Women’s Role In Economic Development In Predominantly Muslim Countries

Ismail H. Genc1*
Bassam M. AbuAl-Foul**
Leyal Ozkul***

Abstract
We discuss the role of women in the development of predominantly Muslim countries, with reference to economics from several perspectives: First, we study the interrelations between certain characteristics of a society and its level of development. There, we proffer the education of girls as the strongest support for development. Secondly, we elaborate on the opportunities/choices women gain with education in the future. Thirdly, we explore the externalities of education to all members of a society by presenting empirical evidence connecting the economic status of an individual to his/her parents’ education. This establishes the link between the theory and observation to represent the benefit of women’s education on social welfare. Finally, we dispel an economic fallacy which underrates the unmeasured household production. Since women are main generators of such activity; their economic contribution goes largely unreported.

Key Words: Gender, Economic development, Middle East.

1 Corresponding author. We would like to thank Samer Kherfi and Michael Malcolm for helpful discussions, and David Weil for allowing us to use some of his data.

*igenc@aus.edu
Professor of Economics, Department of Economics, School of Business and Management, American University of Sharjah, P.O. Box 26666, Sharjah, United Arab Emirates. TEL: (971) 6-515-2327, FAX: (971) 6-515-2550

**babufoul@aus.edu
Associate Professor of Economics, Department of Economics, School of Business and Management, American University of Sharjah, P.O. Box 26666, Sharjah, United Arab Emirates. TEL: (971) 6-515-2544, FAX: (971) 6-515-2550

***leyalozkul@gmail.com
Introduction

Islam is a religion which places considerable significance on personal improvement without discriminating among genders, practically bringing in a mental and social revolution at the time of initial establishment. Girls and women played very important roles in the way Islam was shaped as it afforded unprecedented status to women. This, however, does not mean that all the injustices and inequalities women had suffered prior to the coming of Islam magically disappeared. On the contrary, lots of them survived for centuries lasting to modern days. Nevertheless, the man-woman relationship all over the Muslim as well as non-Muslim world has evolved considerably over time. In particular, the role Muslim women played in many facets of the society has changed significantly thanks to many reasons, and perhaps more pointedly with the help of global interaction among nations, via tourism and many forms of cultural contacts, even wars.

In this paper, we discuss issues which pertain to the role of girls and women in the economic development of a country with reference to predominantly Muslim countries. We wish to analyze the subject from several perspectives involving both theoretical and empirical aspects. This is largely because, irrespective of their religious affiliation, females in those countries face the same or at least similar challenges and opportunities which are principally grounded in the cultural heritage of these societies. We, however, try to make special effort not to fall in the political/cultural stereotyping errors as alluded to in (Shaheed, 1999, pp. 61–62; Merali, 2002) as referenced in Brown (2006) as well as other references therein; as also stressed in Sensoy and Marshall (2009-10).

Although there is probably more agreement on the definition of a “girl,” the same can not be said of “development.” As economists, we obviously concentrate on the economic aspects of the term, but we keep in mind the definition provided by Walter Rodney:

“Development, at the level of the individual, implies increased skill and capacity, greater freedom, creativity, self-discipline, responsibility, and material well-being. Some of these categories are obviously moral ones and mean different things to different people, depending on things like social class, ethnicity, and personal codes of ethics. Indisputably, the chances of achieving these characteristics of development are very much dependent upon the state of the society as a whole.” (Ramji, 1997).

One has to realize that we do not have the luxury of ignoring the female element of the society’s make-up irrespective of the definition of development adopted. Actually, in Muslim populated countries in particular, and all over the world
in general, women constitute about half of the population. As shown in Figure 1a, although there is a steady and slight decline in the female proportion of population; on average, it is still close to 48%. In a more general sense, the forecasts show that by mid-21st century the male and female population will be approximately one-to-one (see Figure 1b). Therefore, we need to constantly improve this constituent of the society so that the whole has a chance to further progress, through basically spillover effects. Christiaan Poortman, World Bank Vice President for the Middle East and North Africa, states that: “No country can raise the standard of living and improve the well-being of its people without the participation of half its population. Experience in other countries has shown over and over again that women are important actors in development - to hold them back is to hold back the potential for economic growth.”

Gender equality is not for the sake of women only; it is for the benefit of families and the whole society. One of the key factors that led to the growth of the American economy in the 20th century can be directly traced to its investment in developing world-class universities that brought about new technologies and new modes of management with the inclusion of women, however painful it might have been at the beginning of the development phase (Watts, 2009). The same phenomenon may be considered for Muslim societies’ development in a genderwise comprehensive manner.

Although we observe that the female population is about the half of the whole, some researchers have problematized the very statistics as the indicator of inequality against women. For example, Sen (1990) argues that if women had equal access to nutrition and health care as men they would be the majority instead of being the minority. Sen saw the sex ratio as an indicator of inequality in terms of material and social equality between men and women. On the other hand, Coale (1991), by assuming a normal birth sex ratio of 105.9 male births per 100 female births and the appropriate parameters for relative male and female mortality rates at different ages, finds 60 million missing women or about half Sen’s figure².

The rest of the paper is as follows: In the next section we present theoretical and empirical evidence which links the level of development of a country to the educational level of that country’s females. Then in the following section we discuss the opportunities an educated girl would have. In the externalities section we outline the benefits the society reaps by educating their girls. Then, we go on to dispel an economic and social fallacy with respect to the household production. To balance our discussion, we also briefly analyze the costs of girls’ education and provide some

² Saith and Harriss-White (2000) provide a useful overview of gendered well-being indicators.
suggestions to improve the chances for girls to follow through their educational careers. Finally, our paper concludes in the last section.

**Economic Theory on Development and Empirical Evidence**

First off, we would like to review the findings of economic theory regarding the role of certain characteristics of members of a society and the level of development that society attains. In this sense, we argue that education of girls is one of the strongest support bases for the economic development.

It is well known in the economics literature that human capital is a crucial factor of development. By human capital we mean all the efforts devoted to education, training and experience the society as a whole possesses. In other words, human capital refers to the knowledge and skills that workers acquire through education, training, and experience. Like physical capital, human capital, too, raises a nation’s ability to produce goods and services. The distinguishing feature of the endogenous growth theory lies in the fact that, as opposed to previous theories such as the famous Solow-Swan model, it contends that countries make a conscious decision concerning growth by choosing the level of importance they assign to the human capital accumulation. Putting it differently, countries can determine their level of welfare, at least for future generations, by devoting more resources to education to build future capital in the society. Needless to say, children and especially girls become the focus of the attention here.

To illustrate the connection between the economic growth and human capital, we represent, in Figure 2, the average annual growth rates of a set of countries per capita GDP (Gross Domestic Product) between 1960 and 1999 on the vertical axis. And on the horizontal axis of Figure 2, we employ a measure of human capital per worker in those countries in 1960 (HUM60, left panel) and 1999 (HUM99, right panel). There is an unmistakable correlation between economic performance and human capital in both years. Countries with a relatively higher level of human capital tend to do better in terms of income on a per capita basis. Interestingly enough, visually speaking, that positive correlation becomes even more pronounced in the latter year. The simple policy recommendation then is to pay attention to the accumulation of human capital if a country wishes to improve its lot in the future. That may require more resources to be allocated for this purpose, but this is exactly what the so-called endogenous growth theory proposes: if you choose to put in more resources in accumulating capital now, you will be rewarded with more benefits in the future.

Admittedly, the term “human capital” may not ring a bell with everybody, especially with non-economists. That is why; we here concentrate on a specific and
arguably more important example of human capital, namely, education. In its narrowest definition, education embodies formal schooling, but obviously one may extend this definition to more informal types of learning activities acquired outside formally recognized schools and/or lifelong learning activities such as training and experience gained on the job. Unfortunately, it goes beyond the scope of this study to explore the costs and benefits of such a broadly defined concept. Nevertheless, we wish to show the impact of education on the lives of girls as well as the whole society even when it is confined to formal norms of education acquired in public or private schools.

In Figure 3, we represent the average annual growth rates of a set of countries per capita GDP between 1960 and 2000 on the vertical axis. This time, on the horizontal axis, we use various measures of educational attainment, namely, percent of adult population (ages 25 and higher) that are college educated in a country in 1960 (COL60, left panel), percent of adult population (ages 25 and higher) that has college education in a country in 2000 (COL2000, central panel), and gross enrollment rate at secondary school in a country in 2000 (SEC2000, right panel). As Figure 3 shows, the higher the educational attainment of a country, the higher the average per capita growth rate of the country’s income, irrespective of the educational attainment measure considered. Furthermore, a more interesting story is told by Figure 4 where the per capita growth rate of a nation’s income is plotted against the educational attainment of females in 1960 (FEMED60, left panel) and 2000 (FEMED200, right panel). Specifically the horizontal axes in both panels of Figure 4 show average years of education for females in 1960 and 2000. As in Figure 3, the degree of correlation between economic success (higher per capita GDP growth) and female educational attainment is represented by the straight line which shows a linear fit between growth and education. The correlation in Figure 4 is stronger than the correlation in Figure 3, meaning that a country with an educationally more qualified female population had a better chance of attaining higher economic prosperity compared to the countries which lacked such a highly skilled population. It is also true that the more educationally qualified females are today (year 2000) the more likely a country is a well-to-do one.

According to Klasen and Lamanna (2002 and 2008) both macro and micro studies indicate that gender inequality in education reduces economic growth. King and Hill (1993), Hill and King (1995), World Bank (2001), Klasen and Lamanna (2002 and 2008) and King, Klasen and Porter (2008) claim that girls have a higher marginal return to education than boys; this is because it reduces fertility and affects the education of the next generation or increased human capital. Gender inequality in education falsely restricts the pool of talent as less talented and qualified boys may be
chosen over girls due to cultural and social reasons (Dollar and Gatti, 1999). This means that restricting girls’ education to lower levels while providing higher levels to boys would hamper economic growth. A similar argument may be raised based on the inequality in employment. For example, Klasen and Lamanna (2008), using cross-country and panel regressions, find that gender gaps in education and employment (proxied using gender gaps in labor force participation) significantly reduce economic growth. The combined effect in education and employment in the MENA region and South Asia points to significant differences in growth when compared to East Asia. Additionally, in the MENA region and South Asia there is slower growth in the female workforce participation. They estimate 0.9 percentage points of the 1.8 percentage point annual per capita growth difference in the MENA region and East Asia and the pacific.

Further empirical and theoretical studies by Klasen (1999, 2006 and 2007) show that gender inequality in education and employment reduces economic growth and wellbeing. Also, Knowles et al (2002) find that gender inequality in education significantly reduces GDP per capita and human capital. One of the arguments relates to international competitiveness as many East Asian countries’ competitiveness in world markets was by using female intensive export oriented manufacturing and by capitalizing on opportunities in employing female workforce.

All these observations make a strong case that females have to be educated for, among other benefits, the economic success of the society. Acknowledging this important phenomenon, Arab countries increased their spending on education from 3.5% in 1960 to 5.2% in 1990 of GNP (Basma, 1995) and about 15% of total government spending recently (Eeghen, 2000). This puts the Arab countries at the same level with high income Asian countries. The policy makers have recognized the significance of education in improving the lot of their citizens, and made education a right rather than a privilege. Yet, we still have a long way to go as the literacy rates widely differ in terms of gender and age in these countries.

**Opportunities Afforded to an Educated Girl**

So far we concentrated on the positive link between education and economic achievement, especially for girls. Next, we would like to emphasize the opportunities and choices individuals gain with education, thus undisputedly distinguishing between the future of an uneducated girl and the educated one. This is more on a micro level than the macro analysis we outlined above. “Girls' education is now almost universally acknowledged as an important means for the empowerment of women, and for the realization of the goal of social equity and socio-economic
advancement. Education is thus being valued as a key for better future of society as a whole” (Basma, 1995).

It is clear that instead of being stuck with a traditional role, individuals, more specifically Muslim girls, can broaden their portfolio of professional choices via education. This is an accurate assessment in terms of careers, wages/salaries, and/or employment in general. Low skilled individuals, in particular women, would have little chance of climbing the steps of professional ladder. They are less likely to have jobs, receive promotions in their jobs, and/or try a different professional career if they are dissatisfied with their current jobs.

However, the issue has broader implications. In a highly globalized world, almost no person is immune from competition in the job market (as well as other spheres of economic activity), which may come not from traditional directions such as domestic labor markets (Ilon, 1998). This is especially true for the jobs which require skilled labor. The matter is prone to exacerbate in the future. That is to say, those who enter the job market in the future will have to cope with more challenges unparalleled in their parents’ experience. In such an environment, the education of the girl will afford her the chance to chart a stronger path for her future. As a result, global factors have more powerful impact on the design of educational policies of the countries as well as families whereas, in the past, most of such policies were configured per domestic considerations.

In Figure 5, we show the female labor force participation among adult females (ages 15-64) in Muslim countries we discussed within the context of Figure 1. Female labor force participation increased from just under 35% in 1980 to just over 41% in 2005. This is an impressive achievement for such a short time. Due to the non-availability of data for many countries, we only provide a very limited set of Muslim countries’ record as regards the educational attainment (FEMED2000) and female labor force participation (LFP) in 2000 in Table 1. We cautiously observe that in the case of 3 countries out of 5, viz. Turkey, Syria and Malaysia, the higher the female education the higher the female labor force participation. Statistically speaking, we guardedly suggest that there is a positive correlation between educational attainment and labor force participation among females in these countries. However, we believe it is safe to assume that employment opportunities along many other possibilities improve a great deal with the education. Moreover, in Table 2 we present statistics on literacy rates for those countries for two years (1990 and 2006) in two separate categories of females. On the left column of Table 2 are the rates of literacy for adult females, which is given as the percentage of females ages 15 and above. Likewise, on the right column of Table 2, literacy rates for youth female as a percentage of females ages 15-24 are shown. It is clear that in recent
years the Muslim countries have achieved incredible success stories in terms of female education in both age categories. Therefore, not only do more job opportunities become available, but also more qualified prospects open up for girls.

Ironically, some researchers find a positive empirical relationship between gender inequality and economic growth\textsuperscript{3}. Yet, Berik and Rodgers (2008) and Seguino (2000 and 2008) observe that this anomaly is primarily due to women’s exploitation in export markets.

The benefit of education for females is not limited to economic opportunities that become available to them. There is a large literature which attests to the role of education in reducing violence women face in a household. For example, Koening et al (2003) and Bates et al (2004) find that education is one of the factors that reduce the risk of violence committed at home against women in Bangladesh. It is worth noting that domestic violence is not confined to the less developed world or the Muslim world, but rather it is a great concern in all over the world (see, inter alia, Tauchen and Witte, 1995). Education of women is considered as one of the important remedies against violence. Education empowers women to better protect themselves from domestic violence, beating by their spouses (Jejeebhoy 1998; Sen 1999; Bates, Schuler, and Islam 2004), and infection and sexually transmitted diseases such as HIV/AIDS (Hertz and Sperling 2004).

Externalities
We have discussed the links between a girl in a Muslim country in particular and a girl in general and the development in the broad sense, but with a specific interest in economic development as this is the area of interest of ours. Nevertheless, the benefit of having an educated female population goes beyond the individual gain of the woman herself as it offers social externalities to other members of society both currently and in the future. Rugh (2000) finds that the greater schooling of girls has a positive contribution to a nation’s development indicators. She observes that this holds true even if the quality of education is suspect. In other words, although we definitely should strive for a higher quality education, policy makers and parents should know that some education of girls is better than none in the interest of the overall economic performance.

Similarly, Currie and Moretti (2002) observe that better educated mothers are more conscientious about their children’s health both before and after birth. In other words, more educated mothers give birth to healthier babies. That certainly alleviates a great economic burden on both parents and the rest of the society in terms of

\textsuperscript{3} See on that issue Barro and Lee (1994); and Barro and Sala-i-Martin (1995).
providing health care to new members of the society. Thus, given the cost of the health care, one can not dismiss the importance of education for women. We take this study as an indicator of the correlation between intergenerational transmission of human capital and the education level of mothers. An educated girl promises to be an informed mother to bring less financial burden on the family budget and is less likely to be a tax on the society.

We also argue that a child’s educational attainment is closely related with the educational level of his or her parents. Both Black et al (2003) and Hanslin and Winkelman (2006) observe that, on average, parents with higher education tend to have children with higher educational achievements. Causality notwithstanding, it makes sense to think that educated parents can better guide their children in seeking and attaining the “right” and “quality” education. They are more prone to heed the calls for more intensified educational efforts. Even if one fails to find a biological spillover from parents to children in terms of education, there definitely is a transfer of culture regarding education with a high praise. In practice, more educated people are likely to raise even a higher educated offspring. Given the mothers’ influence on children, it is imperative that girls be educated at least for the sake of the future.

As a further proof of the benefit of girls’ education to society, we present in Figure 6 the life expectancy of people for a number of countries in 2000 as opposed to the average years of education females attained in 1960 (FEMED60, left panel) and that in 2000 (FEMED2000, right panel). By and large, as both panels testify there is a positive relationship between educational attainment of females in a nation and the life expectancy in that country, more so in the later period than the earlier one. It goes without saying that there might be other factors at play in achieving the higher life expectancy than exclusively the female educational attainment. However, it must be clear that, in line with the aforementioned literature, more educated mothers are likely to produce healthier children, improving the odds of a healthier society.

**An Economic Fallacy**

Finally, we would like dispel a fallacy in economics which undervalues, or worse, ignores the significance of the contribution of unmeasured household production. Chiefly due to the difficulty in obtaining data, do-it-yourself activities including all household production are considered part of the omissions from the national income. As any student of economics knows, there are several approaches to compute the national income, aka, GDP (Gross Domestic Product) in a country. For example, you may sum up all the value added to national income by each and every member of the society for a given period, say a year or a quarter. Alternatively, you may tally up all the income earned in a society in a given period. However, if you take care of your
own needs, for example, cooking for yourself instead of going to a restaurant, your production goes unreported and therefore omitted from the GDP. Finally, you may total up the expenditure incurred by all economic agents such as households, firms, government and the rest of the world. Unfortunately, unrecorded activities are unnoticed. They are omissions from the GDP. It is clear that such activities as cooking at home, cleaning one’s own house, taking care of one’s own children, doing one’s own laundry, and repairing one’s own car, go unreported as far as income calculations are concerned. That makes a country seemingly poorer than it actually is. Given that women are the main generators of such activity (though not in exclusion); their contribution to the society goes largely unreported. Since these activities are not brought to market, whether physical or not, they are not probably correctly priced, either. Therefore, not only that these activities are not counted toward a country’s production in a given period, they surely do not receive the justifiable appreciation even at home. Ironically, both man and woman have the inclination to look down on the non-marketable undertakings. Only a woman who takes care of daily chores at home would know how exhausting these activities are. Rather than appreciating her own contribution to the family budget, she considers her achievement a routine and boring daily obligation.

The undervaluation of women’s unpaid production is problematized by many authors such as Beneria (1992; 2003) and Folbre (2008), just to name a few. Beneria (1992) argues that all economic activities whether it is domestic work or subsistence production, volunteer, informal work, and work considered outside economic realm or numerated activity, need to be included in national accounts even if there is no pay for production or a market for goods to be sold. A high proportion of work or activities performed by women, if recorded, would account for one-third or one-half of GNP (Goldschmidt-Clermont, 1983 and 1989).

The main problem that arises from trying to account for the unaccounted activity is the definition thereof, which can be quite subjective. Countries like Nepal, Papua New Guinea, Tanzania and others, developed methods of subsistence production while in Africa statisticians recommended that household activities could also be added to the subsistence production in agriculture, forestry and fishing (Waring, 1988).

It is utmost important that we are aware of this crucial issue because it does not only have economic but also sociological implications all the way from a family unit to the whole society. First argument to tackle this misperception is to suggest that these activities be purchased in the market such as restaurants, laundries, daycares/nurseries. Let alone the quality and likability of one’s own production, the cost of market produced services would deal a sizable dent on the budget of a large
number of families. Although the authors of this paper are not acquainted with the sociological literature with respect to the child upbringing, anecdotal evidence suggests that children raised by anybody other than the mother would not be as solidly prepared for the future’s challenges as those cared for by their mothers. Especially Islamically speaking, mothers’ contribution to their children’s tarbiyah (upbringing) is immensely important. Since its significance is recognized by Islam, mothers are honored on many occasions. While leaving further examination of this angle of the matter to deserving scholars, we wish to refute the notion of undervalued household production in its totality.

An alternative argument to dispel the misconception with respect to the household production can be achieved while inviting people to think about the acts/actions/opportunities the producers of household goods and services could undertake. The value of these alternative engagements is an indirect indicator of the value of the household production. This is called the “opportunity cost” in economics lingo. This line of thinking would surely make more sense for mothers who sacrifice their professional career pursuits for the sake of their children and family. By opening the eyes of family members to these views would bring more appreciation to the work woman does at home.

At this point, though, we would like to emphasize the importance of educating both girls and boys to appreciate household production. As alluded to above, not only males but also females undervalue household production. Both genders should learn to value and hold household production at high esteem. That would dissolve the “boredom” element of house chores on the part of the woman, and it would induce a more appreciative attitude on the part of man and children.

Granted not all household production requires highly advanced technological skills, yet raising a healthy society with all aspects of human life including simple house chores is a crucial component of a successful future for individuals in particular and the society in general.

Costs of Empowerment of Girls
Knowledge is power, and girls can be empowered through education. However, so far, we only concentrated on the benefits of empowerment of girls in a society, primarily with the help of education. Although we are convinced that the benefits outweigh the costs, no economic study would be complete unless it does justice to both costs and benefits of an enterprise.

We do not deny the fact that education is a costly enterprise and it is liable to yield benefits mostly in the long run. This calls patience and sacrifice on the part of parents and society. Yanking a person, even a child, from an agricultural family at the
time of harvest, even for school would not necessarily be welcomed with open arms by parents. Given that a significant number of Muslim countries do not enjoy high income levels, this puts the chances of girls’ education at risk. Both parents and the society should be “educated” to value the education for the future of the family and the country, and investment in their education is act well done. This requires channeling scarce resources in this direction presently.

Furthermore, another challenge of education is the failure in keeping female students at school. Poor retention is cited as one of the deficiencies of the educational systems in some Arab countries (Basma, 1995). This may be in part due to curriculum and/or facilities designed without the needs and demands of female students kept in mind. As a result, we believe the school facilities should be more girl-friendly and culturally accommodating so that girls would not have to quit the educational process based on these reasons.

In a nutshell, though, we still insist that obstacles should be removed from girls’ educational paths as this promises handsome dividends in the future both at the micro (family) and the macro (society) level.

Conclusions
In this research, we study the relationship between a girl in the Islamic context and economic development. Admittedly, the said relationship may be defined in a wider context. However, the development issue, too, extends beyond simple economic considerations. Therefore, the topic needs a treatment beyond the mere confines of economics field, which, we confess, made us think twice before attempting to write the paper. Nonetheless, we decided not to digress too much into uncharted territories by limiting our discussion to a rather economic investigation.

We approach the issue from a variety of angles. First of all, we briefly outline the economic theory of development by specifically concentrating on the so-called Endogenous Growth Theory. The notable feature of this theory is that it explains economic growth by the accumulation of human capital. Education as the most important component of human capital is analyzed in the paper to provide empirical support for the theory. We show that education, and in particular, women’s education plays a crucial role in attaining a higher level of welfare.

Next, we connect the education issue with the opportunities afforded to an educated girl. In a globalized world where everybody sees/knows everything and everybody is everywhere, denying education to a Muslim girl would unfairly expose her to tremendous challenges she would not be prepared to cope with.

We further iterate our argument in favor of a better educated society which comes at the hands of better educated womenfolk by providing evidence from
literature (and the data we collect), which confirms that a child’s education and health, among other needs, are closely related to a mother’s educational attainment. Therefore, we maintain that girls’ education is insurance for the future welfare of the society.

Last, but not least, is a fallacy that we try to do away with. Do-it-yourself activities, or more familiarly, household chores are not tallied when a nation’s periodical production (or income or expenditure) is calculated. Mainly the data collection worries are to blame in these omissions from the GDP. Women stand to lose most in these circumstances as they are the major producers of household goods and services. We believe that both boys and girls should be trained to appreciate the value of household production.

Finally, we briefly review a subset of possible costs of education as a means of empowerment of girls in Muslim countries. We acknowledge the existence of financial (and probably other) costs; yet, we call upon the decision makers to strive to provide education to all members of society, but in particular the girls, for the reasons we have outlined above and many more.

One potential avenue to extend this research is investigate the sociology literature more thoroughly to provide more scientific arguments for some of the positions not deeply explored here within the context of economics.

References


Women's Role In Economic Development In Predominantly Muslim Countries.


**Figures**

**Figure 1a:** Female Population as a Percentage of the Total Population in Muslim Countries

**Figure 1b:** Male Population per 100 Women in the World
Figure 2: Growth vs. Human Capital

Figure 3: Growth vs. Educational Attainment
Women’s Role In Economic Development In Predominantly Muslim Countries.

**Figure 4:** Growth vs. Female Educational Attainment

**Figure 5:** Female Labor Force Participation as a Percentage of Female Population ages 15-64
Figure 6: Life Expectancy vs. Female Educational Attainment
Women's Role In Economic Development In Predominantly Muslim Countries.

Tables

**Table 1**: Female Education vs. Labor Female Force Participation

<table>
<thead>
<tr>
<th>Country</th>
<th>FEMED2000</th>
<th>LFP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>1.45</td>
<td>56.97</td>
</tr>
<tr>
<td>Algeria</td>
<td>3.70</td>
<td>32.75</td>
</tr>
<tr>
<td>Turkey</td>
<td>3.91</td>
<td>28.80</td>
</tr>
<tr>
<td>Syria</td>
<td>4.38</td>
<td>36.34</td>
</tr>
<tr>
<td>Malaysia</td>
<td>7.24</td>
<td>46.60</td>
</tr>
</tbody>
</table>

**Table 2**: Female Literacy Rates

<table>
<thead>
<tr>
<th>Country</th>
<th>Literacy rate, adult female (% of females ages 15 and above)</th>
<th>Literacy rate, youth female (% of females ages 15-24)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>24</td>
<td>na</td>
</tr>
<tr>
<td>Algeria</td>
<td>41</td>
<td>60</td>
</tr>
<tr>
<td>Turkey</td>
<td>66</td>
<td>80</td>
</tr>
<tr>
<td>Syria</td>
<td>48</td>
<td>74</td>
</tr>
<tr>
<td>Malaysia</td>
<td>74</td>
<td>85</td>
</tr>
</tbody>
</table>

**Data Definitions and Sources**

Here we provide a brief guide toward data sources of figures and tables in the text.

**Figure 1a and Table 2**: Source is World Bank (2008).
**Figure 1b**: Source is United Nations (2008).
**Figure 2**: Human capital is calculated from the labor force educational accumulation via the method in Weil (2005). Data used is from Barro and Lee (2000), which is available at www.cid.harvard.edu/ciddata/ciddata.html. Permission to use Weil (2005) data is secured from Prof. Weil.
**Figures 3, 4**: Educational attainment data are from Barro and Lee (2000).
**Figure 5 and Table 1**: Labor force data are from World Bank (2008).
**Figure 6**: Life expectancy data are from World Bank (2008) and educational data are from Barro and Lee (2000).