 per thousand and 21 per thousand, respectively, was in Kirkuk, while the highest rates with

¹¹² UN, *World Population Prospects, the 2002 Revision*, 252, http://www.un.org/esa/population/publications/wpp2002/WPP2002_VOL_3.pdf.

¹¹³ Ministry of Planning, "Iraq Living Conditions Survey 2004," 51; Ministry of Planning, "Iraq: National Report on the Status of Human Development 2008," 48, http://planipolis.iiep.unesco.org/upload/Iraq/Iraq_HDR_English.pdf.

¹¹⁴ The Ministry of Planning, "Iraq Living Conditions Survey (ILCS), 2004," 2:50.

57 per thousand and 70 per thousand respectively was registered in the Salah al-Deen governorate (see Table 21), an extremely high rate compared to the national average. There seems to be a correlation between the two averages whereby the second increases with the first.

It remains difficult to explain these variations, but the differences in the development of the social, economic, cultural, and health conditions, in addition to the degree of security and stability in the governorates, inevitably plays a role in this variation. This discrepancy leaves a mark on fertility rates across the governorates. In the short run it is expected that the elevated infant mortality rates will contribute to lowering the fertility rate. However, these elevated mortality rates may contribute, in the middle and long run, to raising the rate of fertility, due to the desire to compensate for lost infants.

Table 21: Mortality rate for infants and children under five years of age, by governorate, in 2006 (per thousand)¹¹⁵

Governorate	Infants	Children under 5
Nineveh	35	43
Kirkuk	15	21
Diyala	34	39
Al-Anbar	28	30
Baghdad	29	35
Babil	55	58
Karbala	47	53
Wasit	35	45
Salah al-Deen	57	70
Najaf	38	42
Qadisiyyah	33	38
Muthanna	34	43

¹¹⁵ Ministry of Planning, "Iraq: National Report on the Status of Human Development 2008," 194-196, tables 8 and 10.

ThiQar	31	35
Maysan	32	35
Basra	27	34
Dahuk	33	45
Erbil	42	46
Sulaymaniya	26	31

Maternal mortality is defined as the death of the mother during pregnancy, or during the period immediately following childbirth, i.e. within 42 days (the ILCS survey adopted a forty day period as its standard). These deaths are usually measured for each 100,000 live births.¹¹⁶ The maternal mortality rate reached 193 deaths for each 100,000 live births in 2004, which declined to 84 deaths in 2006 (see Table 22). It is difficult to accept that such a drastic decline could have taken place in such a short span of time, despite the improvement that occurred on the level of medical equipment and the importation of medications. This estimate, nevertheless, remains lower than the previous estimate of 370 deaths. It must also be noted that the steady decline in maternal mortality that has taken place throughout the Middle East in recent decades did not include Iraq (see Figure 23). In global terms, this rate ranges between zero in

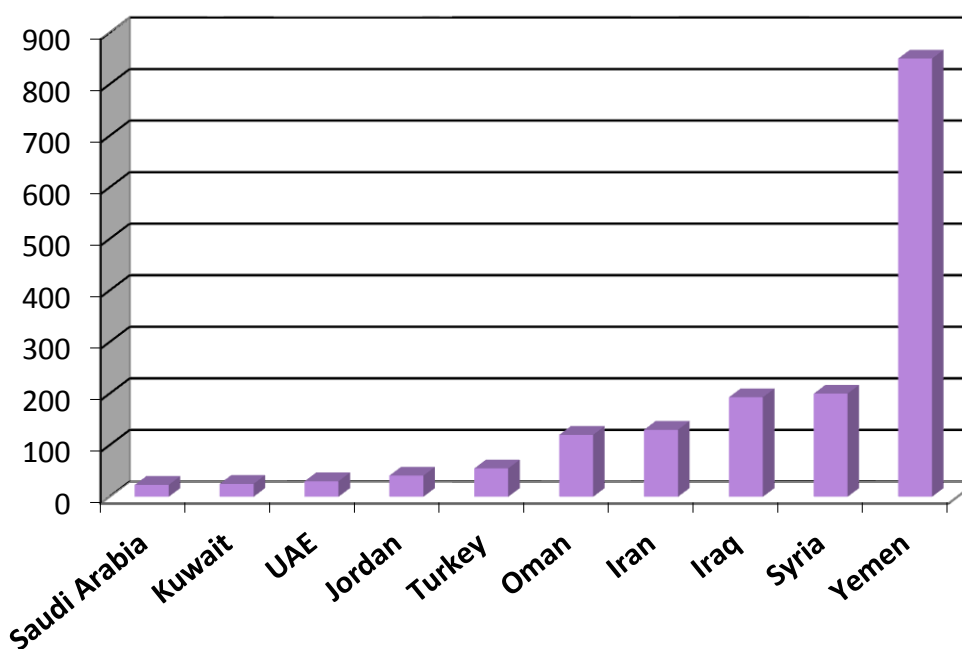
¹¹⁶ According to the 2011 survey, almost nine women out of each ten who were pregnant during the five years preceding the survey had their pregnancy supervised by a qualified professional. This percentage was higher in urban regions (92.4 percent) than in the countryside (83.5 percent). Additionally, the percentage of women whose pregnancies were supervised by a qualified professional decreases with higher numbers of children conceived. The follow-up rate for the firstborn was 96 percent, compared to 84 percent for the fourth child and those after. The percentage of births taking place in health institutions was 78.5 percent across Iraq, with a percentage of 81.6 percent in urban areas and 72.1 percent in the countryside. These percentages are also affected by the mother's educational level. The rate of post natal care for mothers has declined among women aged 15-49 who had conceived a live child during the five years prior to the survey. The percentage of those who received post-natal care from a qualified medical crew was almost 38 percent; as for women who did not receive such care, the prime reason for that was the absence of post-natal health complications (three quarters of women who did not receive professional post-natal medical care). The percentage of women who suffered health problems in the post-natal phase (the six weeks following childbirth) was 18.6 percent, of whom 74 percent were treated by a medical team. See Ministry of Planning, "Iraq Women's Integrated Social and Health Survey," 48-50.

some countries—such as Norway, where, in some years, such deaths do not occur at all—to 2000 deaths in some countries, such as Afghanistan.¹¹⁷

Table 22: Iraq maternal mortalities for every 100,000 live births for the period 1990-2006¹¹⁸

Year	1990	1999	2004	2006
Average	117	291	193	84

Figure 23: Maternal mortality ratios in the Middle East in 2004 (maternal deaths per 100,000 births)¹¹⁹



¹¹⁷ Ministry of Planning, "Iraq Living Conditions Survey 2004," 2:51-53.

¹¹⁸ Ministry of Planning, *Statistical Yearbook 2007*, table 9/19, <http://www.unhcr.org/pages/4a02afce6.html>

¹¹⁹ Ministry of Planning, "Iraq Living Conditions Survey 2004," 2:51, <http://www.faf.no/ais/middeast/iraq/imira/Tabulation%20reports/eng%20analytical%20report.pdf>.

The rise in the crude death rate and infant and maternal mortality means that large numbers of the population will be excluded from the reproductive process, which contributes to lowering the fertility rate in Iraq.

Population policy

Several definitions exist for population policy, including the official definition given by the United Nations, which makes it inclusive of “all the policies and programs—including social and economic policies—that are related to the major population variables: fertility, mortality, internal migration, the geographic distribution of the population, and international migration”.¹²⁰ A multi-lingual demographic dictionary defines population policy as: “the collectivity of principles, declared and implicit, which orient the public authorities in the field of demographic matters, as well as the measures taken in this regard”.¹²¹ On the whole, it appears that the United Nations definition is more precise and inclusive.

The population policy adopted by the government affects fertility rates, positively or negatively. Previous Iraqi governments (prior to the occupation), did not adopt programs to control the number of births and to limit population growth; on the contrary, they encouraged early marriage and large families. Several pieces of legislation were also issued in this regard, including the marriage loan, allocations for children, and the Maternity Leave Law. It is generally accepted that a lowering in the living standards is accompanied by a decline in the level of health services, leading to higher mortality rates, especially the mortality of infants and pregnant mothers. Thus, the National Developmental Plan for the years 1976-1980 sought to raise the rate of population growth by increasing individual income by 13.3 percent and improving national health conditions.¹²² Moreover, the government directly intervened to restrict access to contraceptive methods, especially during the 1980s, which becomes apparent when examining the percentage of married women who use contraception. In the 1974 survey, the percentage of married women using any form of contraception was 14.5 percent, while the percentage of those using modern methods was 12.9 percent.¹²³ These percentages further declined to 13.7 percent and 10.4 percent, respectively, in

¹²⁰ Winckler, *Arab Political Demography*, 113.

¹²¹ Abd Ali al-Khaffaf, “Addressing Early Marriage is One of the Methods of Treating Quick Population Growth, a Study in Social and Demographic Behavior: the Case of Yemen,” *Al-Sudair Journal* (Kufa University) 10 (2005): 8.

¹²² Hamza, “The Availability of the Human Work Force in Iraq 1977”, 196.

¹²³ UN, *Levels and Trends of Contraceptive Use*, (New York: 2000), 23.

the 1989 survey.¹²⁴ This government stance was the result of the massive human losses suffered by Iraq during the Iraq-Iran War. By 2006, the percentage of married women using contraception had increased to 49.8 percent for women aged between 15-49 years (see Table 23). The 2011 survey data has also shown that four women out of ten aged between 15 and 49 years and who were married at the time of the survey were using family planning methods, with three women out of four using modern contraceptive methods.¹²⁵ This represents a noticeable leap compared to the low rate during the 1980s, indicating that Iraq has entered the era of family planning, a policy that will inevitably contribute to lowering the fertility rate. Nevertheless, family planning rates in Iraq remain lower than many Arab countries, as well as Turkey and Iran.

Table 23: Contraception prevalence: Percentage of women aged 15-49 who are married or in union using contraception, by country¹²⁶

Country	Year	Usage percentages	
		Any method	Modern methods
Bahrain	1995	61.8	30.6
Iraq	2006	49.8	32.9
Jordan	2009	57.1	40.5
Kuwait	1999	52.0	39.3
Lebanon	2004	58.0	34.0
Oman	2000	23.7	18.2
Qatar	1998	43.2	32.3
Syria	2006	58.3	42.6
Turkey	2008	71.0	42.5
Iran	2002	73.3	58.9
UAE	1995	27.5	23.6
Yemen	2006	27.7	19.2
Egypt	2008	60.3	57.6

¹²⁴UN, *World Contraceptive Use 2005*, (2006),

<http://www.un.org/esa/population/publications/contraceptive2005/WCU2005.htm>.

¹²⁵ The results of the same survey show that 16.3 percent of married women who had previously used family planning methods had stopped their use at the time of the survey. 28 percent of these women said that they ceased contraceptive use due to their desire to have another child, while 27 percent said that their abstinence was due to health issues. See Ministry of Planning, "Iraq Women's Integrated Social and Health Survey," 46.

¹²⁶ UN, *World Contraceptive Use 2010*,

http://www.un.org/esa/population/publications/contraceptive2009/contracept2009_wallchart_front.pdf.

Algeria	2006	61.4	52.0
Morocco	2003-2004	63.0	52.0
Tunisia	2006	60.2	51.5
Libya	1995	45.2	25.7
USA*	2006-2008	72.8	68.1
France	2004-2005	81.8	76.5
UK**	2008-2009	82.0	82.0
Netherlands***	2008	67.0	65.0

* Age 15-44

** Age 16-49

*** Age 18-45

The use of contraception is more common in urban areas (53 percent) than in the countryside (44 percent), and the levels of its use accordingly increase with the educational level of married women. There is also a direct link between the use of contraceptive methods and the age of married women: the older mothers become, the more likely they are to use modern contraceptive techniques. The percentage of use also increases with the increase in the number of children in the family, with a contraceptive use rate of 34 percent among families with one child, as opposed to 65 percent in families with four children.¹²⁷

A field study conducted in the governorate of Wasit in 2007 has indicated that the percentage of married women using contraceptives among the urban population of the al-Kut district was 54 percent, compared to 58.5 percent among the urban population of the al-Suwaira district, and 26 percent in the urban population of the Badra district, all of which are administrative divisions of the al-Kut governorate. The low rate in the Badra district can be explained by the rural background of the district's population. The improvement of living standards and the rise in the percentage of educated individuals are not sufficient to produce smaller families, if not accompanied by a change in the social values and customs, and an understanding of the importance of smaller families for the individual and for society.¹²⁸

Wide variations exist between governorates, with the women of Kirkuk being the least likely to use contraception (26 percent), and the highest percentage being among the

¹²⁷ The Ministry of Planning, "Report on the State of the Population of Iraq 2010," 54, http://cosit.gov.iq/english/cosit_surveys.php

¹²⁸ Rasan, "The Family Size in the Urban Parts of the Wasit Governorate," 125-126.

women of Sulaymaniya (58 percent). The women of Kurdistan, on the other hand, feature the broadest use of family planning methods compared to the other governorates (see Table 24). This can be explained by the fact that the socio-economic structure has become relatively more developed in the Kurdish region compared to the rest of Iraq, as a result of the security achieved in Kurdistan in recent decades. The variations between the other governorates tend to be more difficult to explain, due to the lack of data needed to shed light on the relationship between the socio-economic structure and the use of family planning methods.

Table 24: Married women aged 15-49 years who used family planning methods in 2011, by governorate (%)¹²⁹

Sulaymaniya	Erbil	Dahuk	Basra	Maysan	ThiQar	Muthanna	Qadisiyyah	Najaf
58	51	49	36	40	41	37	47	48
Salah al-Deen	Wasit	Karbala	Babil	Baghdad	Al-Anbar	Diyala	Kirkuk	Nineveh
27	29	46	37	39	37	43	26	34

Ultimately, population policy greatly affects the economic and social paths of society. Regrettably, national policies in Iraq have largely avoided the population problem, which necessitates the adoption of clear population policies aiming at lowering the fertility rate. Due to a significant relationship between the level of education of women and lower fertility rates, the population policy and programs must primarily seek to improve the conditions of women.¹³⁰ In retrospect, had the Iraqi governments adopted a policy supportive of family planning and invested more on education, health and

¹²⁹ Based on the data of the Planning Ministry, "Iraq Women's Integrated Social and Health Survey," 46, <http://reliefweb.int/sites/reliefweb.int/files/resources/I-WISH%20Report%20English.pdf>.

¹³⁰ The Ministry of Planning, "Iraq: National Report on the Status of Human Development, 2008," 56.

social services, leading to a qualitative increase in these services and more employment opportunities, especially for women, —the fertility rate in Iraq could have been much lower than its current level. These factors, in addition to the avoidance of internal and external wars, would have contributed to social and economic development in Iraq. Significantly, the current Iraqi government still plays no role in determining fertility patterns and has not adopted a comprehensive family planning policy although it actively supports access to contraceptive methods (see Table 25).

Table 25: Iraqi government views and policies on fertility levels and family planning¹³¹

Fertility and family planning	1976	1986	1996	2009
View on fertility level	Satisfactory	Too low	Too low	Satisfactory
Policy toward fertility level	Maintain	Raise	Raise	No intervention
Access to contraception methods	Direct support	Limits	No support	Direct support

Social, economic, and political factors

Demographic and economic changes across the globe in recent decades lead us to conclude that the historical transition from “the population explosion” to a stable population size is not an organic process, as it is dependent on a number of socio-economic factors. Socio-economic development (modernity) is an indispensable condition for a tangible and permanent lowering of population growth, according to the theory of demographic transition.¹³²

¹³¹ UN, *World Population Policies 2009*, (2010), 262,

http://www.un.org/esa/population/publications/wpp2009/Publication_complete.pdf.

¹³² Keniajinskaya, *Population Growth*, 162. The relationship between fertility levels and their link to social, economic, and cultural variables can be studied in comparison with those in more developed countries which have lower levels of fertility. This approach leads to the hypothesis that the same factors which are believed to be responsible for the decline of fertility in developed countries, have had the opposite effect in developing countries. This, in spite of clear indicators that those fertility levels [in developing countries] are falling. See UN, *The Determinants and Consequences of Population Trends*, (New York: 1973), 1:92.

Thus, population growth is dependent on many social factors, such as the degree of human control over nature, the extent of the development of productive forces in society, the nature of production relations, in addition to a host of social factors and values, such as customs, traditions and value systems inherent within a society. All these factors interact in order to affect the demographic behavior of a population. This means that the demographic behavior of humans is not a mere instinctive tendency to reproduce, as with other living beings, rather it is a highly complicated form of social behavior that depends on the socio-economic environment of the population.¹³³ As such, this environment represents the objective base for the growth of a population, meaning that it affects its level of fertility.

There is a close relationship between fertility rates and the degree of economic and social progress, such as the individual's share of national income and consumed energy, the percentage of the workforce in non-agricultural professions, the level of urbanization, etc.¹³⁴ Due to the lack of accurate data regarding these vital indices in Iraq, it becomes difficult to calculate the correlation coefficient of these factors on fertility.

Family size

In least developed regions, family and blood relations occupy a central importance in the life of most pre-industrial societies. In these societies, there is a broad spectrum of activities that involve mutual dependence between relatives, especially involving children. These activities include production, consumption, aid for the sick and the elderly, and many other tasks that tend to be undertaken by non-familial institutions in modern societies. In less-developed societies, larger families are the norm, since the relevant social values in these societies are dependent on family links, as opposed to other social institutions. These family systems generally offer a strong incentive for elevated fertility, since a large number of children contributes to the economic and military might of the community and assures its continuity.¹³⁵ These notions exist to a large extent in rural areas in Iraq, and to a lesser degree in the cities, because although their urban socio-economic structure has shifted away from that of the countryside,

¹³³ For further information, see Ramzi Zaki, *The Population Problem and the New Malthusian Myth* (Kuwait: National Council for Culture, Arts and Letters, 1984), 222.

¹³⁴ Al-Ansari, *Population Geography*, 195-198.

¹³⁵ UN, *The Determinants and Consequences of Population Trends*, 92-93.

rural customs tend to persist in the cities for a significant period among communities that migrated to the city from the countryside.

Large families carry significant social prestige in the rural areas of Iraq, a belief that has spread to the cities due to rural-to-urban migration. The average size of the Iraqi family reached 7.14 members, 6.94 in urban areas and 7.65 in the countryside, according to the 1987 census.¹³⁶ In the 2007 survey, these figures decreased to 6.9, 6.6, and 7.6, respectively. Furthermore, the social customs that tend to prefer male children to females make families prone to conceiving more children, a tendency less prevalent in the cities.

On the level of the administrative units that constitute governorates, for the purpose of this study the governorate of Wasit was chosen as an example. In the Badra district of Wasit, the rural character of the urban population is noticeable through in the lower educational, cultural and social levels, the tendency to have a large number of children, the rejection of single life and the encouragement of marriage, particularly early marriage. In Badra, one also notes phenomena such as the preference for male children over females, social and cultural pressures on families, the desire to exhibit one's virility through reproduction, and the fear of women being infertile or in being late in bearing children after marriage—a matter that not only concerns the wife and the husband, but also the entire extended family. This is affirmed by the fact that the average family size among the urbanites in the district has reached 7.2 members per family, with 37 percent of husbands and 48 percent of wives coming from a rural background. The family size among the urban population in districts with a higher percentage of spouses coming from an urban background tends to be lower than the family size in the Badra district; with the average family size in al-Kut, al-Suwaira, and al-Hayy consisting of 6.3, 6.1, and 6.8 members, respectively. The percentage of males from an urban background in these districts was, respectively, 92.5 percent, 92.8 percent, and 87.5 percent. The situation is similar for married women (86 percent from an urban background in al-Hayy, and 86.8 percent from an urban background in al-Kut).¹³⁷

Different factors impact the size of the family, including the changing economic conditions in society, changes in the nature of family work, and the spread of urban influences. These factors can lead to a gradual change in the size of the family and the

¹³⁶ UN, "The Arab Woman 1995: Trends, Statistics and Indicators," 23.

¹³⁷ Rasan, "Family Size in the Urban Parts of the Wasit Governorate," 117.

transition from an extended family model to a smaller one, or what is often called the nuclear family. On the other hand, other factors work to increase the size of the family, above all the housing deficit, which represents the difference between the number of families and the number of housing units occupied by families during a specific period. This deficit occurs due to the increase in the number of families exceeding the increase in the number of housing units. Housing deficits raise the rates of housing occupancy, and makes it difficult for new families to become independent, leading to the increase of the family size.¹³⁸

The participation of family members in economic activity leads to early marriages, especially in rural areas. In rural areas wives contribute to the daily work of the family. In addition, the cost of raising children in these regions is considered to be very low compared to urban living expenses.¹³⁹ All these factors contribute to increasing the family size, especially in rural regions.

The status of women

The status of women is an important key to understanding fertility behavior. Numerous studies have indicated that the status of women in society largely determines their degree of acceptance of fertility levels. The term "status of women" is in fact a broad concept that includes numerous facets of the life of women, such as access to material resources (nutrition, income, land, and other forms of wealth), and social resources (knowledge, power, and prestige) in the family, the community, and society at large. Some of these factors, such as individual autonomy, power, and prestige, are not easy to measure; this is in addition to the fact that social indicators used to classify the position and status of women (as well as for men) have different attributes in different social and cultural environments.¹⁴⁰

Iraqi women have witnessed several setbacks in recent years, following a tangible improvement in their access to employment and education in the 1970s. A traditional and patriarchal mentality present in Iraq has hampered the advancement of women's rights and gender equality. In recent years , the level of education among Iraqi women

¹³⁸ Rad Abd al-Hussein al-Gharaybawi, "The Housing Conditions of the Urban Sector in the Qadisiyyah Governorate and the Future Estimations for the Period 2005-2020," *Geographic Research Journal* (Kufa University) 6 (2005): 213.

¹³⁹ Al-Ansari, *The Population Problem: the Case of Iraq*, 90-91.

¹⁴⁰ UN, *Women's Education and Fertility Behavior*, (New York: 1995), 21.

has seen a decline, even if the economic hardships subsequent to the Second Gulf War have led to a decline in the level of education among men as well, and to a relatively greater extent compared to women.

According to Brown and Romano, the legal rights of Iraqi women were violated, or transformed, in favor of the more conservative and traditional patriarchal system that came into being after the Iraq-Iran War. Women's rights declined even further after the invasion of Kuwait in 1990, in exchange for the regime receiving increased support from the clergy and from religious figures. A recent study conducted in the southern governorates has shown that half of those polled agreed on the existence of causes that are currently diminishing the chances of women in accessing education and employment. Today, it appears that the lack of security is the main hurdle to the freedom of women in their daily lives, especially in the southern and central regions of the country.¹⁴¹ Due to the absence of personal security and legal protection, Iraqi women find themselves forced to turn to their sect or tribe for protection rather than to the civic state. This was equivalent to the squandering of all the modern achievements sought by the Iraqi state for over a century. During the decades of war and perpetual conflict, the state typically has tended intentionally or unintentionally to neglect practices of discrimination against women or turn a blind eye to them. As a result, women find themselves as helpless victims to administrative or conservative societal practices, with no protection or recourse. This means that the state has given up on its constitutional and civic commitments and duties that guarantee the right of women to education, training, health, and security, in addition to the entitlement of legal, social, economic, and cultural rights. The empowerment of women in these regards has become a pressing necessity that cannot be postponed.¹⁴²

An important building block in empowering women involves the participation of women in decision-making that affects them and their families, in addition to their social and political participation. Data shows that seven women out of ten aged between 15 and 54 years did not pursue the educational path they wished for. Almost three women out of seven who did not finish their studies said that they interrupted them because their families did not allow them to continue their education. Twenty-four percent of the women surveyed said that discrimination takes place in their households in favor of the male members when it comes to formulating decisions within the family. This

¹⁴¹ Ministry of Planning, "Iraq Living Conditions Survey 2004," 2:106-107.

¹⁴² Ministry of Planning, "Iraq: National Survey on the Status of Human Development 2008," 156.

percentage declines to 12.7 percent in the Kurdistan Region, as opposed to 26 percent in the rest of Iraq. As for the participation of women in public forums, social clubs, unions, youth centers, parties, or women's associations, the rate does not exceed 3.5 percent of the women surveyed. Fifty-four percent of the women who did not participate in such activities attribute the reason to their lack of time or to the unavailability of a local center.¹⁴³ This shows that the conditions of women have seen no improvement, but rather, a decline compared to the past. The weakening of the role of women in all these aspects signifies that the limiting of the number of desired children will be more dependent on the husband's decisions. This may have an important role in maintaining high fertility rates, even if they begin to decline, assuming that all other factors remained unchanged.

An improved status of women leads to an inverse relationship with the fertility rate. This correlation has been proven in both developed and developing countries. On the other hand, patriarchal social systems, the payment of dowry, early marriages, discrimination in the sense of the segregation of one gender and not the other, and the preference of male births over females are all factors that contribute to a higher fertility rate. Thus, the status of women in society can determine the pace of the demographic transition, in response to other forms of modernization, including economic modernization, the spread of mass education, and the adoption of family-planning programs.

It goes without saying that the status of women is, in itself, a complex and multi-faceted phenomenon. It is extremely difficult, if not impossible, to determine a single empirical standard that can be used to gauge the matter in its entirety. Currently, it is largely accepted that education and employment conditions can provide a partial assessment of the status of women in society and in the family, largely because data for these two variables tends to be available and comparable.¹⁴⁴ This will be exemplified in the analysis given below.

¹⁴³ Ministry of Planning, "Iraq Women's Integrated Social and Health Survey," 52.

¹⁴⁴ UN, *Women's Education and Fertility Behavior*, 21-22.

Education

Education is perceived as a key determinant of fertility; and in the case of Iraq, the measurability of this variable makes it even more important for study. Extensive research, in various fields, has analyzed the relationship between education and fertility at the global level. The demographic scholar Ivanov has noted that, among the many factors influencing birth rates, the educational level of the population acquires a special importance in specific circumstances.¹⁴⁵ Generally speaking, the increase in education has an inverse influence on fertility levels, but this is not a universal rule; in countries that are classified as least developed, it was observed that a modest increase in public education can slightly raise fertility rates. This effect, however, is not a long-term one, for it is part of the phase of transition from a traditional to a modern lifestyle. The more the society advances, the more the inverse relationship between education and fertility becomes clear, with fertility declining steadily with the rise in education. When development increases, the relationship between development and fertility weakens once again, with fertility behavior among the educated population becoming irregular.

The characteristics of society and the community as well as the level of education can condition the effect of personal education on fertility. John Caldwell, a leading demographer, has shown that the level of education in society can have a stronger influence on individual fertility behavior than the educational level of the individual. According to Marta Tienda, another specialist in demographics, the social environment in which women make decisions relating to the size of the family determines the appropriate fertility choices and affects fertility behavior. These conclusions have led many scholars to affirm that the influence of education on fertility is not only dependent on the level of socioeconomic development, but also on the cultural heritage of society, social organization, familial systems, as well as the dominant system for gender structures in society.¹⁴⁶

The significance of the social factor in analyzing large families in Iraq becomes more pronounced among the poorer sections of society, and among illiterate individuals or those with a rudimentary level of education. In 1974, the average number of births for married women aged 15-49 years was estimated at 4.2 children, with an average of 5.0 children for illiterate women, and 2.2 children for women with high educational

¹⁴⁵ Keniajinskaya, *Population Growth*, 177.

¹⁴⁶ UN, *Women's Education and Fertility Behavior*, 23-24.

attainment.¹⁴⁷ More recently, fertility rates have also shown an inverse correlation with the level of education. It has been shown that in the 1999-2003 period, the total fertility of women with a higher education was, on average, 2.2 children less than uneducated women (see Table 26 and Figure 24). The decline of fertility with the rise in the level of education means that educated women begin bearing children at a later age, and that they stop conceiving at a younger age.¹⁴⁸ By analyzing the variations between the 1994-1998 period and the 1999-2003 period, it becomes apparent that the largest absolute decline in fertility took place among non-educated women, as opposed to a slighter decrease for women with higher education degrees, both in relative and absolute terms.¹⁴⁹ This was due to the fact that the fertility rate among non-educated women was high, while it was close to the replacement rate for women with college degrees, which means that the fertility of educated women will decrease at a slower rate in the future.

Table 26: Total fertility rates for the periods 1994-1998 and 1999-2003, according to level of education¹⁵⁰

Level of education	Period		Difference	
	1998-1994	2003-1999	Absolute	Percentage
Never attended school	5.5	4.8	0.73	13
Incomplete elementary education	5.0	4.4	0.62	12
Elementary	4.9	4.3	0.65	13
Intermediate	4.0	3.6	0.37	9
Secondary	3.5	2.9	0.62	18
Higher education (university)	2.9	2.6	0.26	9

¹⁴⁷ Al-Ansari, *The Population Problem: the Case of Iraq*, 90.

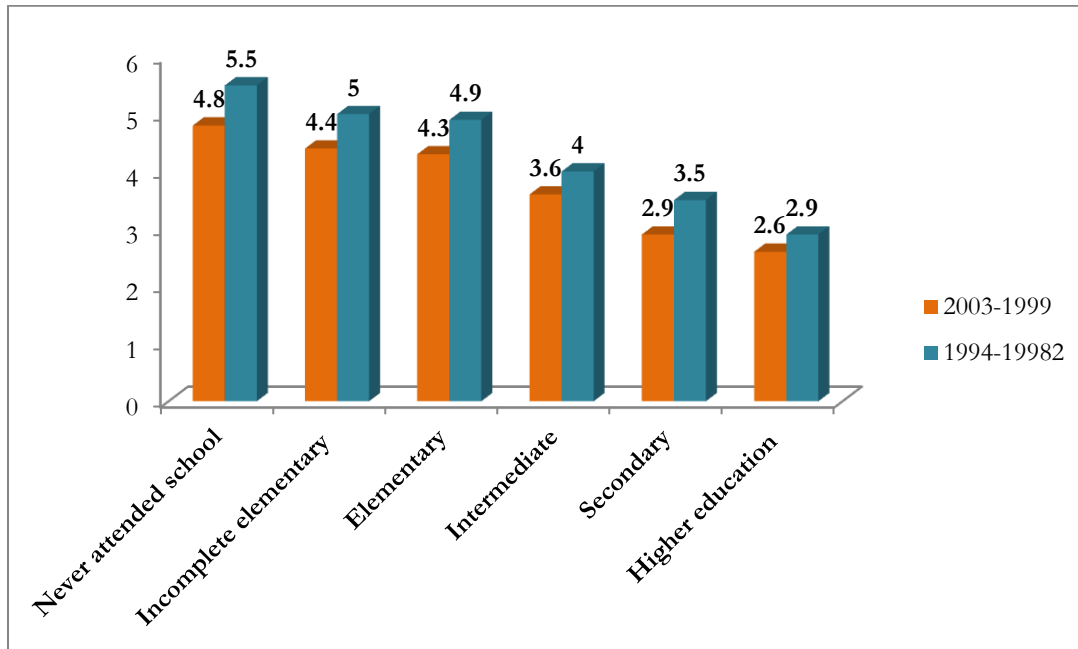
¹⁴⁸ Ministry of Planning, "Iraq Living Conditions Survey 2004," 2:48-50.

¹⁴⁹ Ibid., 48.

¹⁵⁰ Ministry of Planning, "Iraq Living Conditions Survey 2004," 2:48, table 32,

<http://www.fao.no/ais/middeast/iraq/imira/Tabulation%20reports/eng%20analytical%20report.pdf>.

Figure 24: Total fertility rate for the periods 1994-1998 and 1999-2003, according to level of education



The influence of the education of women on their fertility rates becomes significant after the completion of elementary education. In Morocco, a survey has shown that women with secondary education tend to marry seven years later compared to women with no formal education.¹⁵¹ Education becomes an even more important factor for women with an educational level that allows them to establish a career. Women with college degrees, or ones who are teachers, tend to marry at a later age compared to women with elementary and secondary education. The first group also tends to use contraception more often. It is clear that education affects the fertility rate by interacting with intervening variables, such as the marriage age and family planning.¹⁵²

The education of women is no longer the only factor affecting fertility. To this must be added the ambition of parents to educate their children. Mass education shifts the role of children from producers to dependents. The increase in the cost of raising children due to their schooling and the parents' ambition to educate their children are both

¹⁵¹ Sutton, "Demographic Transition in the Maghreb," 111-116.

¹⁵² Hashem Nimeh Fayyad, "Population Fertility: Its Level, Evolution, and Influencing Factors: the Case of Africa," unpublished paper, 14-15.

factors that can greatly limit fertility. Caldwell argues that institutional education disseminates cultural values that correspond to the values of the middle class, including the preference for a small family.¹⁵³ This applies, to a certain extent, to the Iraqi middle class, whose role and size has shrunk in recent decades due to the political developments experienced by the country.

Education indicators in Iraq remain low and well below the desired targets; which confirms the fact that education as a tool of empowerment remains incapable of solving the problems of illiteracy, low school attendance rates, and the equal access of men and women to education.¹⁵⁴ According to a 2007 survey, the percentage of illiteracy was 23.1 percent among females and 12.1 percent among males.¹⁵⁵ Furthermore, the total educational enrollment of females compared to males in Iraq begins to decline between the stage of elementary education and that of secondary education. The net enrollment rate of females in elementary education was 80.4 percent in 2006, with the total number of females equaling 88 percent of the total number of males in elementary education. In secondary education, on the other hand, the percentage of enrolled females drops to 34.3 percent, with the total number of females equaling 75 percent of the total number of males.¹⁵⁶ As for the Iraqis who completed their college degrees, the percentages were 2.3 percent for females and 4.0 percent for males in 2007.¹⁵⁷

When comparing urban areas, rural areas, and the governorates, sharp variations emerge in the level of education. In rural areas, the gender gap has widened at a faster pace; in 2004, 40 percent of females in rural areas were not enrolled in elementary schooling, compared to 20 percent in urban areas. Thirty-eight percent of women aged 15-24 years did not complete their elementary education in the rural regions compared to 25 percent in urban areas. The governorates of Sulaymaniya, Dahuk, and Muthanna feature the lowest rates of education for women older than 15 years in Iraq.¹⁵⁸ If this variation between governorates continues for a longer period, then it will produce varying fertility rates between these governorates.

¹⁵³ UN, *Women's Education and Fertility Behavior*, 24.

¹⁵⁴ Ministry of Planning, "Iraq: National Report on the Status of Human Development 2008," 143.

¹⁵⁵ Ministry of Planning, "Iraq Household Socio-Economic Survey 2007," 2:56, <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/MENAEXT/IRAQEXTN/0,,contentMDK:22032522~menuPK:313111~pagePK:2865066~piPK:2865079~theSitePK:313105,00.html>

¹⁵⁶ Ministry of Planning, "Iraq: National Report on the Status of Human Development 2008," 25.

¹⁵⁷ Ministry of Planning, "Iraq Household Socio-Economic Survey 2007," 2:56.

¹⁵⁸ Ministry of Planning, "Iraq Living Conditions Survey 2004," 2:108-110.

Significantly, the percentage of Iraqis with college degrees is higher in the districts of al-Kut and al-Suwaira in the Wasit governorate (6.6 percent and 11.9 percent for males, and 4.6 percent and 4.4 percent for females respectively, in 2007) which has contributed, among other factors, to increasing the number of small-sized families. As for illiteracy, which featured elevated rates both for males and females among large-sized urban families (as in the Badra district in Wasit), its percentage among married people was 30 percent for males and 47.5 percent for females in 2007. This data shows that the education of husbands tends to be higher than that of wives.¹⁵⁹

Profession

Numerous studies link fertility to the professional situation of women, as most studies show that an incompatibility exists between continuous child bearing on the one hand, and maintaining a full professional career on the other. However, serious problems exist when attempting to classify the professional situation of women, beginning with difficulties pertaining to terminology; for example, the category of "homemaker" becomes inadequate when applied to the majority of women in rural societies,¹⁶⁰ a fact that also applies to Iraq.

Various elements affect the environment in the employment market, including the status of women in society, the level of education, and the role played by women in economic activity. The average marriage age of women also influences the size of the female workforce, which is due to the fact that these characteristics are affected by other demographic factors, such as the female rate of marriage.¹⁶¹

Recently, a clear and unsurprising connection was established between fertility and the contribution of women to the Iraqi workforce. The total fertility rate for the women participating in the workforce (employed, temporarily unemployed, or seeking employment) was 2.9 children, as opposed to 4.3 children for women who did not participate in the workforce, during the period 1999-2003.¹⁶²

Profession is one of the factors that clearly influence the size of the family. Certain professions require significant work hours during the day, such as the case of women working in the health sector (doctors for example), which necessitates remaining

¹⁵⁹ Rasan, "Family Size in the Urban Parts of the Wasit Governorate," 160-170.

¹⁶⁰ Fayyad, "Population Fertility: its Level, Evolution, and Influencing Factors: the Case of Africa," 18.

¹⁶¹ Hamza, "The Availability of the Human Work Force in Iraq 1977," 207.

¹⁶² Ministry of Planning, "Iraq Living Conditions Survey 2004," 2:48.

outside of the household for protracted periods, which makes it rational to contemplate a small-sized family. A field study conducted in 2007 has shown that the administrative units of the Wasit governorate featuring a higher percentage of small families also feature a higher percentage of working women, while large-sized families tend to be more common in the administrative units with fewer professional women.¹⁶³

The contribution of females to the workforce compared to males is extremely low. Compared to 5.6 million men in the Iraqi workforce, there are only 1.1 million women, with men representing 84 percent of the total workforce and women no more than 16 percent. In urban areas, the percentages were 68 percent and 12 percent, respectively, and, in the countryside, 72 percent and 18 percent. This indicates the strong influence of gender inequality in Iraq's employment market in 2004. This situation greatly resembles that of neighboring countries, with Middle Eastern and North African women considered to be among the least active in the world with less than 30 percent of the total workforce. Moreover, countries endowed with abundant labor and natural resources, such as Iraq, Algeria and Iran, feature a lower participation of women in the workforce compared to countries that are poor in resources, such as Egypt, Jordan, Lebanon, Morocco, and Tunisia. While the latter group of states depends on the economic participation of women thanks to a mode of production that relies on labor, the economic capacities of women are not sufficiently exploited in resource-rich countries.¹⁶⁴ This low participation of women in the workforce means that work conditions have a limited impact on the total fertility level in Iraq and similar countries.

The rate of economic activity for women remains weak compared to men.¹⁶⁵ On the level of governorates, important variations exist. The lowest economic activity rate for women (4.2 percent) was in Nineveh while the highest (23.3 percent) was in Babil according to the 2007 survey (see Table 27 and Figure 25). It must be noted that some of the figures cited in the table may not be accurate, since the economic activity rate is expected to be highest in Baghdad. This variation is a reflection of the unevenness in the development of the social, economic, and cultural structure across governorates. In this regard, one can compare the low rate in Dahuk and Erbil, compared to the relatively high rate in Sulaymaniya, while the three governorates constitute the

¹⁶³ Rasan, "Family Size in the Urban Parts of the Wasit Governorate," 114-116.

¹⁶⁴ Ibid., 114-122.

¹⁶⁵ The average rate of economic activity is calculated by dividing the number of working women by the total number of women, multiplied by 100.

Kurdistan Region. This can be partially explained by the development of the socioeconomic structure in Sulaymaniya. On the other hand, the rise of political Islam after the occupation of Iraq in 2003, along with the regime change that was accompanied by a retreat in the role of women—especially in governorates that witnessed security turbulences—and the rise in the influence of armed militias that used violence to deprive women of their rights, have all contributed to lowering the economic activity rate for women, which, in turn, contributes to maintaining high fertility levels.

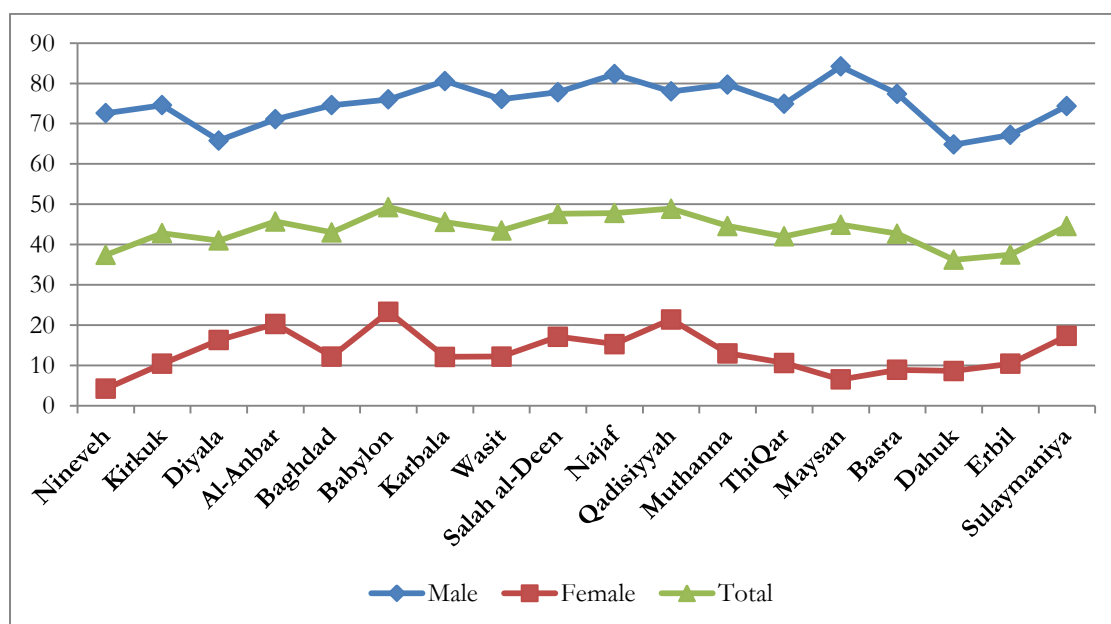
Table 27: Economic activity rate for the population aged 15 and older, by governorate and gender, in 2007 (%)¹⁶⁶

Governorate	Males	Females	Total
Nineveh	72.6	4.2	37.4
Kirkuk	74.6	10.4	42.8
Diyala	65.8	16.3	41.0
Al-Anbar	71.1	20.3	45.7
Baghdad	74.6	12.2	43.0
Babil	76.0	23.3	49.3
Karbala	80.6	12.1	45.6
Wasit	76.1	12.2	43.5
Salah al-Deen	77.8	17.1	47.6
Najaf	82.3	15.3	47.8
Qadisiyyah	78.0	21.4	48.9
Muthanna	79.7	13.0	44.6
ThiQar	74.9	10.6	42.0
Maysan	84.2	6.5	44.9
Basra	77.4	8.9	42.7

¹⁶⁶ Ministry of Planning, "Iraq Household Socio-Economic Survey 2007," 2:290, table 5, http://siteresources.worldbank.org/INTIRAQ/Resources/ihses_part2-5.pdf.

Kurdistan Region			
Dahuk	64.8	8.6	36.2
Erbil	67.2	10.4	37.5
Sulaymaniya	74.4	17.3	44.6

Figure 25: Economic activity rate for the population aged 15 and older, by governorate and gender, in 2007 (%)



The percentage of women who are primarily housewives remains high, with a general percentage of 46 percent: 46.5 percent in urban regions and 44.8 percent in the countryside, according to the 2007 survey.¹⁶⁷ This rate is lower in the rural areas compared to urban regions, which may be due to the contribution of women in the agricultural sector, or the result of a sampling error. In the 20-24 years age group, the rate of unemployment for women was 35.7 percent compared to 16.9 percent for men in the same age group, according to the same survey.¹⁶⁸ As noted earlier, this age group tends to be the most active in terms of reproduction.

¹⁶⁷ Ministry of Planning, "Iraq Household Socio-Economic Survey 2007," 2:57.

¹⁶⁸ Ibid., 1:44.

Furthermore, seasonal unemployment in the Iraqi countryside can contribute to raising fertility rates as a result of the lack of entertainment outlets and social activities, which increases the opportunity for sexual contact.¹⁶⁹

A number of studies in developing countries show that many working women, especially those working for their families in agriculture and the informal economy, earn little money and have no control over the resources resulting from work. This shows that mere participation in the workforce may not have an important influence on fertility¹⁷⁰; a rule that applies to Iraq, especially in the rural areas.

Religion

A number of authors believe that Muslims may express more resistance to the idea of lowering fertility, compared to other population groups. Islamic doctrine does not prohibit family planning methods (such as birth spacing). To illustrate, the al-Azhar fatwa committee had issued a religious opinion (fatwa) stating: "using medication for contraception in a temporary manner is not prohibited... this is the opinion of the committee, since it facilitates the lives of people and protects them from harm, especially when excessive pregnancy is feared".¹⁷¹ The Jordanian Mufti has also attempted to support family planning efforts based on the Koranic verse "but let them who find not [the means for] marriage abstain [from sexual relations] until God enriches them from his bounty" (Al-Nur-33). The Mufti expressed that delaying marriage is one of the methods of limiting fertility, making it into a family-planning method.¹⁷²

However, the strong pressures of social customs push for conceiving a large number of children, especially male ones.¹⁷³ In Iraq, the social pressure was accompanied by a delay in the socioeconomic and cultural structure, especially in light of the developments witnessed by Iraq in recent decades, including unfortunate political decisions and wars, which left social, economic, and cultural repercussions as well as a lowering in the educational level. Added to this is the mistaken understanding of the teachings of Islam by social groups with low education.

¹⁶⁹ Al-Ansari, *The Population Problem: the Case of Iraq*, 90-91.

¹⁷⁰ UN, *Women's Education and Fertility Behavior*, 2.

¹⁷¹ *Ibid.*, 218.

¹⁷² Abd al-Hadi Yamut, *Population Growth and Arab Economic and Social Development*, (Beirut: Institute for Arab Development, 1988), 20.

¹⁷³ UN, *The Determinants and Consequences of Population Trends*, 93.

In many developing countries, religion can help in maintaining elevated fertility rates, even in the absence of religious teachings that directly prohibit family planning methods. For instance, originally, the Catholic Church strongly rejected the use of contraception, but has since gradually amended its position and accepted rational fertility planning.¹⁷⁴ In 1962, the Vatican announced that couples were allowed to independently determine the number of children they wish to conceive.¹⁷⁵ In the Second Population Conference, which was held in Mexico City in 1984, Pope Jean-Paul II clearly expressed the validity and acceptability of family planning. The different churches have generally accepted family planning as a principle, while differing in determining its methods.¹⁷⁶ The more social and economic and cultural transformations take root in society, the weaker the role of religion becomes in influencing fertility.

Wars

Wars affect fertility behavior, which applies to Iraq and other countries that have experienced military conflict. For instance, Egypt witnessed a decline in fertility rates in times of war. The Lebanese civil war cost the country dearly—150,000 dead in addition to hundreds of thousands of disabled—leading to the decline in the rate of population growth to 0.3 percent in the period 1973-1983.¹⁷⁷ The situation is no different in Iraq, which has experienced a number of domestic conflicts, wars, and invasions.

All estimates point to a decrease in the rate of demographic growth during the Iraq-Iran war (1980-1988). Official data show that the rate of demographic growth has decreased from 3.8 percent in 1977 to 2.4 percent in 1987 (see Table 1). It is difficult to precisely ascertain the role of human losses during the war in this decline. There is also no consensus regarding the number of Iraqis killed during the war, with estimates ranging from 100,000 to 800,000. During that period, the population growth was expected to stabilize, had it not been for the war.

Other data shows that between 1980 (the start of the war) and 1987 (the year of the population census), Iraq lost between 250,000 and 500,000 men in conflict, with the second figure being the most likely one. In a single battle waged to regain the Faw Peninsula from Iranian forces in February-March 1986, Iraq lost over 50,000 men. This

¹⁷⁴ UN, *The Determinants and Consequences of Population Trends*, 93.

¹⁷⁵ Winckler, *Arab Political Demography*, 118.

¹⁷⁶ Yamut, *Population Growth and Arab Economic and Social Development*, 23-24.

¹⁷⁷ *Ibid.*, 58.

is in addition to between 50,000-150,000 human losses suffered, directly or indirectly, during the Second Gulf War of 1991 and the uprisings in the south and in Kurdistan in March-April of the same year. It should be noted that those who paid the heaviest price during the 1990s were the youth and the elderly. The high number of deaths registered in the span of less than seven years (1991-1997) would represent a crushing blow to any country, let alone a country with a small population such as Iraq.¹⁷⁸ There is no doubt that war has had an impact on the fertility rates in Iraq.

Greenpeace estimated that during the Second Gulf War, between 70,000 and 115,000 Iraqi troops were killed, in addition to between 72,000 and 83,000 civilians. Fewer deaths were caused by the direct use of weaponry, the majority resulting from the persistence of UN sanctions and the destruction of infrastructure by allied forces, in particular the destruction of food storage facilities, attacks on Iraq's electricity sector, and the incapacitation of water treatment and sewage facilities.¹⁷⁹ This destruction has led to the decline of industrial production and services, a lowering in the living standard and a rise in mortalities.

Kurdistan also suffered from the regime's *Anfal* campaign in 1987-1988 which saw, according to Kurdish sources, the massacre of 180,000 persons after being forcibly displaced from Kurdistan, and following the destruction of 3000 villages. According to other sources, more than 1,200 villages were destroyed and 300,000 people were displaced by the end of al-Anfal campaign. Chemical weapons were used in the city of Halabja in the spring of 1988 where 5,000 people were killed and thousands others forced to leave the city. The repercussions from the use of these weapons were dire for the survivors and their families.¹⁸⁰ In December 1991 and January 1992, when Iraqi forces were mobilized in the south, 70 villages were destroyed and 50,000 people were displaced. Later, the drying of the al-Ahwar marshes led to the displacement of no less than 200,000 people.¹⁸¹ On the whole, 26 percent of Kurdistan's population was displaced due to the war, while the percentage for Baghdad and the central region was three percent, and two percent in the southern region.¹⁸²

¹⁷⁸ Baram, "The Effect of Iraqi Sanctions," 199.

¹⁷⁹ Derek Gregory, *The Colonial Present: Afghanistan, Palestine, Iraq* (London: Blackwell 2004), 168-275.

¹⁸⁰ Ibid., 153-155.

¹⁸¹ Ibid., 168-175.

¹⁸² Ministry of Planning, "Iraq Living Conditions Survey 2004," 1:27.

Official data clearly shows a decrease in the total number of live births in Iraq from 660,385 in 1990 to 482,290 in 1991 and 471,886 in 2000.¹⁸³ This steep decline can be explained by the full military mobilization (between 1.2-1.4 million men were in active military service between August 1990 and April 1991), the catastrophe of war, and the outbreak of the uprising during the same year. Typically, when great numbers of men are sent to military service away from their homes, the number of pregnancies tends to decline. This decrease of crude birth rate during the Iraq-Iran war prompted the government to provide incentives in order to increase population growth, but with unclear results.¹⁸⁴

Ultimately, three main reasons can be put forth to explain the fertility decline. The first is to do with the number of men killed during the Iraq-Iran war (specifically those between the age of 18 and 45 years, the age group in which men usually get married and bear children). The second reason pertains to the economic sanctions, while the third relates to the increase of education of young women.¹⁸⁵

After a visit to Iraq, the head of the UNICEF executive council said about the matter: "it is important to affirm that not everything taking place should be blamed on the sanctions; Iraq's wars with its neighbors and against the domestic opposition, and the lack of investment in the field of children's health have contributed to the worsening of the conditions of children... in the regions controlled by the state".¹⁸⁶

Wars, worldwide, contribute to raising the percentage of widowed women. According to the 2004 survey, widows represented two percent of women in the age group 30-34 years, four percent for the age group 35-39 years, eight percent for the age group 40-44 years, 13 percent for the age group 45-49 years, 18 percent for the age group 50-54 years, 25 percent for the age group 55-59 years, 37 percent for the age group 60-64 years, and 49 percent for the age group 65-69 years.¹⁸⁷ The general percentage of women who were widows in Iraq was six percent according to the 2007 survey.¹⁸⁸ By comparing the data from the two surveys, it becomes clear that there was a 12.5 percent rise in the percentage of widows in the last survey, which can be explained by

¹⁸³ UN, "Bulletin on Vital Statistics in the ESCWA Region," 5.

¹⁸⁴ Baram, "The Effect of Iraqi Sanctions," 199.

¹⁸⁵ Ibid., 197-198.

¹⁸⁶ Ibid., 216.

¹⁸⁷ Ministry of Planning, "Iraq Living Conditions Survey 2004," 1:24.

¹⁸⁸ Ministry of Planning, "Iraq Household Socio-Economic Survey 2007," 2:56.

the security conditions of the country in recent years.¹⁸⁹ This percentage has risen to 9.3 percent for women aged 15 and above according to the 2011 survey.¹⁹⁰ The women in all these age groups have experienced wars while in their reproductive age. When examining a sample of Iraqi war widows that included the age group 35-49 years (most of the subjects in this sample had lost their husbands in the war with Iran, with fewer cases of women who lost their husbands during the Second Gulf War) the results have shown that a large proportion of this group is willing to remarry; however, the majority of war widows (90.5 percent) did not remarry, with 9.5 percent who married again.

Seventy-seven percent of the sample rejects the notion of a second marriage, while 23 percent supports the idea. Some of the reasons cited for refusal to marry again include the presence of children and the wish to focus on raising them, fear of their mistreatment if they re-marry, and the negative social stigma attached to a second marriage.¹⁹¹ The abstention of this high percentage of war widows from remarrying meant that large numbers of Iraqi women were excluded from the reproductive process, which inevitably contributes to lowering fertility levels.

The number of civilians and military personnel killed during the 2003 war remains a matter of disagreement. The 2004 survey states that 24,000 deaths had already occurred during the war – using a 95% confidence interval (CI), range of 18,000 to 29,000 (see Table 28). Other sources estimate total mortality to 98,000,¹⁹² whereas an online website considers it to be ranging between 14,619 and 16,804 in the period from the beginning of 2003 up until 7 December 2004.¹⁹³ To these figures one must add the number of daily fatalities that are a result of the fragile security situation and the persistence of violence.

According to the 2007 survey, 4.9 percent of injuries occurring in the month preceding the survey were referred to as armed civic violence. On the other hand, the percentage of the disabled, which stands at 14.3 percent, and which was caused by war, armed civil conflict, land mines, chemical strikes, and depleted uranium, is slightly higher than

¹⁸⁹ Ministry of Planning, "Report on the State of the Population of Iraq 2010," 53.

¹⁹⁰ Ministry of Planning, "Iraq Women's Integrated Social and Health Survey," 37.

¹⁹¹ For further information, see Asma Jameel, "The Problem of War Widows," *New Culture Journal* 314 (2005): 25-37.

¹⁹² Roberts L, Lafta R, Garfield R, Khudhairi J, Burnham G. "Mortality before and after the 2003 invasion of Iraq: cluster sample survey". *Lancet* (2004), 364: 1857-64.

¹⁹³ Ministry of Planning, "Iraq Living Conditions Survey 2004," 2:54.

the disability percentage caused by non-work related diseases.¹⁹⁴ These deaths and injuries also contribute to lowering the fertility rate by affecting the gender and age structure of the population. Nevertheless, due to the relative improvement in Iraq's security situation since the beginning of 2008, the refugee situation showed signs of improvement, either in terms of refugees returning from abroad, or those returning from areas of internal displacement. For example, the number of displaced families returning to the governorate of Baghdad reached 5,685 families by the first half of 2008.¹⁹⁵

**Table 28: Number of war-related deaths by region
(in the aftermath of the 2003 invasion)¹⁹⁶**

Region	Number	95% confidence interval	
		Lower	Higher
South	12044	8007	16081
Center	3686	2046	5326
North	466	-	1173
Baghdad	7547	4173	10920
Total	23743	18187	29299

Conclusion

Fertility rates of Iraqi women have shown a decline in recent decades, despite remaining comparatively high. This decrease began in the 1970s, with estimates differing as to the date of the onset of this trend. The trend in Iraq is consistent with general fertility trends in developing countries, even if these countries tend to enter the phase of low fertility at different times. Many factors have supported this trend: demographic, socioeconomic, and political. Under these main headings, the following secondary factors can be cited: marriage, age structure, migration, mortality,

¹⁹⁴ Ministry of Planning, "Iraq Household Socio-Economic Survey 2007," 1:44.

¹⁹⁵ Ministry of Planning, "Iraq: National Report on the Status of Human Development 2008," 71.

¹⁹⁶ Ministry of Planning, "Iraq Living Conditions Survey 2004," 2:54, table 39, <http://www.fafu.no/ais/middeast/iraq/imira/Tabulation%20reports/eng%20analytical%20report.pdf>.

population policy, family size, the situation of women, education, profession, religion, and war. Due to the unavailability of precise data relating to fertility and to these variables, it is difficult to calculate the correlation coefficient of these factors on fertility in Iraq. Aside from Iraq, this characteristic is common in many developing countries, if not most, with few exceptions in terms of factors such as education and profession. The factor of war has added another complication to the study of fertility evolution due to the great divergence in the estimates of those who were killed directly or indirectly by Iraq's various internal and external wars and the subsequent economic embargo. There is no doubt that this variable must have played an influence on fertility patterns. Had it not been for the wars witnessed by Iraq in recent decades, the fertility trends in the country would have been close to those in other Middle Eastern countries, especially Arab ones. Predictions relating to the total fertility rate expect it to continue its decline in the coming decades until it reaches an average of 2.19 children per woman, according to the medium variant for the period 2045-2050, according to UN estimates. It should be noted that, had Iraqi governments adopted a family planning policy, Iraq would have reached this level before that date. It becomes necessary, therefore, to adopt clear population policies in order to lower the fertility rate and to reduce the population problem and support the process of socioeconomic development. Decline in fertility rates results in a decline in population growth and in the proportion of children in the population, paralleled with a rise in the proportion of the working-age population (15-64 years), lowering the ratio of age dependency. The key factor here remains the decrease of the ratio of economic dependency, which remains high in Iraq. Decreasing this ratio will help raise the savings rate which, in turn, would support local investment. Such a scenario would dictate the availability of financial institutions and markets that can direct savings into productive investments.

The geographic distribution of the total fertility rates by governorates for the period 1999-2003 show that no sharp variations exist between them. The lowest fertility rate was in Baghdad, with the other governorates being divided into an eastern and a western group, with the latter group characterized by the highest fertility rates. The crude birth rates for the years 2002 and 2003 reflects variations between governorates (keeping in mind that the data from 2003 may not be fully reliable). When it comes to the distribution of children under the age of 15 in 2007, the study exemplified how their proportion tends to be lower in the countryside than in urban areas, with the exception of Nineveh and ThiQar, despite differences in rural and urban areas between governorates.

Despite the criticism directed at the theory of demographic transition, the theory is still useful, even if only partially, in explaining the declining fertility of women in Iraq and in developing countries. According to this theory, Iraq would be going through the second stage of demographic transition, since the factors of modernization—viewed from the perspective of a demographic transition as the main cause for the decline in fertility—have taken root in the country, due to the advances achieved in developed countries in the domains of preventative medicine and treatment. That in addition to the transformations occurring in the social and economic structure compared to past decades, which have been instrumental for lowering fertility. Undeniably, the theory requires further updating in order to take into account the specificity of social and economic development in developing countries.

The hypotheses of this study have proven true due to the decline in the fertility of Iraqi women in recent decades, the variation in fertility according to time and place, and the existence of a number of mutually-influencing factors, some of which have contributed to lowering fertility, while others have contributed to the delay of this trend.

The fertility variable requires more research at the national and regional level as well as at the level of governorates, due to the dearth of in-depth studies and research in the field. Population geographers must make a leading contribution in this effort and join hands with demographers, making use of their shared research interests. It is also recommended that such research be conducted at the level of universities, research centers, and ministries, ensuring in particular the coordination of the Ministry of Planning and Development Cooperation.

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