

Muslim Baby-Boom?

Examining Fertility in Bangladesh and Lebanon

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Abstract

While fertility has long been understood as under the influence of many factors, the effects of cultural circumstances, namely religion, are understudied. As fertility rates remain high in the developing world and many majority Muslim countries, the need for further analysis becomes evident as high fertility rates seem to hold back growth and development. This article uses Bangladesh and Lebanon as case studies to examine the evolution of fertility rates over time and to what degree religion remains a determinant for fertility rates.

I. Introduction

The effect of fertility on population growth is logical: fertility has a direct relationship to population growth, as births per woman are together with the death rate the key factors determining the growth rate of a population. Economists, development theorists, and public health interventionists have long identified the key contributors to fertility as socioeconomic status, education levels, access to contraceptives, and cultural and religious values. Fertility patterns among Muslim women emerge regardless of country of origin. Rooted in history, culture, and habits, religion offers a lens to examine fertility.

This article adopts that lens, and applies religion and culture as another institution for examining fertility beyond socioeconomic and developmental determinants in two pre-dominantly Muslim countries: Bangladesh and Lebanon. Following this introduction, the next section provides a brief review of the literature on previous research done on fertility in Bangladesh and Lebanon. The literature review section is followed by some socio-economic empirical background for Bangladesh and Lebanon in section III. The fourth section examines first the evolution of fertility rates and other population statistics over time, and discusses then how religion, unmet need for contraceptives, and unwanted pregnancies are related to each other in Bangladesh and Lebanon. Building on an explanation for high fertility rates put forward by Wyshak (1999), the discussion section examines the correlation between fertility and access rates to water and sanitation in Bangladesh and Lebanon. The last section provides some conclusions and recommendations.

II. Brief Literature Review

According to Yurtseven (2015), fertility rates in Muslim countries remain largely understudied. While this seems true for Lebanon, there actually is a relatively large literature on fertility in Bangladesh. This brief literature review summarizes three studies that have examined Lebanon's fertility and four recent studies examining Bangladesh's fertility.

II.1. Studies Focusing on Lebanon

- Beydoun (2001) concluded that illiterate women in Lebanon end up supplying an excess number of children, which is mediated by the shorter lactation period of more educated women (triggered by a higher access of more educated women to breast milk substitutes). She also finds that educated husbands demand more children, while educated women demand 'child quality' as they expect both material and opportunity costs of having a child to coincide with the norms and values of their social class. Their lower supply of births with increased economic well-being is primarily attributed to a higher use of modern contraceptive methods.
- Khawaja (2003) describes the lack of fertility decline in Lebanon, despite favorable social conditions as "a demographic puzzle". One explanation centers around the Palestinian-Israeli conflict and the influx of Palestinian refugees. The article goes on to detail the Lebanese piece of this puzzle, describing the environment and economic systems that contribute to its abnormally high fertility rate. Khawaja continued to examine fertility trends among women based on a number of determinants: refugee status, education, as well as proximate determinants such as marriage proportions, contraceptive prevalence, sterility, abortion, sexual behavior, and breastfeeding.
- Tfaily, Khawaja and Kaddour (2009) examine differentials in fertility between Christians and Muslims in three socio-economically poor communities in Greater Beirut and Lebanon using data from the 2002–2003 Urban Health Survey. They find that both Christian and Muslim women are controlling their fertility but that the decline in fertility among Christian women has been underway for some time, while that for Muslim women is a more recent phenomenon. They assert that these differences in marital fertility by religious affiliation persist after controlling for differences in socio-economic conditions, religiosity, and cultural capital. Tfaily, Khawaja and Kaddour (2009) also discuss context-specific explanations of the religious fertility differences taking Lebanon's social, economic, historic and political context into account.

II.2. Recent Studies Focusing on Bangladesh

- Duvendack and Palmer-Jones (2017) first state the "Bangladesh paradox" of improved wellbeing despite low economic growth over the last four decades has been claimed as a paradigmatic case of the spread of both modern family planning programs and microfinance leading to women's empowerment and fertility reduction. They then examine the links between microfinance, empowerment and fertility reduction and come to the conclusion that these links are fraught with problems, and far from robust. They suggest that the claimed causal links between microfinance and family planning via women's empowerment needs to be examined further.

- Hernández-Julián, Mansour and Peters (2014) examine the effects of malnutrition on birth and fertility outcomes based on the evidence from the 1974 Bangladesh famine. They find that women who were pregnant during the famine were less likely to have male children. Moreover, children who were in utero during the most severe period of the Bangladesh famine were more likely to die within one month of birth compared with their siblings who were not in utero during the famine. Hernández-Julián, Mansour and Peters (2014) also estimate the impacts of the famine on subsequent pregnancy outcomes. Controlling for pre-famine fertility, they find that women who were pregnant during the famine experienced a higher number of stillbirths in the post-famine years. This increase appears to be driven by an excess number of male stillbirths.
- Islam and Nesa (2009) focus on the fertility transition in Bangladesh through educational differentials. Their results show that fertility declined considerably with women's education. The illiterate and poor women had the highest fertility rate, whereas secondary-educated rich woman had the lowest fertility. This relationship also held even after controlling the other factors such as place of residence, region, and household wealth status. All of the factors included in the study showed significant effect on the children ever born. For example, the fertility rate was found to be higher among rural women than urban women. Based on these findings, Islam and Nesa (2009) suggest that compulsory free higher education is necessary to bring a further reduction of fertility in Bangladesh.
- Rahman and Roy (2015) discuss the determinants of unwanted fertility in Bangladesh. Posing the question of whether sex preference and unmet need are dominant, the study aims to investigate the ultimate determinants of high unwanted fertility. While the national fertility rates have been decreasing steadily since the 1970s, researchers have identified a large percentage of births to be unintended. The socio-economic development is considered the main cause of fertility transition, but Rahman and Roy describe other factors contributing to Bangladesh's unique fertility situation. Unmet need, sex preference, age at first marriage, religion, women's completed years of schooling, and couples' desire for children are discussed and upheld as variables determining fertility.

III. Empirical Background

Figure 1 shows the geographical location of the two countries. Bangladesh is a South Asian country, while Lebanon is located in the Middle East. With 90 percent and 54 percent of the population considering themselves to be of Muslim faith, respectively,¹ both are pre-dominantly Muslim countries, though neither country's government is considered to be dominated by religious beliefs.

In terms of land area, Bangladesh is (with 130,170 square km) about 13 times larger than Lebanon (10,230 square km). Based on official population statistics, Bangladesh is currently about 35 times more populated than Lebanon. Bangladesh has currently about 161 million people, while Lebanon's official population is about 4.6 million. As stated in Francis (2017), during the last six years, about 1.5 million Syrians poured into Lebanon. However, most of these refugees are not considered legal residents.² Hence, they are typically not reflected in Lebanon's official population

¹ Respectively, https://en.wikipedia.org/wiki/Freedom_of_religion_in_Bangladesh and https://en.wikipedia.org/wiki/Religion_in_Lebanon.

² See Francis (2017).

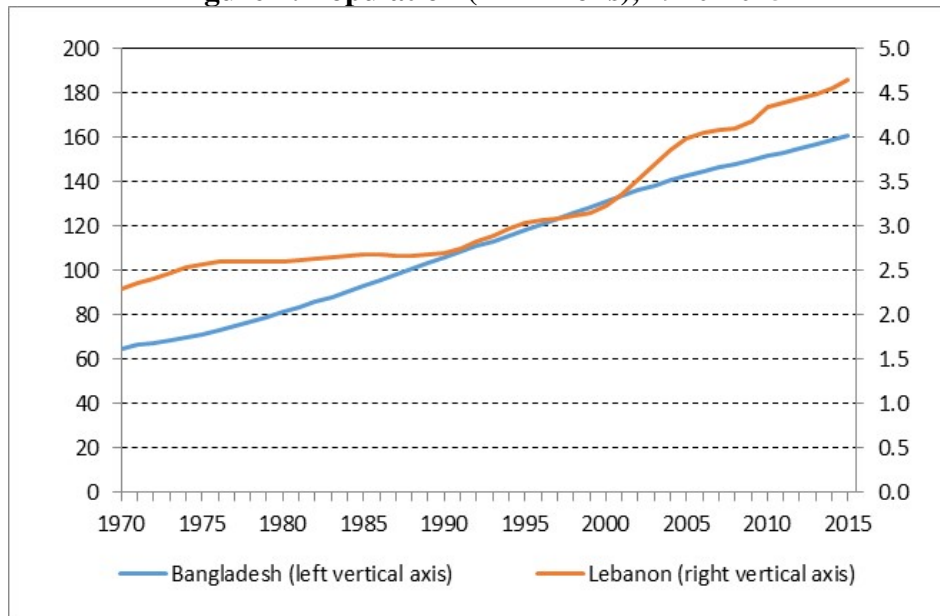
data. Including these 1.5 million Syrian refugees, Lebanon’s population would be close to 6 million people. In 2017, Bangladesh also experienced an influx of refugees. The UN-led Inter-Sector Coordination Group (ISCG) reported on October 22, 2017 that an estimated 603,000 refugees from Rakhine, Myanmar had crossed the border into Bangladesh since August 25, 2017.³

Figure 1: Geographic Location of Bangladesh and Lebanon



Source: Created by author based on Google Maps (2017).

Figure 2: Population (in millions), 1970-2015

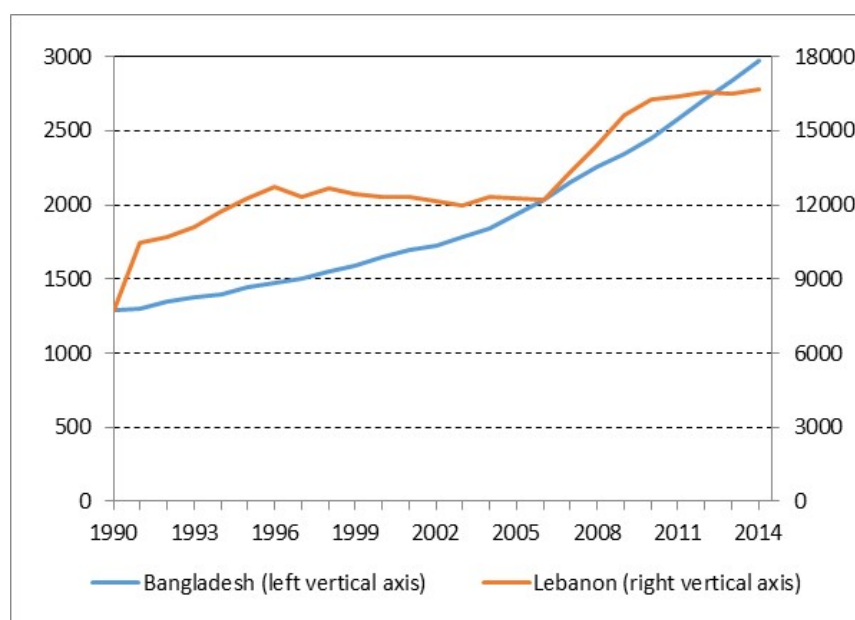


Source: Created by author based on World Bank (2016).

³ As reported by PressTV, available at: <http://www.presstv.com/Detail/2017/10/22/539540/Myanmar-Bangladesh-Rohingya-UN>.

As Figure 3 shows, Lebanon is about six times richer than Bangladesh in terms of purchasing power parity (PPP)-adjusted GDP per capita. In 1990, Bangladesh's GDP per capita was \$1,290, while that of Lebanon was \$7,734 (which is almost exactly six times that of Bangladesh). Lebanon's GDP per capita grew then very quickly during the early 1990s, though it started to stagnate and even decrease slightly from 1996 to 2006. In 2006, Lebanon's GDP per capita was once again nearly six times that of Bangladesh. Both countries experienced relatively high growth rates during the subsequent four years, after which Lebanon's GDP per capita once again started to stagnate. In 2014, Bangladesh's GDP per capita was \$2,979, while that of Lebanon was \$16,659. Bangladesh was a low-income country until it got reclassified by the World Bank in 2015 as a lower-middle income country, while Lebanon is currently classified as an upper-middle income country.

Figure 3: PPP-adjusted GDP per capita, 1990-2014

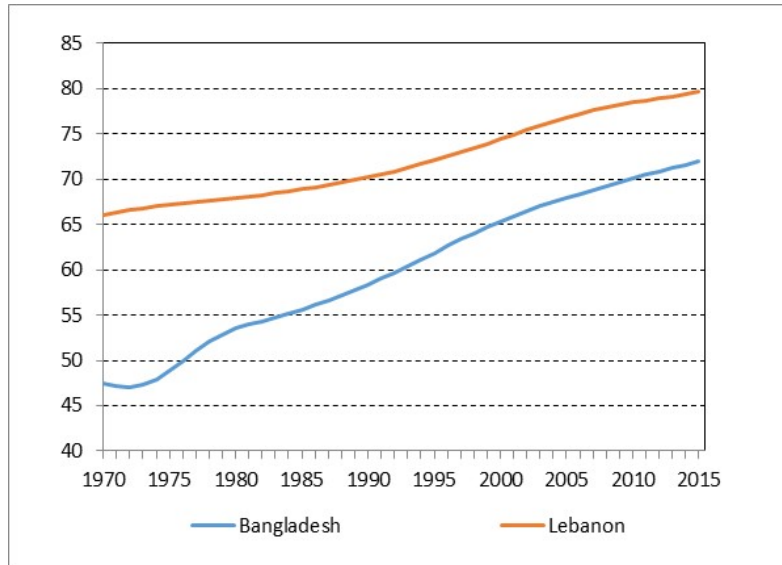


Source: Created by author based on World Bank (2016).

Bangladesh and Lebanon also made solid progress in increasing life expectancy. Figure 4 shows the growing life expectancy for both Bengali and Lebanese populations from 1970 to 2015. During these 45 years, Bangladesh added 24.5 years of life expectancy, while Lebanon added 13.5 years. Hence, in 2015, Bangladesh's life expectancy stood at 72.0 years, while that of Lebanon was 79.6 years. The data scope for poverty headcounts is limited, but the most recent totals as percent of population are as follows: In 2010, poverty affected 31.5 percent of Bangladesh's population (based on national poverty lines). In 2012, although considerably less, still 27 percent of Lebanon's total population faced poverty based on their national poverty lines.⁴

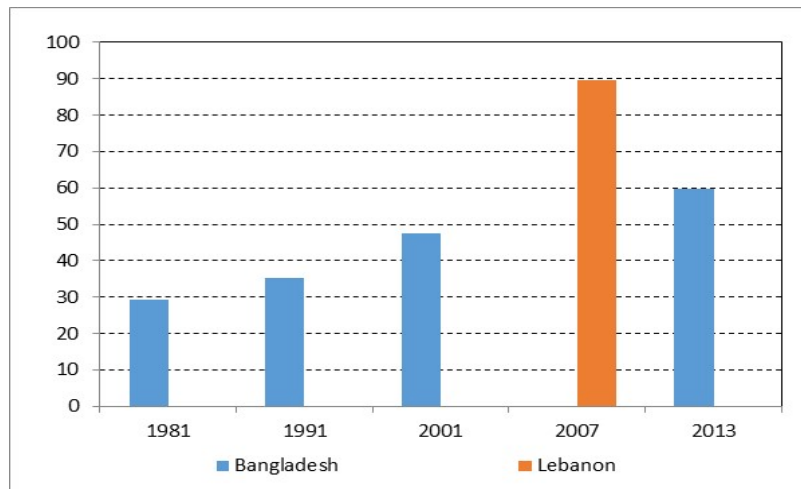
⁴ World Bank (2016).

Figure 4: Total life expectancy at birth, Bangladesh and Lebanon, 1970 to 2015



Source: Created by author based on World Bank (2016).

Figure 5: Adult literacy rate (percent of population, 15 years and older), all available data

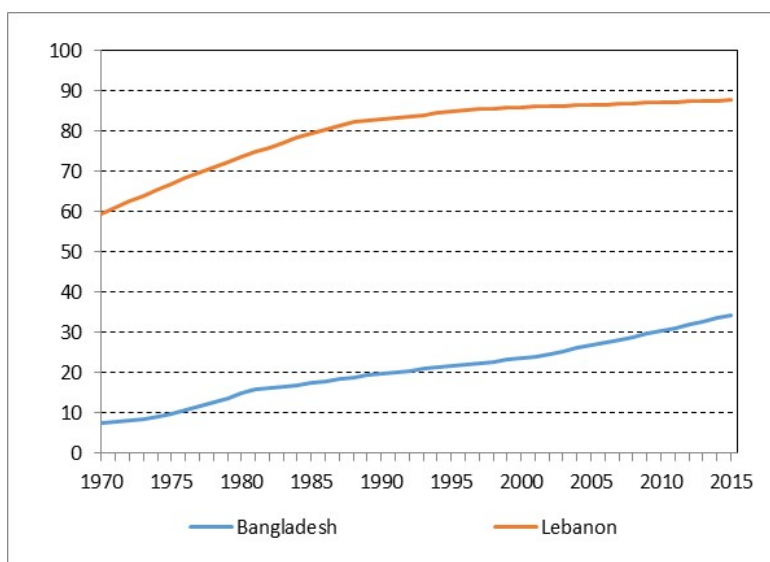


Source: Created by author based on World Bank (2016).

Even though we have only one year of observation for Lebanon's adult literacy rate, Figure 5 seems to indicate that Lebanon is also far better off than Bangladesh in terms of literacy. Bangladesh has doubled its adult literacy rate from 1981 to 2013 (from about 30 percent to 60 percent), but still lacks at least 30 percentage points behind Lebanon, which already had a literacy rate of nearly 90 percent in 2007.

Finally, as Figure 6 shows, Lebanon is a highly urbanized country (with nearly 90 percent of its population living in urban areas), while most of Bangladesh's population live in rural areas. Bangladesh is however experiencing rapid urbanization. While less than ten percent of Bangladesh's people lived in urban areas in 1970, by 2015, nearly 35 percent of Bangladesh's people had urbanized. The conclusion drawn from Figures 3 to 6 is that despite considerable progress, Bangladesh is still a considerably less developed and less urbanized country than Lebanon.

Figure 6: Share of Urban Population (in percent of total), 1970-2015



Source: Created by author based on World Bank (2016).

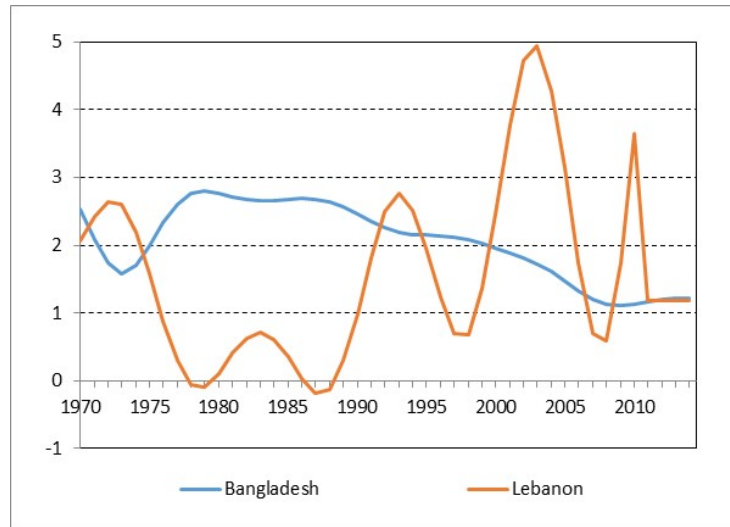
IV. Discussion

Bangladesh and Lebanon experience changes in their fertility rates that originate in a variety of inter-related sources, including religious and social norms that influence marriage age and the desire for children, socio-economic factors like income and education, as well as the availability and acceptability of modern contraceptives. This discussion section will first provide some basic information on the evolution of population growth, total fertility rates, crude birth rates, and adolescent fertility rates. It will then focus on the intersection of religion, unmet need for contraceptives, and unwanted fertility that contribute to fertility rates. Building on the hypothesis of Wyshak (1999), that not having access to clean water for hygienic purposes and for convenient coping with menstruation is associated with higher fertility, we will then review the evolution of access to safe water and sanitation.

IV.1. Evolution of Population Growth, Fertility and Birth Rates

Despite the fact that most refugees are not counted in the official population figures, Figure 7 shows that Lebanon has highly volatile population growth rates. Bangladesh also experienced rapid changes in population growth rates in most the 1970s, but then experienced a steady decline in the population growth rates from a high of 2.8 percent in 1978 to a low of 1.1 percent in 2009, after which it increased slightly and seems to have then stabilized at around 1.2 percent.

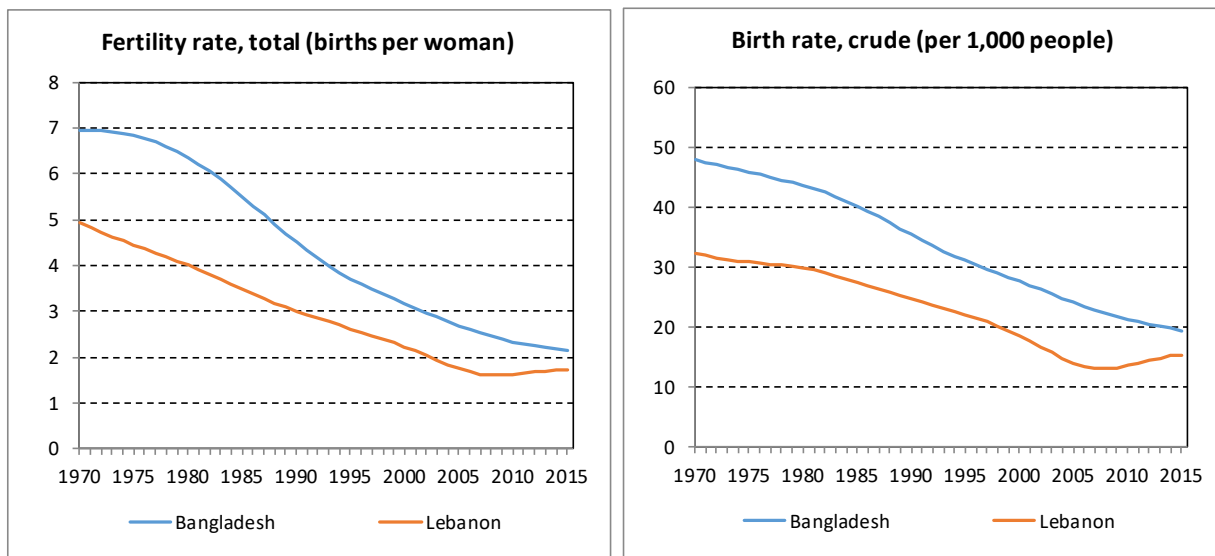
Figure 7: Population Growth (in percent), 1970-2015



Source: Created by author based on World Bank (2016).

Figures 8 and 9 depict the total fertility rates and the crude birth rates, respectively, of Bangladesh and Lebanon. We show these two graphs next to each other to better see the similarity between them. While Bangladesh had far higher fertility and birth rates than Lebanon in 1970, both have declined steadily for Bangladesh, catching nearly up with Lebanon’s fertility and birth rates in 2015. These low fertility rates in both countries seem to indicate that the influence of religion (which typically keeps fertility rates high) has largely disappeared in both countries.

Figures 8 and 9: Total Fertility Rates and Birth Rates, 1970 to 2015



Source: Created by author based on World Bank (2016).

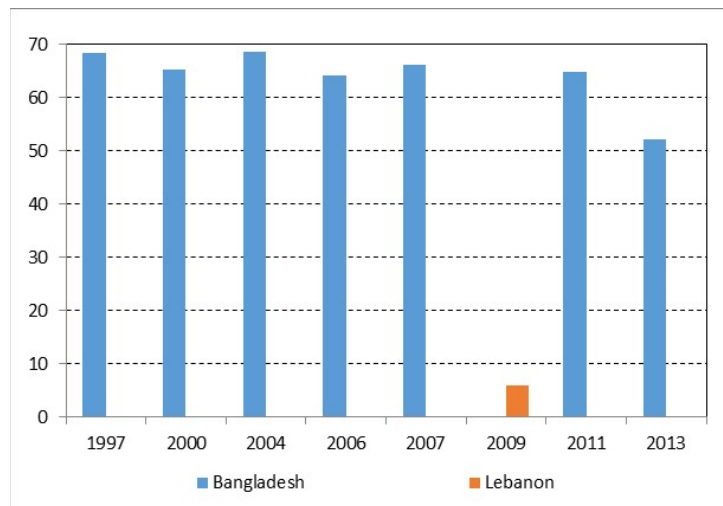
IV.2. Religion, Adolescent Fertility, and Contraceptive Prevalence

While development theorists have long recognized that fertility exists on a divide at socioeconomic and demographic development levels, the changing fertility occurring with modernization does not follow the traditional indexes such as female autonomy, literacy, or presence in the workforce. Rather, it follows alterations in the value of children in the class-specific family economy.⁵ The KAP-gap, known for knowledge, attitude, and practice, highlights the more complex nature of family planning and fertility, and reveals a gap in these three areas.⁶ Greenhalgh (1990) stresses that a political economy of fertility directs attention to the embeddedness of community institutions in structures and processes.

For Lebanon and Bangladesh, the indirect relationship between the economic progress and fertility has been illustrated in Figure 3 (showing increases in GDP per capita) and Figure 8 (showing declining fertility rates). Logically this makes sense, as children present an economic burden that, particularly in a developing country, prevents a household from reaching their full economic potential. Child rearing contributes mostly to reduced female economic prospects, as a mother's domestic tasks greatly increases her time-poverty and prevents her from undertaking paid work.

But new lines of analysis examine religious affiliation as a determinant of fertility in Muslim women. Hence, it can be expected that more religious Lebanese and Bengali women will experience higher fertility rates than less religious women. Figure 10 shows that religious and cultural norms still influence at what age girls get married in Bangladesh, resulting in relatively high adolescent birth rates, shown in Figure 11. The connection between the age a woman is married and her fertility is well-understood and logical. Lebanon sees less women entering marriage before the age of 18, which contributes to a lower adolescent fertility rate.

Figure 10: Women who were first married by age 18 (% of women ages 20-24)

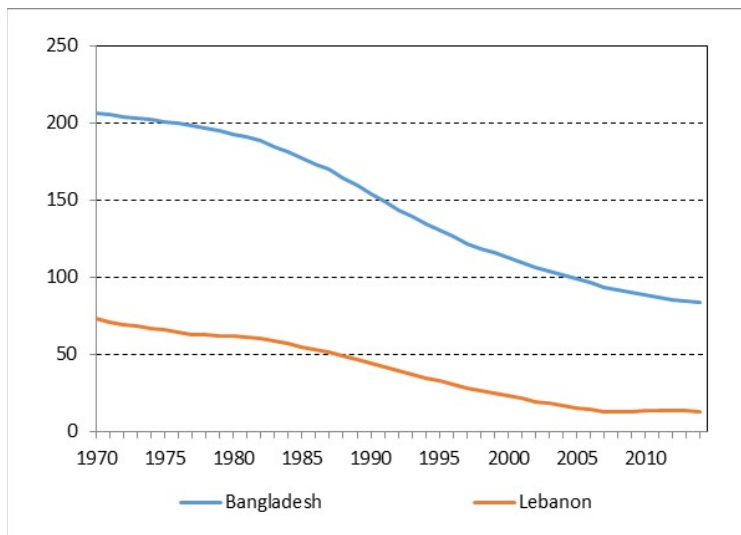


Source: Created by author based on World Bank (2016).

⁵ Greenhalgh (1990).

⁶ Casterline and Sinding (2000).

Figure 11: Adolescent Fertility Rates (births per 1,000 women ages 15-19), 1970-2015



Source: Created by author based on World Bank (2016).

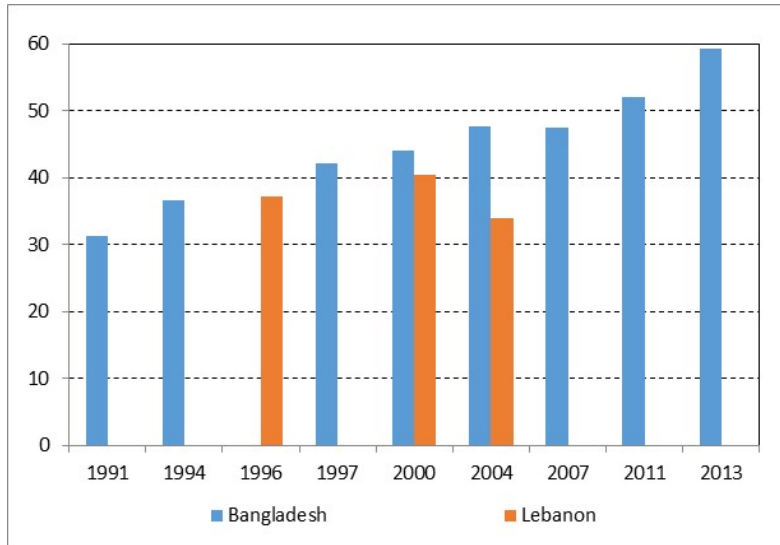
According to Casterline and Sinding (2000), roughly one-fifth of all births in the developing world are unwanted. Furthermore, Casterline and Sinding (2000, p. 700) explain: “Social scientists who have studied the relationship between attitudes, motivation, and behavior have long recognized that strongly held preferences will often not have direct behavioral counterparts because of obstacles to the implementation of those preferences”, such as cultural norms originating in religion.

Yurtseven (2015) notes that contraceptive prevalence is an important determinant of fertility, and offers insights into the lack of Muslim women utilizing contraceptives. As cited by Yurtseven (2015, p. 167), “Campbell et al. (2013) assert that if women’s mobility is restricted due to group norms and practices, women’s exposure rate to new ideas and innovations, including contraceptives, decreases. In addition to this, opposition from husbands may decrease the use of contraceptives thereby increasing fertility in patriarchal settings. Muslim women’s traditional primary role of wife and mother strengthens the position against contraceptive use (Espesito and DeLong-Bas, 2001).” He also comments on Sharia law as a powerful force among Islamic states that gives political and social importance to marriage, with the basic objective to bring up healthy and faithful children.

Figure 12 shows the modern contraceptive prevalence rate (as percent of all women ages 15-49) in Bangladesh and Lebanon. The limited data, especially for Lebanon, seems to indicate that women in Bangladesh have a higher prevalence rate of modern contraceptive use than Lebanese women, especially as the percentage of Lebanese women using modern contraceptives has decreased from 2000 to 2004. While the decline in use in Lebanon is consistent with the decline in their GDP per capita during this period, it is inconsistent with Lebanon’s higher level of income and development compared to Bangladesh. Furthermore, the Lebanese data is also inconsistent with Khawaja (2003), who reported that 58 percent of married Lebanese women use modern contraceptives.

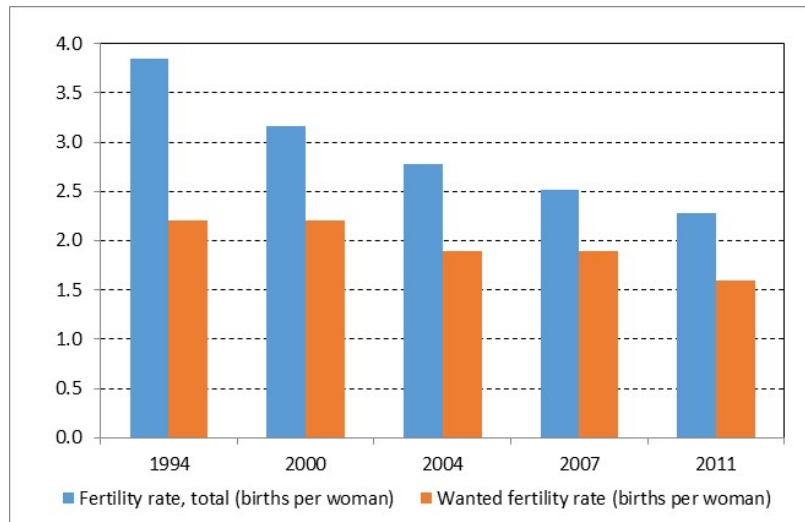
While the World Bank (2016) contains no data for unwanted fertility in Lebanon, Figure 13 displays Bengali women’s total fertility rate compared to their wanted fertility rate for all available years with data for both variables. The available data clearly shows that wanted fertility is consistently below the total fertility, and hence, there is a significant amount of unwanted fertility. Rahman and Roy (2015) report that in Bangladesh, the proportion of more religious women experiencing unwanted birth is, with 18 percent, almost double than that of others.

Figure 12: Contraceptive prevalence, modern methods (% of women ages 15-49)



Source: Created by author based on World Bank (2016).

Figure 13: Total Fertility and Wanted Fertility in Bangladesh, all available years



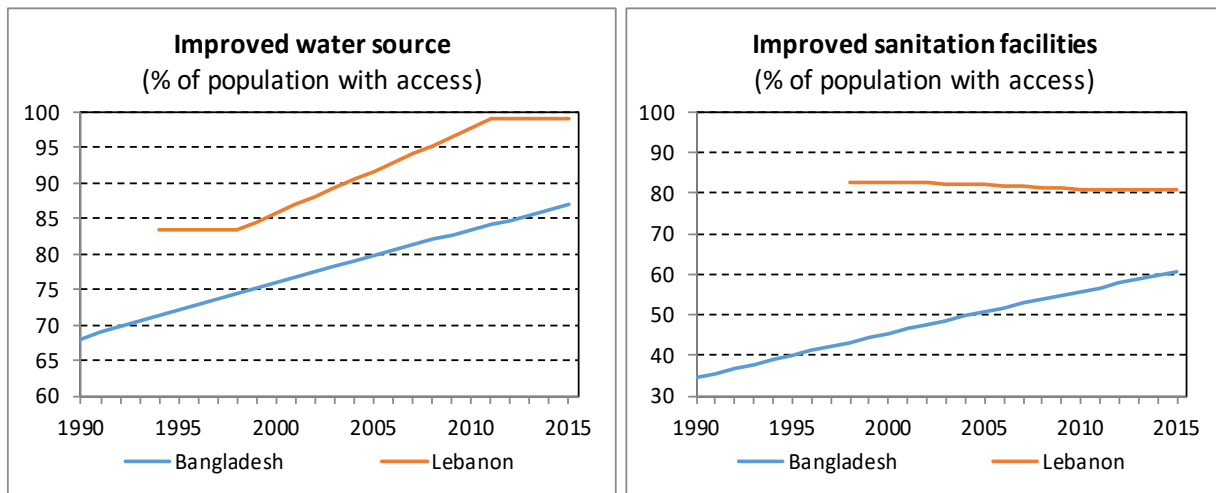
Source: Created by author based on World Bank (2016).

IV.3. Access to Water and Sanitation

Wyshak (1999) draws an interesting connection between fertility and access to clean water. Establishing feminine hygiene as a public health concern, she poses (p. 155): “Because of the unavailability of means to cope with 10 or 12 menstrual cycles per year, women may, consciously or unconsciously, have more pregnancies and prolong their post-partum amenorrhea through breast feeding.” Here, menstrual cycles are contributing to high fertility rates by incentivizing women of reproductive age to prevent their cycles. Whether or not these subsequent pregnancies are unwanted or not is unknown, but Wyshak’s findings support her hypothesis that not having access to water for hygienic purposes and for convenient coping with menstruation is associated with higher fertility. We will reexamine her hypothesis based on the latest data for Bangladesh and Lebanon.

Figures 14 and 15 display the access rates to improved water sources and sanitation facilities in Bangladesh and Lebanon. Combined with the previously shown (see Figure 8) lower fertility in Lebanon than in Bangladesh, the data remains consistent with Wyshak’s assertions as Lebanon, which has consistently higher access rates to safe water and sanitation than Bangladesh, also has consistently lower fertility rates.

Figures 14 and 15: Access to Improved Water and Sanitation (in percent of total pop.) in Bangladesh and Lebanon

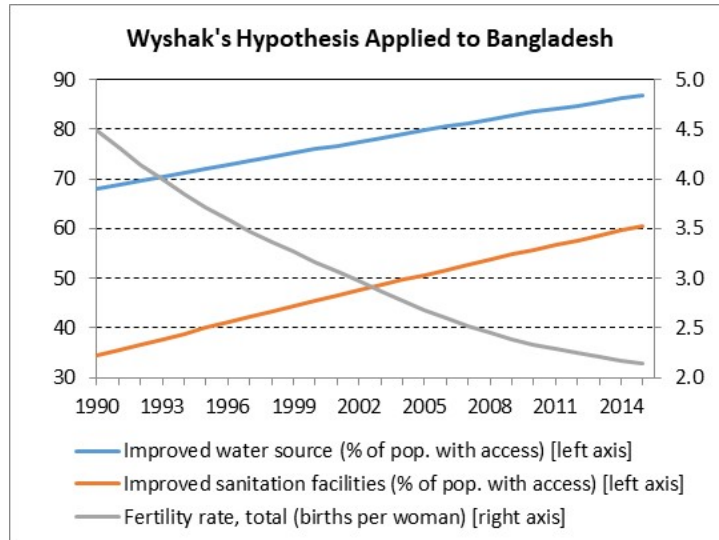


Source: Created by author based on World Bank (2016).

However, to investigate Wyshak’s hypothesis more carefully, Figure 16 shows the evolution of access rates for safe water and sanitation in Bangladesh next to the evolution of Bangladesh’s fertility rates. The same three time series are then provided for Lebanon in Figure 17. Despite showing simple correlations, which do not prove a hypothesis, the Bangladeshi data is consistent with Wyshak’s hypothesis as access to improved water and sanitation is increasing continuously, while fertility rates continuously decrease. In the case of Lebanon, the situation is a bit more complicated as access to water and sanitation are not directly related to each other. The access rates to improved water increase in Lebanon from 1998 to 2011, after which they stabilize at close

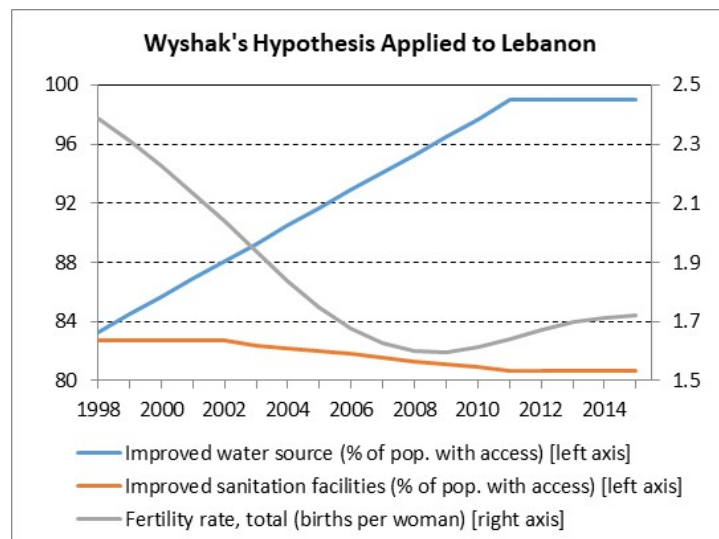
to 100 percent, while the access rate to improved sanitation facilities is initially stable at around 83 percent (from 1998 to 2002), then declines slowly to about 81 percent (from 2002 to 2011), and remains then again stable (from 2011 to 2015). From 1998 to 2009, Lebanon's fertility rate is negatively correlated to Lebanon's access rate to improved water; the relationship is however less clear after 2009. There is certainly no stable correlation between Lebanon's access rate to improved sanitation and Lebanon's fertility rate.

Figure 16: Access to Improved Water, Access to Improved Sanitation, and Fertility Rates in Bangladesh



Source: Created by author based on World Bank (2016).

Figure 17: Access to Improved Water, Access to Improved Sanitation, and Fertility Rates in Lebanon



Source: Created by author based on World Bank (2016).

V. Conclusion and Recommendations

We have shown that neither Bangladesh nor Lebanon are currently experiencing particularly high fertility rates. Yet, it is undeniable that cultural and religious factors still influence fertility rates in both countries, at least through limiting access to or the use of modern contraceptives. Greenhalgh (1990) referred to a homegrown version of political economy and cultural history, which becomes imperative in understanding Lebanon's and Bangladesh's fertility rates. She also asserts that from practices originating in patriarchy to teachings regarding contraceptives, fertility exists as a microscopic piece of behavior artificially extracted from the larger kinship and family contexts of which it is an integral part. Rahman and Roy (2015) emphasize that the elimination of unwanted births leads not only to substantial reductions in fertility and population growth, but it also upholds the individual right of women to determine their lives. Yurtseven (2015) emphasized that most of the variability in fertility is captured by a country's norms about fertility, and Bangladesh and Lebanon are no exceptions. He comes to the conclusion that even with improving socioeconomic conditions, the convergence of the fertility rates of majority Muslim countries with that of western countries may not occur quickly.

Recommendations for combating unwanted fertility must originate in addressing the cultural roots of unmet need for family planning. Some proposed interventions display the cultural competency necessary to combat the complex social, political, and religious issue of unwanted pregnancy amongst Muslim women. As over 40 percent of Muslim women report not using any form of contraceptives, urgency arises to curb fertility rates and provide women economic and social opportunity by decreasing their childrearing burden. Yurtseven (2015) recommends that special attention be given to Muslim women in providing family planning services, ensuring that a variety of options are made available to them based on cultural and access implications. Due to the possible correlation between access to improved water/sanitation and fertility (as was suggested by Wyshak (1999)), these interventions should also include an emphasis on supplying clean water and sanitation to women.

In any case, no single intervention will solve the fertility crisis, which remains an issue as long as there is unwanted fertility. Rather, interventions must exercise social competency to address the specific needs of Muslim women, taking into account their cultural history and barriers to use modern contraceptives, such as women's lack of power. Still, some specific interventions like providing education to women, encouraging girls to getting married later, and providing access to improved water and sanitation, can be highly effective for lowering fertility rates. These recommendations extend beyond Bangladesh and Lebanon to populations across the world facing similar intersections of culture, religion, development, and fertility.

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