Bangladesh: Unlocking the potentials of Demographic Dividend

Abdul Baki¹

Abstract

The relationship between poptilation change and economic growth remains a subject of debate among economists and demographers. They have become increasingly interested in the nature and significance of changes in the age-structure of populations as they shift from being relatively 'youthful' to relatively 'old'. This is not just because they worry about the consequences of the later phases in this transition, but also because they see benefits or opportunities in the preceding phases. Demographers and economists have, however, taken rather different views of the demographic dividends or bonuses which have been associated with certain kinds of age-structural transition. This paper highlights important features of the transition processand examines its implication in Bangladesh economy.

Keywords: Demographic dividend, age structure, economic growth, Bangladesh.

1.0 Introduction

The relationship between population change and economic growth remains a subject of debate among economists and demographers. They continue to disagree about whether population growth (a) restricts,(b) promotes, or (c) is independent of economic growth. Proponents of each view can point to research evidence to support their cases. The utility of this debate has been hampered by its almost exclusive focus on population size and growth. Little attention has been paid to a critical variable: the age structureof the population (that is, the way in which the population is distributed across different age groups) and how it changes when populations grow.

¹ Director (Deputy Secretary), Bangladesh Public Administration Training Centre.

Demographic transition is the term used to denote the evolution of populations from a state of high mortality balanced by high fertility to a destination of low mortality and fertility. The transition is triggered by drops in mortality which usher in a period of rapid population growth. After a lag, which varies greatly between countries, fertility drops, although population growth continues because birth rates are buoyed up by the growing number of young people entering the reproductive ages, a feature termed population momentum.

With current trends of growth rate, Bangladesh population increases by 1.8 to 2.0 million every year. This population is likely to grow up to 226 million by the year 2051 and will stabilize at 250 million by the year of 2081, even if replacement level fertility is achieved by the year 2015. It will happen due to population momentum inherent in the young age structure. Young population implies a demographic bonus and opens up a window of opportunity for Bangladesh. However, unless it is converted into human resources, it will not bring an economic dividend.

2.0 Population and Economic Growth nexus

Since Malthus' views on population and starvation, a debate has persisted over the relationship between population growth and economic development. Social scientists, mainly economist and demographers continue to argue whether population growth encourage, discourage or is independent of economic growth. The focus of this debate however has mainly remained confined to population size and growth, giving the little consideration to the age structure of the population. Bringing age structure in the debate can be attributed to Coale and Hoover (1958), who argued that sustained high fertility and falling mortality make governments and households burdened with high youth dependency rates, lowering tax revenues and households savings, respectively.

Recent research on population-economy links has been dominated by studies of the implications for growth in output per head of big

23

changes in age structure that result from this transition. In East Asia and to a lesser extent, South Asia, but not in Latin America or Northern Africa, the era of declining dependency ratios, when the working age population is increasing faster than the dependent population, is associated with rapid economic growth. This link is known as the demographic bonus or dividend.

2.1 Population Growth: Views of Optimists and Pessimists

Population growth is popularly thought to have a deleterious effect on a country's prospects. The School of "population pessimism" has its roots in the work of Thomas Malthus at the end of the 18thcentury. Malthus believed that the population would inevitably grow due to the innate human desireto procreate, but that the supply of land, physical capital, and knowledge would remain fixed orwould increase at a slower pace than the population. As a result, countries would tend towards theirmaximum feasible population, with the vast majority of the population unable to rise above subsistence level (Malthus 1798).

Population optimists, meanwhile, have argued that population growth fosters economic growth(Boserup 1981; Kuznets 1967, and Simon 1981). Three mechanisms are involved:

First, rapidpopulation growth and increasing population density stimulate technological change and institutionalinnovation.

Second, larger populations are able to enjoy greater economies of scale.

'Third, larger populations are likely to have a larger number of "geniuses," exceptional individuals who have atransforming effect on a country's prospects.

Recent work has done little to advance the case put by either the optimists or the pessimists(Kelley 1988). Instead, a school of "population neutralism" has emerged (Bloom and Freeman 1986and 1988). According to empirical models, when all other factors are controlled, the rate of population growth appears to have no significant effect on a country's economic prospects. As aresult,

population studies have tended to fall into a state of salutary neglect among many developingcountry governments and international development agencies, with serious consideration ofdemographic factors becoming less evident in the economic development literature (NationalAcademy of Sciences 1986).

It is now increasingly recognized, however, that the traditional focus on the rate of populationgrowth misses the most important mechanism by which changes in the age distribution of a population can affect economic growth (Bloom and Williamson 1997 and 1998;Bloom and Sachs 1998; Bloom, Canning and Malaney, forthcoming 2000). This change results from the demographic transition, where a country moves from high mortality and fertility to low mortality and fertility. Most developed countries experienced a gradual transition, lasting one to two centuries.Developing countries, however, are experiencing much more rapid transitions, which havecorrespondingly more dramatic effects on the size and composition of their populations.

A demographic transition starts with falls in mortality, as health improvements allow people tolive longer. In developing countries, improvements in public health. especially through vaccinations.antibiotics, and antimicrobials, combined with improved sanitation and safer water, have helpedincrease life expectancy significantly. The most significant impacts are on the health of children, withfalling levels of infant mortality leading to a short-lived increase in family size. Contrary toMalthusian theory, however, the demographic transition is completed, as fertility also begins to fall.As parents realize that newborn babies are much more certain to survive to adulthood, they choose toinvest more in fewer children, offering each child higher standards of education, health care, and nutrition. They, therefore, seek ways of reducing fertility, through contraception, later marriage, and changing family structures.

The demographic transition involves an inevitable lag between declines in mortality and fertility, although the extent of this lag varies from country to country. As a result, population growth ratcsexhibit a rapid (though temporary) rise and a baby-boom generation is born. This generation works itsway through the population structure, creating first a rising proportion of children, then an increasingnumber of adults, and finally a growing number of the elderly. The changing age structure of thepopulation brings with it impacts across society, with especially important effects on labor supply, savings, and human capital.

3.0 What is Demographic Dividend and how does it work?

The demographic dividend is the accelerated eco-nomic growth that may result from a decline in a country's mortality and fertility and the subsequent change in the age structure of the population. With fewer births each year, a country's young dependent population grows smaller in relation to the working-age population. With fewer people to support, a country has a window of opportunity for rapid economic growth if the right social and eco-nomic policies developed and investments made.

The demographic transition can have significant effects on a society and its economy.Experience from other countries shows that:

- Families switch en *masse* to a different reproductive strategy: instead of having many children in the hope that some will survive; they tend to try and maximize investment in far fewer children (Barro and Becker 1989). As a result, the value that a society attaches to education increases, enabling the development of a more sophisticated and knowledge-intensive economy.
- The burst of population growth experienced during the demographic transition results in greater urbanization, as people leave the land due to population pressures. Agriculture becomes progressively less important as more people work in manufacturing and services, which can offer greater rewards. Again, the demographic transition encourages modernization and improvements in productivity.

- As the baby boom generation matures, the size of the workforce – both absolute and relative to the dependent population – increases. These extra worlcers have the potential to act as an engine for economic growth.
- This generation may also crystallize the changes that has brought, as its members move to cities in greater numbers, have smaller families, invest in their children's education, and save a greater proportion of their income for retirement.

The demographic transition, in other words, offers a society the opportunity of collecting asignificant "demographic dividend," one that can, in some circumstances, catalyze a leap in its levelof human and economic development. It offers countries the chance of unprecedented economicgrowth, with more workers (supporting relatively fewer dependents) engaged in more productivework.

These-and other related changes-tend to be self-reinforcing, increasing the potential impact of

the demographic dividend. The health improvements that promote the demographic transitionimprove the quality of people's lives, as well as diminishing their chances of premature death.Healthier children arc able to spend more time in school and learn more effectively. Healthienvorkers are more productive, miss less work, and may retire later (Bloom and Jamison, et al., 1998;Bloom and Malaney 1998; Bloom and Williamson 1997; Bloom and Williamson 1998; Bloom andSachs 1998; Barro 1996; Bloom, Canning, and Malaney, forthcoming 2000).Educated people, in turn, are better able to look after their health and to access health care when theyare sick. Rising income levels enable people to enjoy improved nutrition and living conditions, and topay for more sophisticated health services.

The changing role of women provides another example of mutually reinforcing effects. In smaller families, girls are more likely to be educated. Educated women are more likely to choose to work where they command high wages and strengthen the labor force. As a result, the proportion of women in the workforce tends to rise. Women therefore start families later and have fewer children, as the opportunity cost of not being able to work increases. When they do have children they are better able to provide for them, offering improved nutrition and health as well as participating more effectively in their education, especially in the formative early years. The result is increased educational quality, which is an even more important determinant of subsequent economic growth than the standard measures of educational coverage and attainment.

3.1 The demographic dividend: macro-level evidence

One need not be an economist to appreciate that a fall in dependency ratios and a rising working age population is likely to boost economic growth. The relationship is a simple arithmetic one. A growth of 1 percent in the proportion of total population in the prime working age group will result in a 1 percent increase in GDP per head, provided that employment levels and productivity do not fall (Eastwood and Lipton 2012). In Asia as a whole, this straightforward benefit can account for an annual increase in gross domestic product (GDP) per head of 0.41 percent between 1965 and 2005, with a greater gain in East Asia of 0.52 percent (Eastwood and Lipton 2011). This dividend is significant when set against increases in GDP per head of 2-3 percent in South Asia during 1960-2000, and even lower increases in Latin America, but represents a modest contribution to the much higher GDP increases in East Asia, and in South Asia since 2000.

3.2 Increased savings and investment are necessary to harness the dividend

Many econometric analyses have found that the effect of demographic changes, particularly age structure changes, on GDP growth per head have been two to three times greater than the simple arithmetic effect, accounting for 20 percent of growth worldwide, with larger shares in Asia and Europe than in other regions (Kelley and Schmidt 2005; Bloom and Williamson 1998).

The most plausible reason for these results is that falling dependency ratios enhance savings and investment. Household savings are concentrated in the working ages and thus, a swollen labour force, coupled with fewer children per household, clearly have the potential to increase this source of savings. Increased life expectancy and the anticipation of a prolonged retirement are also likely to affect domestic savings rates (Bloom et al. 2007a). To the extent that older workers accumulate savings rather than rely on State "pay as you go" pension schemes or family support, a second demographic dividend may arise, provided that savings are productively invested (Mason and Lee 2006). The importance of these considerations is underscored by the critical significance of savings for development. *"Without the creation of a surplus for investment there is no way for countries to escape low-level subsistence equilibrium"* (World Bank 2006 pXV).

3.3 Women employment and higher education and training may inflate the bonus

Two other possible pathways could also inflate the purely arithmetic demographic dividend. As fertility falls, it becomes more feasible for women to seek paid work outside the home, thus increasing the labour force. In poor agricultural countries, this is not an important consideration, as work on the family farm can be readily combined with childbearing (Mammen and Paxton 2000), but an analysis of 97 countries between 1960 and 2000 indicates a gain of nearly two working years for women between the ages of 20-44 for each one child fall in fertility (Bloom et al. 2009). This change may be of greater sociological than economic significance; Eastwood and Lipton (2012) estimate the economic effect of this increased participation to be small. The second pathway concerns the opportunity for the State to invest in higher quality education and training, as the number of young people stabilises or declines. Smaller families also allow parents to invest more in each child. The benefit of such investment will be lagged but may be very large, to the extent that human capital is key to technical innovation and thus to long-term economic success (Lutz, Cuaresma and Sanderson 2008).

3.4 Positive relationship between small family size, schooling and poverty reduction

The expectation that parents can and will invest more in each child when family size is small than when it is large (the quantity-quality trade off) has been hugely influential in fertility theories. Supporting evidence is particularly strong for historical and contemporary Europe that children from small families attain better educational, income and social mobility outcomes than those with many siblings (Van Bayel et al. 2011: Goodman, Koupil and Lawson 2012). In developing countries, children from large families usually, but not always, have lower schooling attainment than those from smaller families. The magnitude of this disadvantage is conditioned by stage of economic development, family systems and the role of the state (Lloyd 1994), and may even change over time within the same country (Maralani 2008). The causal direction, from fertility to schooling outcomes, is confirmed by studies of the effect of the "exogenous shock" of twin births. In both India and China, the extra child adversely influenced schooling outcomes (Rosenzweig and Wolpin 1980; Rosenzweig and Zhang 2009).

4.0 Demographic transition: Current scenario of Bangladesh

Bangladesh has a large population relative to its land space. About 152.3 million people are presently squeezed in an area of 147570 square kilometers which roughly represents 3000th part of the world's land space. Bangladesh is the seventh most populous country in the world (UN 2009). Bangladesh's population is currently growing at the rate of 1.37 percent (BBS 2011) implying that about 1.8-2.0 million are being added to the existing population. Such a pace is most likely to continue in one decade or so (Mabud 2009). Though total fertility rate is declining (TFR 2.7 in 2007), but such decline is not rapid enough to reach a two child goal in 2015/2016. If TFR of 2.1 or NRR= 1 cannot be reached by then, it is unlikely that other MDG-Health goals of IMR, Under -5 mortality and MMR could be reached. Population density per

square kilometer is currently more than 1100 persons. Under medium projection, when population will grow upto 173 million in 2021 and 226 million in 2051, population density per square kilometer will aggravate which will have tremendous negative impact on our limited arable land. Apart from this, working age population (15-64 years) shall be double the current level which will be difficult to absorb in our fragile labour market. All these indicate that population growth and size still remain as major issue of our development and that due priority that is needed has not yet been given.

The population trends of Bangladesh reported in the nationally representative surveys of Bangladesh Bureau of Statistics (BBS-2009, BBS-2011) and other reveal that in the stages of demographic transition, mortality fell but fertility remained high. If lower mortality is balanced by lower fertility, Bangladesh has a window of opportunity to capture the economic boom that a demographic bonus can provide. However, these concerns are aggravated by degradation of the environment and natural resources, increased climate variability, rapid urbanization and market vulnerability.

The life cycle consumption model (Bloom et al, 2001) suggests that different age groups in apopulation have different economic implications. The young need investment in health andeducation, adults supply labour, income and savings and at old ages there is a need for retirementincome and, again, a requirement to invest in health. Population age structure can be classified based on the life cycle stages and their economic impacts (Navaneetam and Dharmalingam 2009). In a broad sense, there are five life cycle stages:

- young (0-14 years age group), youth (15-24 years age group),
- young working age (25-49 years age group),
- mature working age (50-64 years age group) and elderly (65 and above).

Generally, the population age group 0-24 both young and youth are dependent on working age groups in Bangladesh like many other developing countries for their consumption though there is difference in consumption pattern between these two groups due to their needs and choices. Population in prime working age group 25-49 involves in economic activities but saves little while the middle age people 50-59 earn more as they have long work experience and they have higher savings rate. Both of these two groups of people are economically independent.

Table 1: percentage Distribution of the Population by BroadAge Groups

Year	Broad Age Groups			Dependency Ratio
	0-14 Yrs.	15-59 Yrs.	60+ Yrs	
1951	42.2	53.5	4.4	87
1961	46.0	48.8	5.2	105
1974	48.0	46.3	5.7	116
1981	46.7	47.8	5.5	109
1991	45.1	49.5	5.4	102
2001	39.4	54.9	5.7	76
2005	37.9	55.9	6.2	79

Source: BBS 1994, 1999, 2003, 2007

The change in age structure of Bangladesh population from 1950 to 2011 are represented in the above table. In Bangladesh fertility started declining since 1980s, the proportion of people 0-14 age group declined from 46. 7 percent in 1981 to 39.4 percent in 2001 (BBS 2001), and further declined to 31 percent in 2011 and expected to decline further and projected to reach around 21 percent in 2050 (Mabud 2009).

So, Bangladesh is experiencing the youth bulge since 1980s and will continue until 2050, which will create a challenge to generate enough employment opportunities to meet the projected growth inlabour market. The government needs to initiate time and context oriented appropriate policies to productively absorb the additional working age population into the labour market for economic and social development. It is also important to note that in future

absolute and relative size of the population 50-59 years age group would be expected to increase which may create another opportunity in Bangladesh to enjoy the second dividend. As the saving ratio would likely to increase during that time which may in turn boost the capacity form more investment in development programmes (Navaneetham and Dharmalingam 2009).

4.1 Demographic Window of Opportunities

The distribution of population by age indicates the trajectory of Bangladesh population age structure where the population of age group 0-14 will gradually decline where the population aged 65 and above will grow and thereby the population of age group 15-65 will be the largest share and create a window of opportunity for demographic dividend. The exact technical boundaries of definition of demographic window of opportunity may vary. The UN Population Department has defined it as a period when the proportion of children and youth under 15 year falls below 30 percent and the proportion of people 65 years and older is still below 15 percent. So, on the basis of UN definition, the demographic window of opportunity in Bangladesh started from 2012 and ended to 2047 (Nabi 2011).

Europe's demographic window lasted from 1950 to 2000. It began in China in 1990 and is expected to last until 2015. India is entered in this window in 2010, which may last until the middle of the present century. Much of Africa will not enter the demographic window until 2045 or later. Bloom et al., (2010) find that the size of the labour force as a share of total population is projected to increase globally from 47 to 49 percent between 2005 and 2050. However, in Bangladesh the projected size of the labour force as share of total population is expected increase from 46 percent in 2005 to 53 percent in 2050 (Bloom et al., 2010) which is the highest compare to other South East Asian countries.

5.0 Potential Challenges of Demographic Transition in Bangladesh

Although the demographic transition can lead to a demographic dividend, it can also bring significant challenges with it. Among

these education, health ageing, economic inequality and a failure to take appropriate measures to transform the population into human capital are major challenges for a developing country like Bangladesh. The ageing of a country's population is an inevitable consequence of the post-demographic transition period.

Equally, the baby-boom generation will not reach its full potential if its members do not receive adequate education. They will not be able to contribute to the economy if there are no jobs for them to go to (or if they are not qualified to do them). A growing pool of workers will lead to increased unemployment and a "brain drain" (where a country sees its best graduates going abroad to seek gainful employment) if the labor market is unable to expand rapidly. Unemployment tends to lead to rising levels of crime, a situation exacerbated by demographic factors (young men account for a disproportionate amount of a society's lawlessness) and the breakdown of the traditional family (Fukyama 1999).

During the age structural transition, the size and share of aged people 60 years and above will continue to increase in Bangladesh at a slower pace but would be after 2030 (Table 2). Management of aged people, therefore, would be a major challenge in near future in tenns of their social and health care needs.

Year	Total Population (in million)	Population (60+yrs.)	% of the total
2001	130.02	7.97	6.0
2006	141.80	8.49	6.1
2011	151.41	9.77	6.5
2016	160.99	11.32	7.0
2021	171.71	14.10	8.2
2026	182.24	18.07	9.9
2031	191.61	22.15	11.6
2036	199.52	27.34	13.7
2041	206.46	31.89	15.4
2046	212.85	36.93	17.4
2051	218.64	44.10	20.2

 Table 2: Ageing situation in Bangladesh

Source: Mabud 2009

34

35

However, the challenges during the ageing of the population can easily be minimized if the policy is favourable for savings and for accumulating the assets to reap the dividend during the window opportunity. Currently Bangladesh's population age structure is largely a bottom-heavy one, characteristic of a young and growing population. Within a less than half of a century, Bangladesh's age structure would have moved.from characteristic of a young and growing population to an old and declining one.

Another challenge of population transformation is to ensure the equality and equity in access to social and health care services as the current cohort of child and youth population are the future labour force. They need to prepare themselves' as human capital so that they can meet the future economic, social and health challenges of ageing population. During the period of transition, the size of and share of youth will increase over the decades in Bangladesh will put more pressure on the demand for higher education and employment opportunities. Currently informal market is growing in Bangladesh as an outcome of demographic transition and growth of younger adults. This youth bulge will also exert increasing demand on housing and health care.

Inequality is another obstacle that potentially stands in the way of realizing the demographic dividend. Bangladesh contains numerous sources of powerful heterogeneity in such dimensions as place of residence, income and education. Sometimes heterogeneity can be a source of social and political unrest and instability. It is also important to consider the consequences of inaction. That is, what will happen if countries do nothing in response to demographic change? The most likely major effect will be that a large number of young, working-age people will be unemployed or underemployed. This is of course already the case in many countries including Bangladesh, but this situation could easily become much worse than it is now. If there is no action, a large of people will be uneducated and out of the health care services.

If the population growth continues with the current trend there shall be tremendous scarcity of food, electricity, water, and other essentials of life. Une'mployment problem shall be acute; per capita arable land shall dwindle to 1.8 decimal from the present level to 1.15 decimals. Working age population (15-64 years) shall be double the present size of 80 million, aggravating further the strained labour market. In this backdrop, the idea of transforming large population into human resources has emerged as a strategy for population management. The underlying philosophy is that, if population can be transformed into skilled worked force and equipped with the know-how in many nationally and internationally marketable skill-mix, a significant fraction of them may find their place in wide variety of occupations both at home and abroad.

6.0 Policy implications

Demographic window of opportunity can be utilized in three ways to give demographic dividend. These are:

- productive employment of labour force,
- productive investment of accumulated wealth and savings and
- proper investments to build human population into human capital

It is important to note that demographic window of opportunity would be available only for once and the length of this opportunity would be determined by the speed of demographic transition. Bangladesh's population age structure will experience lowest burden of dependency during the period 2015-2051, due to declining mortality as well as fertility. However, the dependency ratio will further boost up after 2051 due to increasing the number of old age people who need special care (Nabi 2011). Therefore, appropriate policies and interventions are important during that period to utilize this opportunity otherwise it will have negative implications for the economy and society. Currently, the support ratio indicates that there are around 1.9 working age people to support each dependent people in Bangladesh (Bloom et al., 2010).

6.1 Improved Health, Education, and Gender Equity Needed

Additional investments in health, education, and gender equity are needed for countries to open the window of opportunity. While well-coordinated family planningprogramme is necessary for establishing the conditions for a demographic dividend, countries must also make invest-ments in health, education, and gender equality to accelerate economic growth. These investments are critical first steps in achieving a demographic dividend, but by themselves do not ensure accelerated economic growth.

6.1.1 Child health

Bangladesh is making great progress in improving child survival, but among the world's poorest fami-lies, as many as one in five children die before age 5.Health programs need to help these poor families. However, nonns related to family size are changing, and research indicates that families will choose to have smaller families when they know that each child has a better chance of surviving.And when parents have fewer children, they are better able and more willing to invest in their children's health, education, and well-being. Family plan-ning also contributes to child health through promoting healthy timing and spacing of pregnancies.

6.1.2 Education

When both boys and girls have access to educa-tion, accelerated growth possible. economic is In the case of girls. education—especially at the secondary level—helps delay marriage and first pregnancy. Women who marry later tend to have fewer children than women who marry at a young age. Women who are educated are also more likely to work outside the home—increasing the size of the labor force and the potential for economic development. Although many women participate in the informal labor force, skills and experi-ence acquired through secondary education position them to take on higher-level jobs in the fonnal sector or to access loans and financial support that allow them to grow their formal or informal businesses.

As countries move through the demographic dividend, they will need to adapt education policies in response to their changing labor market needs. At the beginning of the transition, the labor force may need training for lower-skilled work. However, as the economy grows and becomes more sophisticated, workers will need a diverse range of skills in business, technology, and other professions. During these transitions, countries will need to identify emerging labor force opportunities and respond with appropriate educational policies and programs.

6.1.3 Gender Equality

A gender-equitable environment is critical. to achieving a demographic transition because in such a setting, women are free to access and use family planning without many of the barriers they currently face in developing countries. Such an environment also enables women and couples to choose the number, timing, and spacing of children and allows women to participate in the labor force and contribute more to the family's economic well-being.

As an important step toward gender equity, and to foster economic growth, countries need to develop and enforce poli-cies that enable girls to go to school and equip them with skills to compete for higher-paying jobs. Similarly, when women access credit and generate profits, they are more likely than men to use their income to improve the health and well-being of their families.Improving women's access to these assets brings countries closer to reaping a demographic dividend.

6.2 Recommended Actions

The demographic dividend of accelerated economic growth in many developing countries remains a possibility, but for the process to begin, countries must give high priority to substantially lowering fertility and child mortality. Until countries address the size and extremely young age structure of their populations, they will not achieve the levels of economic growth that they could otherwise reach. To bring about this desired level of growth, leaders need to immediately prioritize four key actions:

6.2.1 Commit to voluntary family planning to achieve the demographic transition. Bangladesh needs to make voluntary family planning information and services available, responding to the needs and method choices of all women, but especially the poor, who tend to have more children but fewer resources to invest in the health and education of their children.

6.2.2 Invest in child survival and health programs. Bangladesh achieved remarkable success in reducing child mortality. But it is still high in the region. So, more intervention needed on child survivalthat ensures children do not die before their fifth birthday. These health interventions will stimulate a desire for smaller, healthier families that will set the stage for economic growth. Programs need to pay special atten-tion to firsttime young mothers, where child mortality and illness are highest.

6.2.3 Invest in the reproductive health needs of both married and unmarried youth. Investments in programs and policies to end child marriage, delay first pregnancy, space births, and avoid mistimed pregnancy among adolescents are critical.

6.2.4 Prioritize education-especially secondary education for girls. Research shows that primary education helps youths read and write, but secondary school helps delay marriage and pregnancy, and gives young people the skills and confidence to be effective in the labor force. Education fosters lower fertility and is a fundamental investment for a stronger economy. Education programs need to prepare students for the 21st century labor force. And greater participation in the labor force will allow countries to reap the economic rewards of the demographic dividend.

6.3 Establishing HRD Commission

In order to transforming population into human resources, the first and foremost task of the government is to establish a high powered

institution capable of coordination with all human resource production authorities like Universities. Medical Colleges. Technical and Vocational institutes etc. and the relevant ministries. Apart from coordination, it shall have to entrust to produce HRmaster plan for 20 years - a plan which will show number of people required to be trained for meeting domestic and international market demands of the workforce in skill-mix. It will have responsibility for data gathering directly at home and indirectly through Bangladesh missions abroad regarding marketable skill-mix, extent of demand for specific skill (e.g. Nurse, Engineers, Technicians). It will set standard of training with different skill-mix comparable to international standard so that our trained persons should equal pay like those of India or other countries on the same type of jobs. It will have power to recommend measures to improve quality of training to different institutions on marketable skill-mix. This national HRD -Commission will prepare long term HRD policy and produce HRD-master plan for at least 20 years with in shortest possible time.

6.4 Additional Economic Investments to Maximize the Demographic Dividend

To achieve a demographic dividend, governments must also implement economic policies that create jobs and economic growth. Part of what contributed to the early economic growth of South Korea and the other Asian Tigers was that, as they were making investments in health, education, and family planning, governments were also creating policies to attract foreign investment, promote the export of locally manufactured goods, and create a minimum wage to raise standards of living. Together, these orchestrated policy changes laid a solid foun-dation for rapid economic growth.

Trade policies that both create markets for domestically pro-duced goods and reduce barriers for trade are one of the keys to fostering economic growth. The experience of South Korea also reflects the need for economic policies to attract foreign investments necessary to create jobs and develop a manufacturing infra-structure. These steps brought large infusions of foreign capital into the country while also creating manufacturing jobs for products to be exported.

At the same time, economic opportunity must also reach rural and poorer segments of the population. Microfinance pro-grams in rural areas have demonstrated that they can provide incomegenerating support to the poorest and most vulner-able populations. Reaching these segments with low-interest loans to families or small cooperatives will stimulate economic growth and create opportunities for people who live outside of emerging urban industrial areas.

Additional economic policies must promote individual savings and investments. With fewer children, families have more dis-posable income and are better positioned to save and invest. However, policies and economic stability need to exist so that all people—not just the wealthy—are encouraged to save and can access financial'markets (Bloom et al. 2003).

7.0 Conclusion

There is little question that Bangladesh is a nation full of macro potential. In particular, Bangladesh aligns well with our preferences for positivedemographic trends and a rising middleclass consumer. A focus on population age structure, however, offers policymakers a vital tool as they plan for and manage the changes country face. Moreover, given that GDP growth is directly linked to labor force growth and productivity, translation of this favourable demographic trend into accelerated economic progress depends on institutions and policies, on savings and investment, and on improved education and training, which determine whether growth in employment matches burgeoning working age populations. Economic modernizationwill increase the demand for a skilled labour force. Bangladesh has made good progress in school enrolments. But this is not enough for overall economic growth. We need integrated policy measures for the nation to face the emerging challenges.

REFERENCES

- Bloom, D. E., and R. Freeman, "The Effects of Rapid Population Growth on Labor Supply and Employment in Developing Countries," *Population and Development Review*, September 1986, pp. 381–414.
- Bangladesh Bureau of Statistics (BBS), Poverty Monitoring Survey, 2004
- Bangladesh Bureau of Statistics (BBS 2003), Bangladesh Population Census, 2001, National Report, Bangladesh Bureau of Statistics, Dhaka.
- Bangladesh Bureau of Statistics (BBS 1994), Bangladesh Population Census, 1991: Analytical Report, Bangladesh Bureau of Statistics, Dhaka.
- Bangladesh Bureau of Statistics (BBS 1994), Statistical Yearbook of Bangladesh2011,
- Bangladesh Bureau of Statistics, Dhaka.
- Bloom, D. E., and R. Freeman, "Economic Development and the Timing and Components of Population Growth," *Journal* of *Policy Modeling*, April 1988, pp. 57–82.
- Bloom, D., and J. Williamson, "Demographic Transitions and Economic Miracles in Emerging Asia," *World Bank Economic Review*, Vol. 12, 1998, pp. 419–456.
- Bloom, D. E., and J. D. Sachs, "Geography, Demography, and Economic Growth in Africa," *Brookings Papers on Economic Activity*, Vol. 2, 1998, pp. 207–273.
- Bloom, D., D. Canning, and P. Malaney, "Demographic Change and Economic Growth in Asia," *Population and Development Review*, Vol. 26 (Suppl.), 2000, pp. 257–290.
- Bloom D.E., Canning D., Mansfield R.K. and Moore, M. (2007a). Demographic change, security systems, and savings. *Journal* of Monetary Economics 54: 92-114.
- Bloom, D. E., Canning, D and Fink, G 2010, 'The Greying of Global Population and its macroeconomic consequences', Twenty-First Century Society: Journal of the Academy of Social Science, vol 5, no.3, pp233-242.
- Boserup,E. (1981). Population and Technological Change: A Study of Long Term Trends

- Coale, A., and E. Hoover, *Population Growth and Econonzic* Development in Low-Income Countries, Princeton, N.J.: Princeton University Press, 1958.
- Eastwood R. and Lipton M. (2011). Demographic transition in sub-Saharan Africa: how big will the economic dividend be? *Population Studies* 65:9-35.
- Eastwood R. and Lipton M. (2012). The demographic dividend: retrospect and prospect. *Economic Affairs* 32:26-30.
- Fukuyama F. (1999), *Social Capital and Civil Society*, The Institute of Public Policy, George Mason University.
- Goodman A., Koupil I. and Lawson D.W. (2012). Low jertility increases descendant socioeconoinic position but reduces long-tern? fitness in a modern post-industrial society. Proceedings of the Royal Society Series B. doi.1098/rspb.2012.1415.
- Kelley A.C. and Schmidt R.M. (2005). Evolution of recent economic-demographic modelling: a synthesis. *Journal* of *Population Economics* 18:275-300.
- Lloyd C.B. (1994). Investing in the next generation: the implications of high fertility at the level of the family. In Cassen R (ed) *Populafion and development: old debates, new conclusions*. Washington, DC, Overseas Development Council: 181-202.
- Lutz W., Cuaresma J.C. and Sanderson W. (2008). The demography of educational attainment and economic growth. *Science* 319: 1047-8
- Mabud MA (2009), Bangladesh Population: Prospects, Problems and Remedies (Projection for 100 Years, 2001-2100), Population and Poverty Alleviation (OPPA) and South Asian Institute of Advanced Studies (SAIAS).
- Malthus, T. R., Essay on the Principle of Population, As It Affects the Future Improvement of Society with Remarks on the Speculation of Mr. Godwin, M. Condorcet, and Other Writers, Harmondsworth, Middlesex, UK: Penguin Classics (1982 edition), 1798.

- Mammen K. and Paxton C. (2000). Women s work and economic development. Journal of Economic Perspectives 14:141-164.
- Mason A. and Lee R. (2006). Reform and support systems for the elderly in developing countries: capturing the second demographic bonus. Genus LX11:11-35.
- Nabi, AKM Numn (2011), ' Demographic Dividend and a Window of Opportunity for Bangladesh', Bangladesh Population Problems and Prospects, Population Planning Wing, Planning Commission, GOB.
- National Research Council, Population Growth and Economic *Development:Policy* Questions, Washington, D.C.: National Academy Press, 1986.
- Navaneetham, K and Dharmalingam, A (2009), 'Age Structural transitions, demographic dividend and millennium development goals in South Asia: Opportunities and challenges', paper presented in the session 128, at the XXVI IUSSP International Population Conference, held in Marrakech, Morocco, 27 September- 2 October, 2009.
- Rosenzweig M.R. and Wolpin K.I. (1980). Testing the qualityquantity fertility model: the use of twins as a natural experiment. *Econometrica*48:227-240
- Rosenzweig M.R. and Zhang J. (2009). Do population policies induce more human capital investment? Twins, birth weight and China s one-child policy. Review of Economic Studies 76: 1149-1174.
- Van Bavel J., Moreels S., Van de Putte B. and Matthijs K. (2011). Family size and intergenerational social mobility during the fertility transition: evidence of resource dilution from the city of Antwerp in nineteenth century Belgium. Demographic Research 24: 313-344.
- World Bank (2006). The changing wealth of nations: measuring *sustainable* development in the new millennium. Washington DC.