

Poverty and Fertility in India: Some Factors Contributing to a Positive Correlation

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Abstract

India has diminishing population growth rates and fertility rates; however, they still remain high compared to the world average. The families living in poverty are those having the most children because they are consistently trapped in poverty from generation to generation with little opportunity. Poor families are typically larger because they use children as a source of generating income via child labor. Parents also have children for insurance purposes because they envision needing help when they get older. All children born into poverty, especially girls, have little opportunity to escape from it in adulthood because of the lack of education and power. Another cause for high fertility rates is the large unmet need for family planning among the poor. Investing in family planning amongst the poor would be efficient to reduce fertility rates and poverty. Furthermore, increases in school enrollments, (including for girls) result in more power for females and thus decreasing fertility rates.

I. Introduction

Currently, about one quarter of India's population lives in poverty, i.e., on less than one dollar-a-day.¹ This is a sharp decrease from what the poverty rate was in previous decades but it remains high. India also remains to have relatively high fertility and population growth rates. Many consider high poverty and high fertility to be a vicious cycle poor people are caught in. The vicious cycle is that females of poor families get married at a young age and typically have many children. These females receive little formal education, and they lack the right of power, especially with regards to how many children they will have.

There are many connections that can be associated between GDP growth, a decline in the percentage of the population that are living in poverty,² decreasing fertility rates, and hence, decreasing population growth rates. On the other hand, decreasing fertility rates and subsequent decreasing population growth rates could be seen as catalysts for the decline in the percentage of

¹ Data based on World Bank (2010).

² In India, GDP growth is negatively associated with the percentage of the population affected by poverty. As GDP growth increases, the poverty headcount ratio decreases for both \$1.25 a day and \$2 a day poverty measures.

the population that are living in poverty, which in turn becomes a catalyst for GDP growth. The following sub-sections look at some of the possible relationships between poverty and fertility in more details.

This article focuses on the causes for high fertility and population growth rates as well as the causes for the recent decrease in fertility and population growth rates in India. It is structured as follows. The next section provides a brief literature review. The third section provides some empirical background on India's economy, population and poverty, while the fourth section summarizes some characteristics of poverty in India that are also related to fertility. The fifth section discusses two key policy interventions before the last section provides some conclusions.

II. Brief Literature Review

Overall, there is a large amount of literature on poverty and fertility, though the literature linking the two issues specifically in India is relatively small. Many of the sources often link India's progress in reducing poverty and India's decreasing fertility transition to an increase in contraceptive use. However, many sources focus on the relative large unmet need for contraception among the poor. Due to the large percentage of unmet need for contraception, other factors such as education and the promotion of later marriages are mentioned as well for India's success in reducing poverty.

After decades of debates, a World Bank Working Paper by Das Gupta, Bongaarts and Cleland (2011) argues that there is now a broad consensus among researchers that lower fertility rates facilitate economic growth in low-income countries. Low dependency ratios (resulting from lower fertility rates) create a window of opportunity for savings and increase productivity and investment — which can permanently transform living standards. The more rapid the fertility decline in a region, the wider the window of opportunity, though its duration will be shorter, because the population will age more rapidly.³

The studies reviewed by Das Gupta, Bongaarts and Cleland (2011) also indicate that rapid population growth can be a constraint on economic growth, especially in poor countries with policies that do not encourage a rapid rise in productivity. In addition, lower fertility is associated with better child health and schooling, reduced maternal mortality and morbidity, a higher rate of labor participation by women, and higher household earnings. Their review of the literature also highlights the deep challenges to managing common environmental property resources, because of diverging interests among users. But the pressure on these resources can be mitigated by reducing the rate of population growth. Finally, they conclude that although family planning programs are only one policy lever to help reduce fertility, most studies find them effective.⁴

The following are some of the most relevant previous studies analyzing the relationship between poverty and fertility in India, in chronological order.

- Cain (1981) focuses on factors that contribute to high fertility rates in India and Bangladesh. He analyzes that poorer families tend to have more children as a form of risk insurance and that child labor is necessary among the poor in order to be financially supported.
- Narasimhan, Retherford, Mishra, Arnold and Roy (1997) compare India's fertility trends for

³ This *World Bank Policy Research Working Paper* was published in June 2011, which is after most of this research paper had been completed.

⁴ Adapted based on by Das Gupta, Bongaarts and Cleland (2011), page ii.

the 15-year period of 1978 to 1992 based on different sources, and also highlight some of the problems related to measuring fertility accurately (like birth under-registration), but do not explicitly link fertility to poverty.

- Basu and Amin (2000) review the conditioning factors for the decline in fertility in Bangladesh and the state of West Bengal in India. They expand on so-called diffusion theories, i.e., positive attitudes toward controlled fertility and toward contraception that may arise through means that are only tangentially related to changing economic environments or government population policies.
- Drèze and Murthi (2001) use data on Indian districts for 1981 and 1991 to examine the determinants of fertility levels and fertility decline. They find that women's education and child mortality are the most important factors explaining fertility differences across the country and over time. They also conclude that lower levels of son preference contribute to lower fertility. However, they do not find a significant association of fertility with general indicators of modernization and development such as urbanization, poverty reduction, and male literacy. A similar analysis has been provided by Deaton and Drèze (2002).
- Rao (2010) has shown that India's caste system (which was created to divide people into different social classes) continues to be a main reason for a high persistence of poverty. Although the caste system is outlawed today, it still causes inequality and hinders the lower caste, called the Dalits or the untouchables, from receiving the same opportunities that others may have.⁵
- Based on the fact that male children are viewed in India as a better source of insurance and support to the family in old age, Dupta and Dubey (2011) use the gender of the first two children as a natural experiment to estimate the causal effect of fertility on poverty of rural nucleus households in India. Their estimation results indicate that fertility significantly positively affects poverty, but that the effect is halved when endogeneity is allowed for. They also find that India's declining fertility accounts for almost a third of the poverty reduction in rural India between 1987/88 and 1993/1994.
- Finally, Mohanty and Ram (2011) analyze the links between poverty reduction and the recent pattern of fertility transition in India. They conclude (p. 63) that "fertility and contraception are important factors for poverty reduction at the national and household levels." Although there is a higher percentage of women with an unmet need for contraception among the poor, the overall fertility decline applies to both the poor and non-poor.

III. Empirical Background

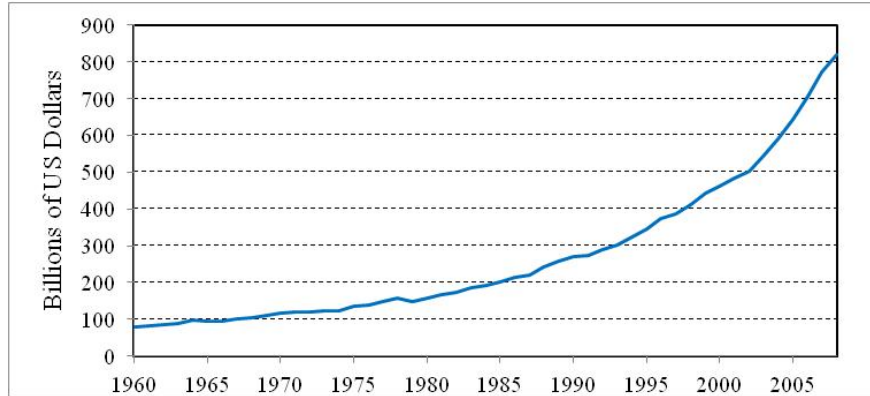
India is gradually becoming one of the most important countries in the world market. It currently ranks as the world's fourth largest economy if measuring gross domestic product (GDP) in purchasing parity (behind the United States, China and Japan, but before Germany, Russia and the United Kingdom).⁶This is largely due to India's large population (amounting now to nearly 1.2 billion), making it second most populous country behind China. In terms of income per capita,

⁵ Rao's conclusion is consistent with that of Bruno Schoumaker (2004), who portrayed the connection between poverty and fertility in Africa: economic status is a key determinant for high fertility rates because at lower economic statuses.

⁶ See [http://en.wikipedia.org/wiki/List_of_countries_by_GDP_\(PPP\)](http://en.wikipedia.org/wiki/List_of_countries_by_GDP_(PPP)).

India ranks 142nd in the world when measured using market exchange rates. India's GDP has progressively been increasing since the early 1960s and had a sharp increase from the mid 1980s to early 2000s (see figure 1).

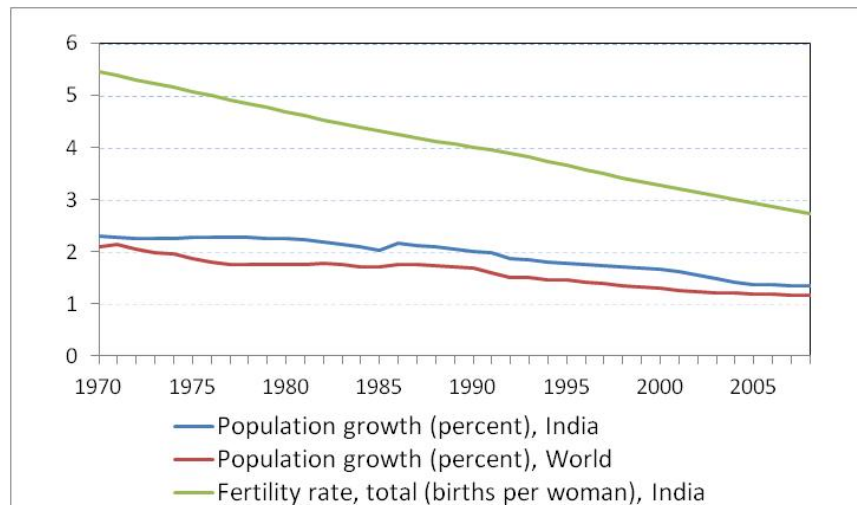
Figure 1: GDP in billions of constant 2000 US\$, 1960-2008 (not in PPP)



Source: Created by author based on World Bank (2010) *World Development Indicators* (as posted on the World Bank website; downloaded on May 5, 2010).

At least related to India's low GDP per capita, India's population continues to grow above the world average (see figure 2). Fortunately, fertility rates have been declining sharply in India, from an average of 5.5 children per woman in 1970 to 2.7 children per women in 2008.

Figure 2: Population Growth and Fertility, 1970-2008



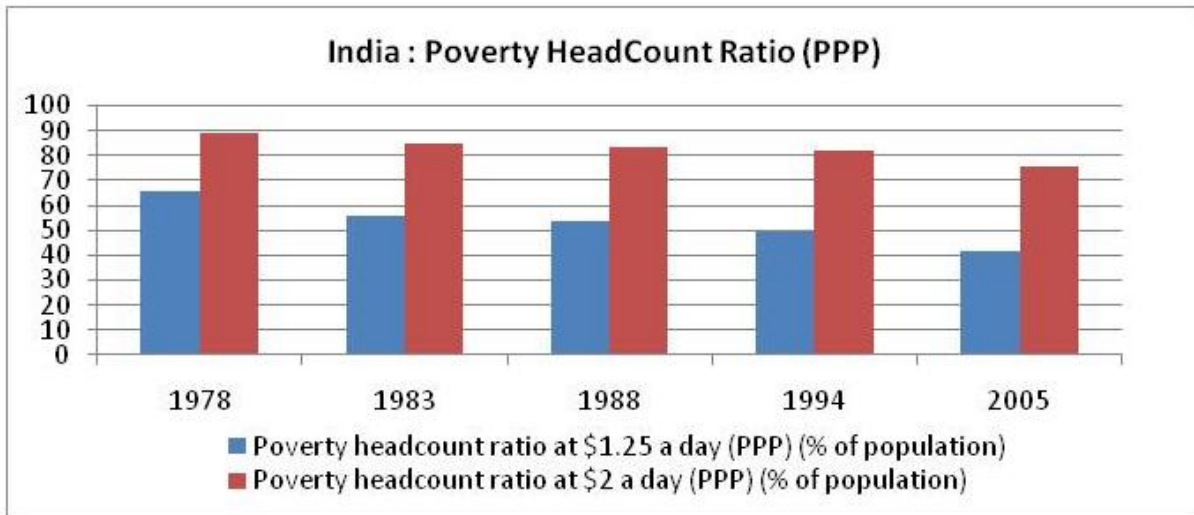
Source: Created by author based on World Bank (2010) *World Development Indicators* (as posted on the World Bank website; downloaded on May 5, 2010).

Although the national average of fertility rates has been decreasing, fertility levels remain on average higher for poor women than for women with higher incomes. However, similar to other developing countries, in India both the poor and well-off are contributing to the decline of fertility rates. Mohanty provides information proving “that the poor are contributing increasingly to

fertility transition and that poverty is not necessarily a barrier in fertility reduction” (Mohanty, 2011, p. 68). Still, the higher fertility rates of poor women is mostly due to poor women’s lack of opportunity, lack of power, as well as the lack of access to modern contraceptives.

Similarly, poverty has been decreasing in India. According to Mohanty and Ram (2011, p. 63), the percentage of India’s population living in poverty declined from 36 percent in 1993-1994 to 22 percent by 2004-05. This is also illustrated in Figure 3, showing a sharp decline in the percentages of the population living below \$1.25 a day and \$2 a day for selected years such data is available.

Figure 3: Poverty in India



Source: Created by author based on World Bank (2010) *World Development Indicators* (as posted on the World Bank website; downloaded on May 5, 2010).

IV. Some Characteristics of Poverty in India

There are many characteristics of poverty in India. In this section, we will summarize how living in rural areas, working in agriculture, employing children, and having children for old-age insurance are all related to why the poor in India have high fertility rates.

IV.1. Location of the Poor

As of 1970, about 80 percent of India’s population lived in rural areas. However, given that rural poverty is considerably higher than urban poverty, people are moving away from rural areas in order to benefit from the opportunities that cities have to offer. The cities are becoming densely populated. As of 2008, about 30 percent of India’s population was living in urban settings while the remaining 70 percent remained in rural communities (see World Bank, 2010).

IV.2. Working in Agriculture

India has been transformed from a mainly agriculturally based country to a mainly service based economy. Rain, Long and Ratcliffe (2007) refer to a United Nations (2001) study that stated (p. 325) that “[i]n India at least three fourths of the adult male population [is] employed in pursuits

other than agriculture.” The service sector is now the main pursuit; in 2007, it contributed 53 percent of the GDP, and the 19 percent growth in service exports exceeds that of other countries (Kowalski, Dihel and Garcia, 2008, p. 286 and p. 291).

Although new employment opportunities have emerged in the service sector, agriculture remains to be an important source of employment for the Indian population. “In contrast to most other Asian economies, almost two-thirds of India’s people continue to depend on agriculture for a living” (Kowalski, Dihel and Garcia, 2008, p. 284). Promoting agriculture is imperative for reducing poverty in India because that is what the majority of the poor, especially the lower cast and those disconnected from flourishing opportunities, depend on.

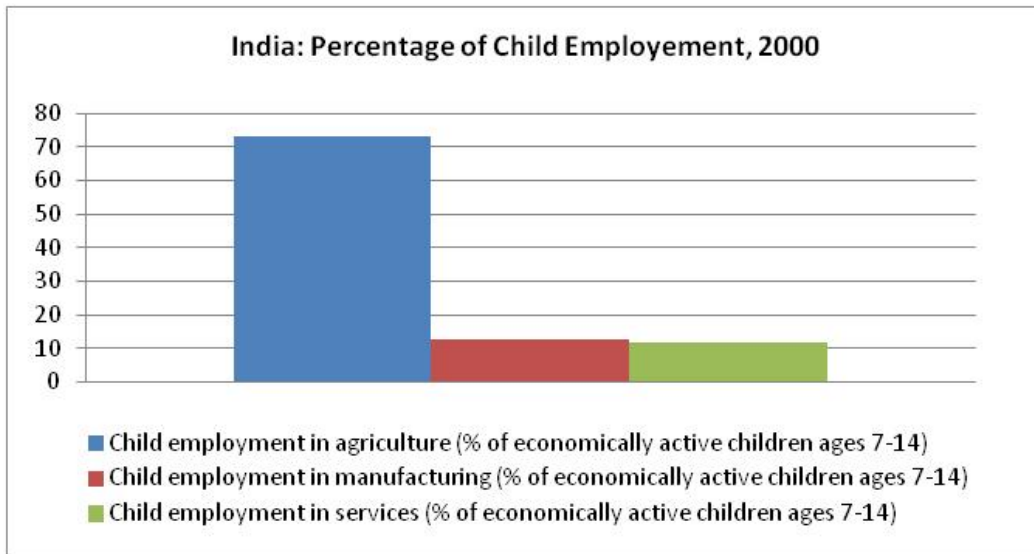
IV.3. Child Labor

Some of the poor people are stuck in a chain of debt that can be traced back from many generations within their own family. This debt is called bondage where a child will work for her/his entire life in order to receive money or food. Some children are bonded at very early ages of life in order to care for a sick family member or were brought into it because it was passed down from a previous generation. Some of the restrictions that apply to being bonded are that “[m]ost often the child, once bonded, remains bonded till it is able to buy freedom by giving its own offspring in bondage” (Burra, 1986, p. 249). Many of these children are forced to work at very young ages (such as five or six) and are physically and mentally abused.

Child labor is related to high fertility rates partly because of those poor that are trapped in cross-generation spanning of bondage. They continue to have many children in order to pay off the bondage and aid their parents that are worn from illness or years of hard labor. The children that are brought into this span of generations of bondage are locked out of receiving opportunities such as education and therefore are lead into an adulthood that lacks opportunity. The bondage in turn then becomes the offspring’s problem. Having many children is necessary in order to have a possibility to eventually pay of the debt that is owed to whomever they are bonded to. Children are also needed in poor households because they are the main contributors to running a family. Older siblings are needed in order to care for the younger ones and keeping the house in order.

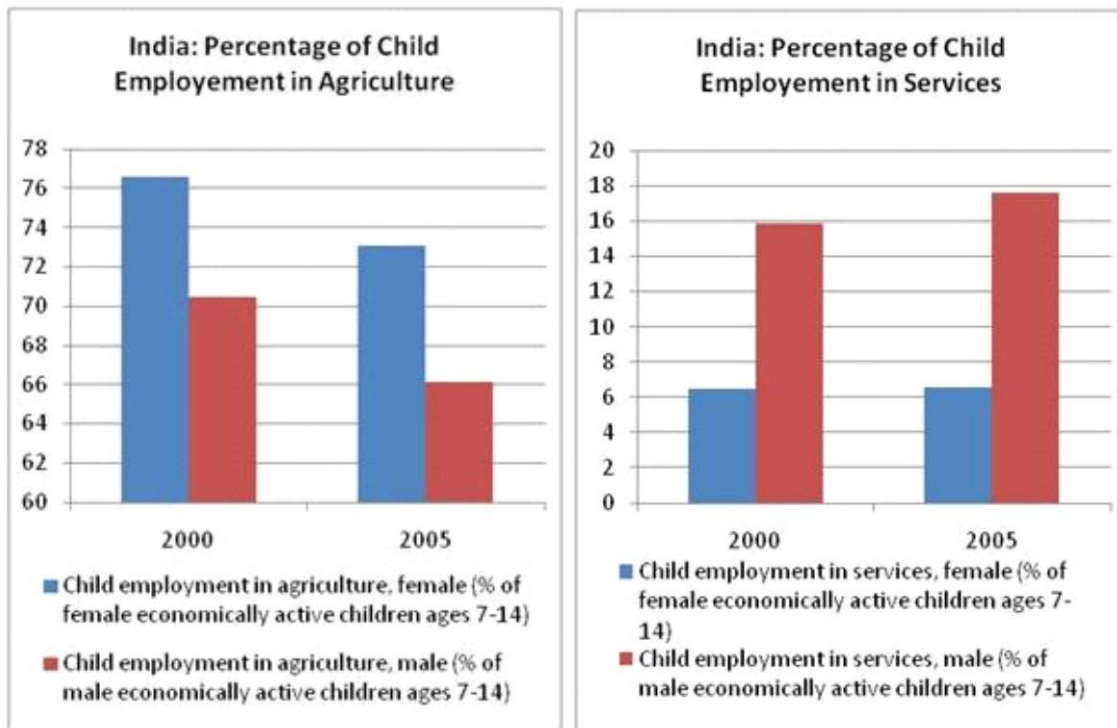
There is a high percentage of child labor especially in agriculture (see figure 5). Agriculture has the highest percentage of child labor because the poor children living in rural agriculturally based areas are put to work in order to feed and care for the family. Urbanization and the shift from an agriculturally based country to a service country are related to why child labor is also shifting from agriculture to employment in services. As there has been a decrease in the percentage of child employment in agriculture there has been an increase in child employment in services (see figure 5). Again, there are greater opportunities for males rather than females regarding to employment. Males are more likely to have the opportunity in service and females are needed for agriculture. Females continue to work in agriculture because it is seen as a domestic role and service is seen as masculine.

**Figure 4: Child Employment in Agriculture, Manufacturing, and Services in 2000
(in percent of employed children ages 7-14)**



Source: Created by author based on World Bank (2010) *World Development Indicators* (as posted on the World Bank website; downloaded on May 5, 2010).

Figure 5: Male and Female Child Employment in Agriculture and Services



Source: Created by author based on World Bank (2010) *World Development Indicators* (as posted on the World Bank website; downloaded on May 5, 2010).

IV.4. Lack of Old-age Security

Many poor families believe that “the benefits of having children outweigh their costs, leading to a high demand for children and a high fertility. Old-age security and the work of children are two of the benefits frequently cited to explain the large families of the poor” (Schoumaker, 2004, p. 6). Children are thought of by parents as being insurance because the poor people lack formal health and life insurance. They have many children so that in later years their children can provide for them. Cain (1981, p. 466) validates this by mentioning that “economic aspects of fertility in developing countries mention the value of children's labor (taken to mean the cumulative value of their work through childhood and adolescence) and the support that children provide parents in old age.”

V. Key Policy Interventions

There are various interventions that can aid a society desiring smaller family sizes. One area of interventions is related to the provision of education, specifically to girls, the promotion of later marriage, and giving more power to females. Another key policy intervention is to meet the unmet need for modern contraceptives.

V.1. Education, Poverty and Fertility in India

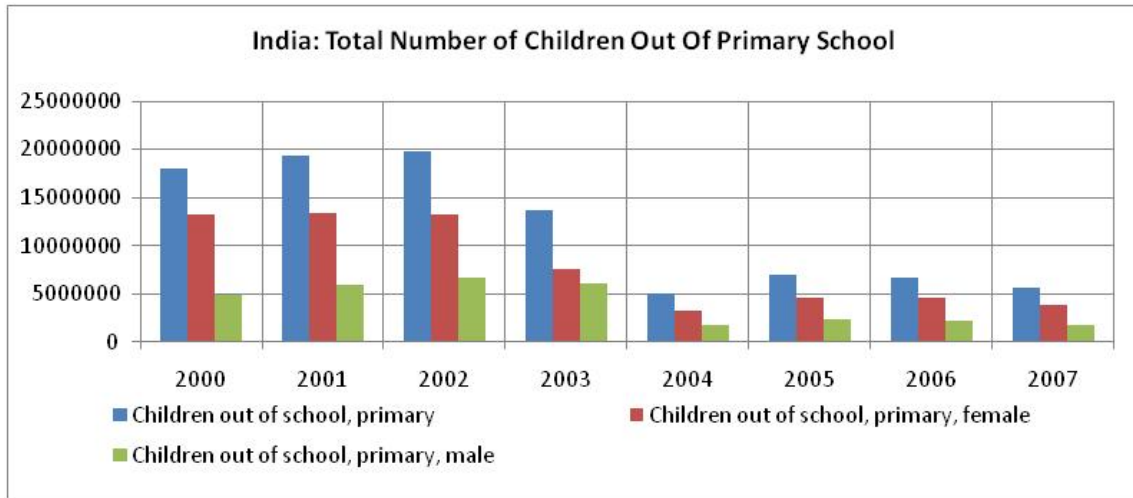
The poor are associated with having very few opportunities other than urbanization from escaping poverty because they lack the skills and education needed to find jobs. Poorer families are also associated with having larger families and putting them into child labor. As mentioned above, child labor inhibits a child from receiving a proper education because they need to work in order to bring money home and/or need to provide domestic duties for the household. Mohanty and Ram (2011, p. 63) illustrate that “[m]icro level studies establish that poor households tend to have larger families and that their children have lower schooling and poor health.” In poorer parts of India there are a lower numbers of children that go to school compared to the amount of children that live in the area because of disease and illnesses.

Lack of access to clean water, lack of access to sanitation, poor nutrition, and not receiving immunizations are main contributors to disease and illnesses. Unhealthy children cannot go to school therefore causing many children to miss their opportunity in education. Both, the decrease in the number of children out of primary school (see figure 6) and the increase in literacy and school participation is associated with decreasing fertility rates and declining poverty. “Higher levels of educational attainment result in greater use of antenatal delivery, contraceptive, and sexual health services. Apparently, increased educational attainment influences service use in several ways, including increasing women's decision making power and awareness of health services changing marriage patterns, and creating shifts in household dynamics.”⁷ The more people that are educated the greater the fertility rates will decline because of the negative association between the two. When education numbers increase, the use of contraception increases which further says that fertility rates decline. Increasing education for the poor in India will be beneficial because then there are less children born into poverty, therefore, reducing the percent of the population in poverty.⁸

⁷ Stephenson and Tsui, (2002), p. 310.

⁸ For probabilistic population projections for India that explicitly take the education-fertility link into account, see Lutz and Scherbov (2004).

Figure 6: Total Number of Children Out of Primary School, 2000-2007



Source: Created by author based on World Bank (2010) *World Development Indicators* (as posted on the World Bank website; downloaded on May 5, 2010).

Increasing education among females is especially important because when females are educated they have a better chance of breaking the vicious cycle of having many children. Educated females have more power in making decisions because they feel empowered to speak up for themselves against their mates or other men and are likelier to have later marriages (Gabrielson, 2010, p. 61). An increase in age of marriage contributes to fertility decline because there is a later onset of child bearing (Mauldin, 1982, p. 116). A later onset of child bearing results in a female having less children throughout her lifetime. Allowing females to speak for themselves gives them the opportunity to desire having a smaller family size and may allow them to use modern contraceptives.

V.2. Unmet Need for Contraceptives in India

The increase in number of educated females is associated with the increase in use of contraceptives; however, it is beyond a female's control when there is unmet need for contraceptives. In India, "contraceptive use is clearly related to economic status" (Schoumaker, 2004, p. 12). As shown in Figure 7, there has been a gradual decrease in the unmet need for contraception in India. The catalyst for increasing use of contraceptive in India was not "[u]ntil the Indian government family planning programme opened clinics in the country" (Rajna, Kulkarni and Thenmozhi, 2005, p. 207). There is a greater increase in contraceptive use among the non-poor.⁹ "Among the poor, the use of any method of contraception among ever-married women has increased by 49 percent (from 30 percent to 44 percent) compared to 30 percent (43 percent to 55 percent) among the non-poor" (Mohaty and Ram, 2011, p. 72). As the gap between poor and non-poor contraceptive use decreases there will be an even greater decrease in fertility and population growth rates. National and international investment in family planning amongst the poor is efficient for reducing poverty.

⁹ For a multilevel analysis for why uneducated women in India use contraception, see McNay, Arokiasamyb and Cassen (2003).

Figure 7: Married Women (aged 15-49) with Unmet Need for Contraception (percent)



Source: Created by author based on World Bank (2010) *World Development Indicators* (as posted on the World Bank website; downloaded on May 5, 2010).

VI. Conclusion

After researching the many different causes for the recent a) decline in fertility rates, b) decline in population growth rates, and c) increase in GDP, conclusions can be made that there is not just one solution or reason for India's transformation. There remain to be high fertility rates in India because the poor peoples' livelihood thrives from agriculture. Many poor people consider it necessary to have many children because they are considered their parents' insurance and the greater number of children increases the wealth of the family due to child labor.

The recent decline in fertility rates is partially due to India's transformation from being an agriculturally based economy to being more and more a service based economy, improvement on number of children attending school, and a decreasing number of married women with an unmet need for contraceptives. The number of children attending school is also due to the increasing percentage of the population having access to improved water sources and sanitation. When more females are educated it allows for them to have more power and freedom into choosing their future, such as desiring smaller families and using contraceptives. The percentage of poor females with an unmet need for contraceptives still remains high but the number is decreasing because of national and international interventions. Hopefully India's flourishing economy will continue to eradicate or lower poverty as well as decrease fertility and population growth rates.

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