DEMOGRAPHIC TRANSITION:

Lessons from Bangladesh's Success Story

HUMAN CAPITAL PROJECT

#INVESTinPeople

1818 H Street NW
Washington DC 20433
Telephone: 202-473-1000
Internet: www.worldbank.org

Design: Silvia López Chavez, Junya Yuan

DEMOGRAPHIC TRANSITION:

Lessons from Bangladesh's Success Story

HUMAN CAPITAL PROJECT

#INVESTinPeople

INTRODUCTION

BANGLADESH REDUCED TFR FROM 6.7 IN 1960 TO 2.1 IN 2017

BETWEEN 1970 AND 2018 THE COUNTRY'S GDP PER CAPITA INCREASED FROM US$411 TO US$1203

Between 1960 and 2017, the global total fertility rate (TFR) of women declined from about 5 births per woman to 2.4.

However, this clear progress has been uneven across the world. At one extreme, SSA countries reduced TFR by as little as 2 births per woman, on average, between 1970 and 2016 (World Bank, 2019), with Niger, Chad and Democratic Republic of Congo having similar levels of TFR in 2017 as they did in the 1960s. On the other hand, Bangladesh has been a star performer on fertility reduction, reducing its TFR from 6.7 in 1960 to 2.1 in 2017 (i.e. the replacement level of fertility) (Figure 1)[1]. Most countries at the pre-dividend stage of the demographic transition, especially those in Africa, could learn from Bangladesh's experience.

Bangladesh's progress on fertility reduction has been the most rapid even among the South Asian countries, most of which have succeeded over time in achieving a convergence of their TFRs at or just above the replacement rate (Figure 2).

In particular, Bangladesh's fertility declines between 1975 and 1990 (Figure 3), when it was still grappling with serious economic and social issues, were remarkable, and hold important lessons for other countries striving for similar success in optimizing their population growth. How did Bangladesh achieve such a rapid fertility decline despite economic constraints? This short note attempts to answer this question following a theoretical framework outlined in the following section.

[1] Replacement level fertility is the average number of children born per woman that allows a population exactly to replace itself from one generation to the next, without migration.

Figure 1. Uneven progress in fertility reduction across countries

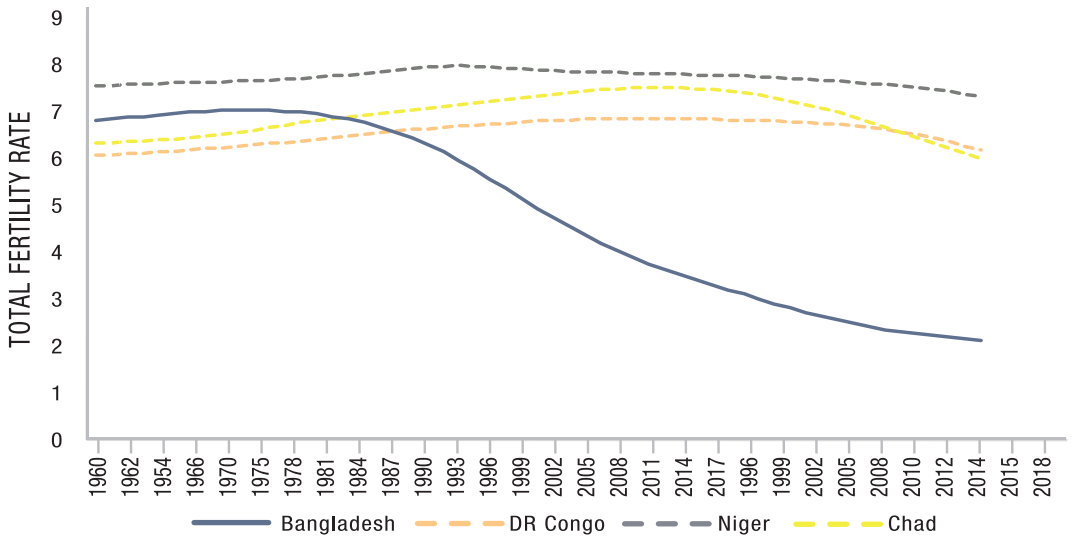


Figure 2: Bangladesh has the fastest total fertility rate reduction among South Asian countries (1960-2017)

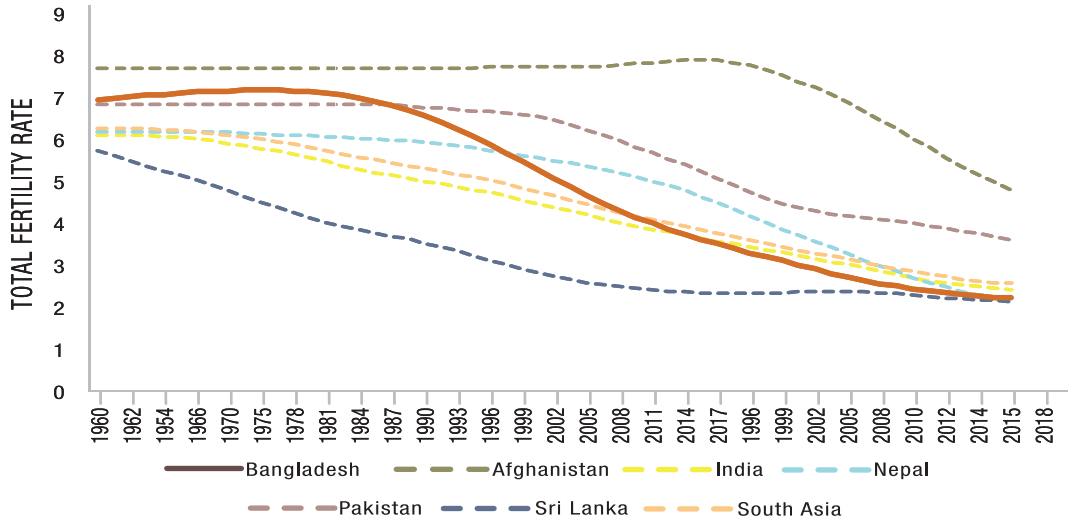
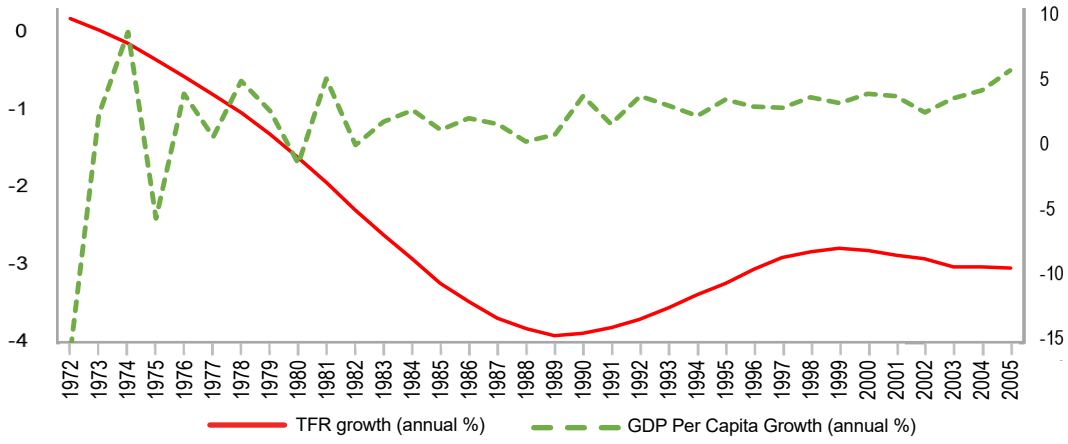


Figure 3: Bangladesh's period of fastest fertility decline was during a period of volatile growth



Source: Authors using data from World Development Indicators (various years)

THE THEORETICAL DRIVERS OF OF FERTILITY TRANSITION

Fertility reduction can be driven by different factors, such as female education and labor participation, reductions in child mortality, economic development and urbanization (Kabeer, 2001; Mohanty et al., 2016). These drivers of fertility are themselves interrelated. Female education and employment reduce the desired level of fertility by increasing the opportunity costs of having children. Female education is also associated with reduced child mortality, which has been found to be associated with reduced fertility (van Soest and Saha, 2018). In areas where child mortality is common, parents give birth to a higher number of children than their desired level of fertility to replace deceased children. Improved health conditions reduce this 'replacement motive'. It also reduces the 'insurance motive', which is the idea that parents have an ideal 'final' number of children they want, and that they adjust according to the perceived mortality risk. Economic development and urbanization raise the opportunity costs of child bearing, as they are usually associated with more employment and educational opportunities for women. Economic development also raises the returns to investing on children's human capital, which given the costs of these investments per child could incentivize parents to reduce fertility. In the absence of extended family members, parents that migrate to urban areas also face increased cost of child care, raising the incentive to lower child bearing. Economic development also contributes to the reduction of child mortality, hence decreasing the demand for children. At the same time, family planning programs - which entail increasing the supply of contraceptives and reducing barriers to contraception - among other measures, have been cited as an independent enabler of fertility reduction, even when the economic context may not necessarily be favorable.

3. HOW DID BANGLADESH MANAGE A RAPID AND SUSTAINED REDUCTION IN FERTILITY?

1. *The Primary Driver – The Bangladesh Family Planning Program (FPP)*

The overarching conclusion, based on the available evidence, is that the rapid declines in fertility observed in Bangladesh – particularly between 1975 and 1990 – were driven significantly by the national population program (Hasan and Reich, 2012), although economic growth, the expansion of the ready-made garment industry and related contextual factors did buttress the impact of the program at subsequent stages of Bangladesh's development trajectory (Caldwell and Barkat-e-Khuda, 2000; Caldwell et al., 1999; Kabeer, 2001). This finding in Bangladesh is in contrast to the experience in other countries in South Asia (such as in India), where the fertility declines – although also impressive – have been more gradual and have been shaped by the broader socioeconomic context.

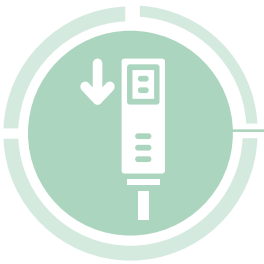
RECOGNIZING THE PROBLEM, SETTING A CLEAR VISION AND PROVIDING SUSTAINED LEADERSHIP

At its independence in 1971, Bangladesh was a country that was impoverished and devasted by the war of independence. Faced with rampant poverty and high population growth, the government came to the Malthusian conclusion that if the population continues to increase at the same pace it would outpace available resources. This conclusion was reinforced by the deadly famine of 1974. Public debates, involving technical experts and policymakers, were organized to raise awareness and forge a broad consensus on the population issue. The government used clear indicators on the socio-demographic situation of the country to highlight the growing concern on population issues: 76 million inhabitants, high population growth (3%) and density (500 people per square kilometer in 1970), low food production, generalized poverty (73% in 1973) and food price inflation

(Hasan and Reich, 2012; Levine and The What Works Working Group, 2004; World Bank, 2019). Thus, managing the population growth became a priority in the policy agenda of the country and was included in the First Five-Year Plan (1973-1978) by the Planning Commission. The Planning Commission was constituted by policymakers from different ministries, under the Chairmanship of Bangladesh's first Prime Minister, Sheikh Mujibur Rahman, who was a passionate proponent of population policies.

The Plan document identified specific population activities for six other ministries, besides the Ministry of Health and Family Welfare, essentially reflecting a Whole-of-Government Approach to this critical issue. For example, the Ministry of Rural Development was tasked with promoting women's employment, as well as functional and family planning literacy, through rural cooperatives. The Ministry of Agriculture introduced population and nutrition education in their extension programs. The Ministry of Education, incorporated population education in academic curricula and also created a Department of Population Sciences at Dhaka University, while the Ministry of Information disseminated information promoting fertility regulation through various mass media channels. These ministries developed projects to implement activities supporting family planning, and Population Control Committees were formed at national and sub-national levels to coordinate action across sectors under the broad ambit of a National Population Council, led by the Prime Minister.

Subsequent Five-Year Plans maintained the concerted focus on fertility control with a national goal of reaching a Replacement Level of Fertility (i.e. TFR of 2.1) by 1985, again with the express support of the highest levels of political leadership, most notably led by Ziaur Rahman in 1976 and Hussain Mohammed Ershad in 1982. It was only with the Fifth Five-Year Plan (1997-2002) that the population goals were embedded within broader health goals for the provision of primary care services (Mabud and Akhter, 2000), essentially converting the multisectoral approach to population into a sectoral approach within the health sector. Thus, in addition to consistent support from the political leaders, cohesion within the broader policy community was a major factor in population's high priority on the agenda in Bangladesh (Hasan and Reich, 2012).



CREATING AN ENVIRONMENT FOR PLURALISTIC REFORM AND MOBILIZING KEY STAKEHOLDERS

The government, supported by the international donor community, fostered pluralism in the implementation of the population policies. It mobilized all the relevant stakeholders in the public and private sectors, including bureaucrats/technocrats and government workers, religious leaders, academia/researchers, NGOs and the private sector, and international organizations, in this effort. Within the public sector, Bangladesh's FPP relied heavily on a massive deployment of married, salaried female outreach workers (Family Welfare Assistants (FWA)) recruited from the communities that they served. Since FWA's belonged to the communities, they enjoyed the trust of rural women, and their jobs gave the FWAs an identity and authority, in addition to empowering them financially. At the peak of the program, 28,000 FWAs were working throughout the country (Hasan and Reich, 2012). These women went door to door in their villages and delivered information to improve knowledge about family planning and shift fertility preference to smaller number of children. They also provided a range of contraceptive supplies at home. In addition, clinics where FWAs could refer their clients for long-term or permanent contraceptive methods were established. This program did involve a high financial cost ($120 million in 1995), however, which was borne by both the government and donors (Hasan and Reich, 2012).

Religious leaders, who play an important leadership role at the village level in Bangladesh, were central to changing norms regarding family size at the community level and in increasing the acceptability of FPP. The political leadership and the bureaucracy were particular about involving the religious establishment in the population policy discussion, as well as in the implementation of the program. In addition to training provided to the religious leaders by the Islamic Foundation, the government supported, with financial assistance from international organizations, exchange visits of Bangladeshi religious leaders to countries like Egypt and Indonesia, where they were exposed to the progressive thinking of Islamic scholars on population issues. These leaders subsequently started using religious texts to explain to the population that Islam does not prohibit family planning (Hasan and Reich, 2012). Overall, the political engagement, training and international visits cemented the ownership of religious leadership of the population issue, enhanced their social standing, and helped to legitimize the program from a religious perspective.

The financial and technical assistance provided by international organizations

was vital for the success of the population program, with organizations like USAID, Ford Foundation, Population Council and UNFPA taking the lead. Local NGOs, such as the Bangladesh Association for Voluntary Sterilization and the Family Planning Association of Bangladesh, while they were not major players in the policy discussions, also contributed to Bangladesh's FPP by providing family planning information and services (Chowdhury et al., 2013).

USING EVIDENCE FOR POLICY MAKING AND PROGRAM IMPLEMENTATION/ MONITORING

Bangladesh also invested significantly in population research, which was key for program design, enhancement, monitoring and evaluation. Academic institutions and NGOs collaborated with the government to scale-up innovative solutions and were highly involved in the research (Levine and The What Works Working Group, 2004). For example, the International Centre for Diarrheal Disease Research, Bangladesh (ICDDR, B), launched in 1977 an experimental family planning and maternal and child health (FPMCH) program in the Matlab village- a religiously conservative village in Bangladesh where various methods to deliver reproductive and other health services were tested. The experimental program relied on community health workers (married and educated women who were also using family planning methods and coming from influential families in the village) to make home visit about every two weeks and propose family planning methods to married women.[2] Several studies showed the success of this program (Phillips et al. 1988; Fauveau et al. 1991, Schultz and Joshi 2007). For example, an evaluation of the program covering 149 villages (with 180,000 inhabitants), of which seventy were program villages showed that, by 1982, fertility declined by about 15 percent in the program villages compared to the control villages and that birth spacing between the second and third birth increased significantly (Schultz and Joshi 2007). Results of such research conducted in Matlab village improved and helped frame the design of the Bangladesh FPP.

[2] The program slowly expanded to include other services such as the provision of measles immunizations to all children from the age of nine months to five years, training of traditional birth attendants, oral rehydration therapy for diarrhea, and antenatal care. The evaluation showed that women age 30 to 35 in program villages reported a greater likelihood (11 percentage point) of having some prenatal care in each of their pregnancies.

2. *Secondary Drivers – Women's Empowerment, Economic Development and Reductions in Child Mortality*

While not part of a grand plan to reduce fertility per se, women's empowerment, economic development, and improvements in child health outcomes all contributed to accelerated fertility reduction, particularly from the mid-1980s onwards.

PROMOTING WOMEN'S EMPOWERMENT

While population policy dominated in the 1970s and early-1980s, female education and microcredit programs gained priority in the 1980s and 1990s (Hasan and Reich, 2012). Bangladesh's Second Five Year Plan (1980-1985) focused on reducing poverty, illiteracy and unemployment. In the 1990s and 2000s, it achieved a notable success in ensuring access to school for girls and poor children. This successful campaign was based on an acknowledgement by government of the importance of mass education for national development, as evidenced by the Fourth and Fifth Five-Year Plan of the country. The government supported reforms that helped expand basic education and improved quality and standards through increased public expenditure. For instance, there was an increased government expenditure on education from 0.9% of the GDP in the early 1980s to 2% of GDP in the late 1990 (World Bank, 2019). The Female Secondary School Stipend Program was launched in 1982 and scaled up in 1994. It provided free tuition and stipends to eligible girls from grade 6 to 10, conditional on their school attendance and test score achievement. This led to an increase in female secondary enrolment (from 1.1 to 3.9 million girls between 1991 and 2005). This secondary school enrolment appears to be negatively associated with TFR, as shown in figure 4. In fact, some studies have established a causal relationship (see Kadir et al. (2003)).

Certain economic and development programs improved women empowerment. First, the recruitment of women as FWAs for the FPP made the mobility and work of women more socially acceptable. This was partly facilitated by BRAC and other NGOs involving local religious leaders in discussions of contraception and the role of women outside the household. Second, the microfinance movement (Ahmed

et al., 2013) increased their bargaining power for resources and the use of family planning (Chowdhury et al., 2013). The majority of the beneficiaries of these microfinance programs (such as the Grameen Bank) were women, who had no prior access to credit. Third, the Multi-Fiber Trade Agreement enabled the establishment of large export-oriented garment factories which employed mostly women, as sewing was traditionally reserved to women in Bangladesh (Das, 2008). The rise of the ready-made garment manufacturing sector over the period 1985-2015 has been empirically shown to explain the sustained fertility decline, the rise in age at first marriage and rapid increase in girl's education attainment both in absolute and relative terms. This is because the garment industry rewarded cognitive skills and increased the returns to education (Heath and Mobarak, 2015). Altogether, the improved economic position of women and social acceptance of female mobility and employment laid the groundwork for changing fertility preferences. These demand side developments sustained the effects of the supply side effects seen in earlier periods.

THE ROLE OF ECONOMIC AND INFRASTRUCTURE DEVELOPMENT

The country also witnessed an increase in the percentage share of electricity and road spending in total public expenditures on agricultural and rural development from 16% in 1989–90 to 56% by 2000–01 fiscal year (World Bank, 2003). In addition to improved overall economic development, increased infrastructure spending strengthened access to information, social interaction and access to health and education services. Figure 5 shows that higher access to electricity was negatively associated with TFR in Bangladesh. A study by Fujii and Shonchoy has demonstrated a causal effect of rural electrification on fertility reduction in Bangladesh (Fujii and Shonchoy, 2015).

CHILD MORTALITY REDUCTION

One of the goals of the Bangladesh Third Five-Year Plan (1980-1985) was to reduce maternal and infant mortality. The government allowed various NGOs to operate in this domain, with support from external aid agencies (World Bank Country Study, 2007) . For instance, there was a reduction by two-thirds in the under-5

Figure 4. Fertility decreased with the female secondary school enrollment in Bangladesh (1960-2017)

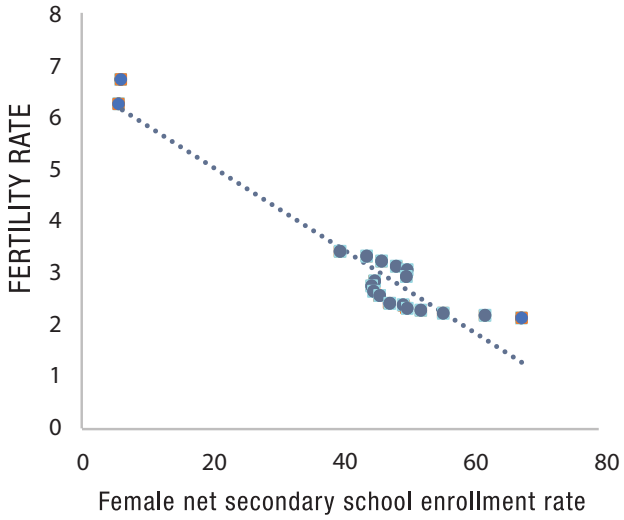
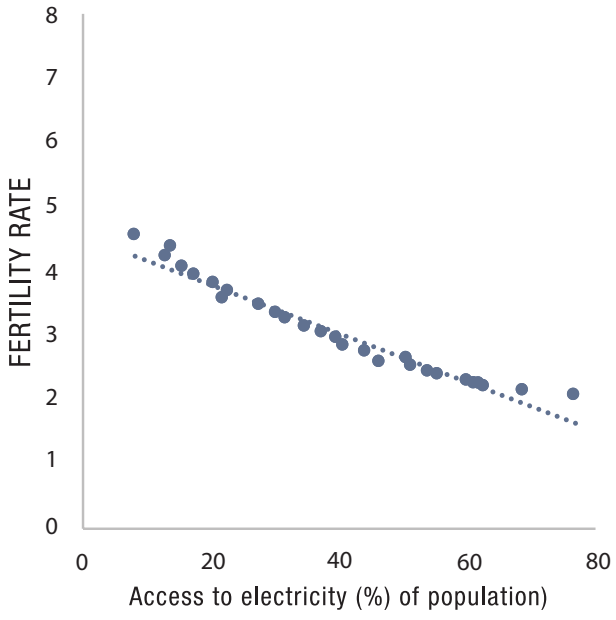


Figure 5. Fertility decreased with access to electricity in Bangladesh (1960-2017)



Source: Authors using data from World Development Indicators (various years)

mortality rate in the 1970s and 1980s, which was attributed to reductions in diarrhea and the six vaccine preventable diseases. The NGO Bangladesh Rural Advancement Committee (BRAC) contributed to this achievement by scaling up the Oral Therapy Extension Program (OTEP), which taught mothers how to make homemade oral rehydration solutions (Chowdhury, 1996) and helped increase child survival. Gains made in immunizing children contributed to increased child survival, which in turn has been established to contribute to fertility decline in Bangladesh (Adams et al., 2013; van Soest and Saha, 2018). For example, a study of two-way causal relationship between infant mortality rate and fertility rate by van Soest and Saha (2018, p. 1) shows a replacement effect of infant mortality on total fertility of about 0.54 children for each infant death.

CONCLUSION

Bangladesh's success in its fertility transition is an outcome of a clear political will and policy direction, coupled with a commitment to an evidence-based and well-designed comprehensive strategy to reduce fertility even in the face of economic difficulties.

This is evident, among other things, by the massive deployment of Family Welfare Assistants (FWA) and the actions taken to improve women education, empowerment and maternal and child health services. The involvement of key stakeholders such as religious and political leaders and NGOs were also critical in shifting social norms. Other countries that are struggling to accelerate fertility reduction, including those in the lowest economic bracket, can learn from Bangladesh's success. This is, of course, not to say that Bangladesh's FPP had no weaknesses. Of note are the creation of a parallel ministry to the existing health ministry (i.e. Ministry of FP) which brought about fragmentation and weakened the health system.

In concluding, it is worth noting, as shown above, that the reduction of fertility in Bangladesh was followed by significant economic growth. In the 24 years between 1973 *(the beginning of the First Five-Year Plan)* and 1997 (*the beginning of the Fifth Five-Year Plan when Bangladesh's strategy shifted from multisectoral approach to population into a sectoral approach within the health sector)*, the country's GDP per capita (in constant 2010 US$) only increased from US$328 to US$481. However, in the subsequent 21 years (from 1997 to 2018), it increased from US$481 to US$1203 (World Development Indicators (WDI), various years). Although no causal claim can be made from this observation itself, this pattern is consistent with the theory that declining fertility levels, combined with appropriate education and labor policies, can stimulate economic growth via the demographic dividend (Bloom et al., 2007; Bloom and Canning, 2008). This fact should, again, foster optimism among LMICs, including countries in Sub-Saharan Africa.

REFERENCES

Adams, A.M., Rabbani, A., Ahmed, S., Mahmood, S.S., Al-Sabir, A., Rashid, S.F., Evans, T.G., 2013. Explaining equity gains in child survival in Bangladesh: scale, speed, and selectivity in health and development. The Lancet 382, 2027–2037. https://doi.org/10.1016/S0140-6736(13)62060-7

Ahmed, S.M., Evans, T.G., Standing, H., Mahmud, S., 2013. Harnessing pluralism for better health in Bangladesh. The Lancet 382, 1746–1755. https://doi.org/10.1016/S0140-6736(13)62147-9

Bloom, D.E., Canning, D., 2008. Global demographic change: Dimensions and economic significance. Popul. Dev. Rev. 34 (Supplement):, 17–51.

Bloom, D.E., Canning, D., Fink, G., Finlay, J.E., 2007. Fertility, Female Labor Force Participation, and the Demographic Dividend (No. 13583), NBER Working Papers. National Bureau of Economic Research, Inc.

Caldwell, B., Barkat-e-Khuda, null, 2000. The first generation to control family size: a microstudy of the causes of fertility decline in a rural area of Bangladesh. Stud. Fam. Plann. 31, 239–251.

Caldwell, J.C., Barkat-e-Khuda, Caldwell, B., Pieris, I., Caldwell, P., 1999. The Bangladesh Fertility Decline: An Interpretation. Popul. Dev. Rev. 25, 67–84.

Chowdhury, A.M.R., 1996. A simple solution: Teaching millions to treat diarrhoea at home, 1st edition. ed. University Press, Dhaka, Bangladesh.

Chowdhury, A.M.R., Bhuiya, A., Chowdhury, M.E., Rasheed, S., Hussain, Z., Chen, L.C., 2013. The Bangladesh paradox: exceptional health achievement despite economic poverty. The Lancet 382, 1734–1745. https://doi.org/10.1016/S0140 6736(13)62148-0

Das, M.B., 2008. Whispers to voices: gender and social transformation in Bangladesh (No. 43045). The World Bank.

Fujii, T., Shonchoy, A.S., 2015. Fertility and rural electrification in Bangladesh (No. 521), IDE Discussion Papers. Institute of Developing Economies, Japan External Trade Organization(JETRO).

Hasan, R., Reich, M., 2012. Agenda-setting of Population and Family Planning in Bangladesh and West Bengal: Impact on Fertility.

Heath, R. and Mobarak, A.M. 2015. Manufacturing growth and the lives of Bangladeshi women. Journal of Development Economics, 115:1-15

Kabeer, N., 2001. Ideas, Economics and “the Sociology of Supply”: Explanations for Fertility Decline in Bangladesh. J. Dev. Stud. 38, 29–70. https://doi.org/10.1080/00220380412331322181

Kabir, A., Jahan, R., Alam, S.M.K., 2003. The Effect of Education on Fertility in Bangladesh. Int. Q. Community Health. Educ. 22, 199–214. https://doi.org/10.2190/L0QL-Q1UW-B5WE-7KD3

Levine, R., The What Works Working Group, 2004. Millions Saved: Proven Successes in Global Health. Center for Global Development, Washington, DC.

Phillips, J.F., Simmons, R. Koenig, M.A. and Chakraborty , J. 1988. Determinants of Reproductive Change in a Traditional Society: Evidence from Matlab, Bangladesh. Studies in Family Planning, 19(6): 313-334

Mohanty, S.K., Fink, G., Chauhan, R., Canning, D., 2016. Distal determinants of fertility decline: Evidence from 640 Indian districts. Demogr. Res. 34, 373–406. https://doi.org/10.4054/DemRes.2016.34.13

Schultz, T.P., Joshi, S., 2007. Family Planning as an Investment in Development: Evaluation of a Program’s Consequences in Matlab, Bangladesh (No. 28506), Discussion Papers. Yale University, Economic Growth Center.

van Soest, A., Saha, U.R., 2018. Relationships between infant mortality, birth spacing and fertility in Matlab, Bangladesh. PloS One 13, e0195940. https://doi.org/10.1371/journal.pone.0195940

World Bank, 2003. Bangladesh - Public expenditure review (No. 24370). The World Bank.

World Bank Country Study, 2007. Economics and Governance of Non governmental Organizations in Bangladesh | The University Press Limited. The University Press Limited, Dhaka.

World Development Indicators (WDI) | Data Catalog [WWW Document]. URL https://datacatalog.worldbank.org/dataset/world-development-indicators (accessed 4.29.19).

HUMAN CAPITAL PROJECT

The Human Capital Project is a global effort to accelerate the quantity and quality of investments in people to promote sustained and shared economic growth. The project aims to create the political space for national leaders to prioritize transformational investments in health, education and social protection. The objective is rapid progress toward a world in which all children are well nourished and ready to learn, can attain real learning in the classroom, and can enter the job market as healthy, skilled, and productive adults.

http://worldbank.org/humancapital

#INVESTin**People**

WORLD BANK GROUP