Reforming the Education System in Bangladesh: Reckoning a Knowledge-based Society

Md. Nasir Uddin Khan[1], Ebney Ayaj Rana[2,*] & Md. Reazul Haque[3]

[1]Ministry of Primary and Mass Education, Government of the People's Republic of Bangladesh, Bangladesh

[2]Unnayan Onneshan-A Center for Research and Action on Development based in Dhaka, Bangladesh

[3]Department of Development Studies, University of Dhaka, Bangladesh

*Corresponding author: Unnayan Onneshan, 16/2, Indira Road, Farmgate, Dhaka-1215, Bangladesh. Tel: 880-172-505-2815. E-mail: earana@unnayan.org

Received: April 15, 2014 Accepted: June 3, 2014 Online Published: June 25, 2014

doi:10.5430/wje.v4n4p1 URL: http://dx.doi.org/10.5430/wje.v4n4p1

Abstract

Education renders people with certain capabilities that prepare them to contribute to the social and economic development of the nation. Such capabilities turn them into human capital which, according to development economists, raises productivity when increased. Following an exhaustive review of literature on education research, this paper, however, aims at exploring the effectiveness of Bangladesh's present education system in delivering quality education as well as reckoning the prospect of establishing a knowledge-based society in the nation. This paper, being qualitative in nature, reveals that the nation has achieved an exemplary success in primary education as regards increased enrolment rate, while the enrolment rate is not satisfactory in secondary schooling and the tertiary education is expanding. However, the quality of education imparted at all the primary, secondary and tertiary levels is not up to the mark to create a strong human capital and reckon the prospect of knowledge-based society in the country. A number of reform measures are required to be undertaken in order to ensure quality education and create an effective knowledge base in the nation.

Keywords: *human capital; knowledge-based society; primary education; secondary education; tertiary education; quality; reform*

1. Introduction

In today's world of globalization, economic development is considered to be highly associated with the use of human capital, which refers to the stock of people's competencies, knowledge, habits, social and personality attributes that produces economic value, in effective and efficient ways. The role of human capital in explaining the variations in factor productivity and rate of output growth in the economy is now significantly discussed in development discourse. Economics of development sheds substantial light on educating people, since education is fundamental to the broader notion of human capabilities that lie at the core of meaning of development (Todaro and Smith 2003). For instance, Denison (1962, 1967 & 1974) observes that in the United States, about half of the Gross National Product (GNP) growth could be attributed to the factors such as economies of scale other than increase in capital and labour inputs, while economies of scale in the economy imply 'advances in knowledge'. According to Denison (1974), education alone accounts for 14 percent of GNP growth in the United States during 1929-1969 periods.

The demographic transition in Bangladesh shows that the nation is currently experiencing once-in-a-lifetime demographic dividend as the number of working age people bulges and the dependency ratios declines (Matin 2012). The country is lagging behind in capitalizing on this great deal of human resource due to lack of proper education and training for it. On the other hand, Bangladesh lacks physical capital resources. Though a portion of this lack of physical capital – in other words, the factors of production – can be overcome by importing it from abroad, some certain categories of physical capital have to be fabricated locally. The cost of importing physical capital from abroad is high. Therefore, ensuring local knowledge base and know-how is the prerequisite for producing physical capital in order to accelerate the pace of development in the country. However, the scenario of Bangladesh's

education system does not offer a room for complacent in this regard. Rather, it seems a matter of worry that the existing education system in the country is hardly suited to provide the required knowledge base that can meet the developmental needs of the country (Ullah 2010, p. 104).

In order to become a knowledge-based society, a nation has to achieve some features that encompass such basic pillars as structural capital, and human capital (Bontis 2001; Edvinsson 2000). The structural capital consists of infrastructure and governance, while the human capital emphasize the creation of a skilled, trained, educated and productive population and relational capital accentuates social relationships and cultural aspects of a society. As regards forming a knowledge-based society, along with other capital, human capital plays the key role in giving these societies an edge in competence over other societies (Houghton and Sheehan 2000; Olssen and Peters 2005; UNESCO 2005). It is therefore important to ensure quality education throughout the society that enriches society's human capital which, in turn, boasts creativity in the society and develop a knowledge economy (Olssen and Peters 2005). However, the education system in Bangladesh still remains far behind approaching toward a knowledge-based society. There are both structural and functional flaws in the education system of the nation. Approaching toward a knowledge-based society requires these flaws to be addressed immediately with some reform measures that reinvigorate the education system in creating a substantial knowledge base and ample human capital in Bangladesh. Following sections of this paper come up with a holistic discussion of Bangladesh's education system and its underlying flaws, and some suggested reform measures in ensuring quality education in Bangladesh.

2. Method

With a view to exploring both the structural and functional flaws of present education system in Bangladesh and suggesting necessary reform measures that make the system work in a way which enlarges the knowledge base of the society ensuring quality education in the nation, the paper examines the parameters of quality education vis-à-vis the educational developments in Bangladesh. The research is qualitative in nature. The sources of data used in the study are secondary. Extensive literature on education research has been surveyed in order to substantiate the arguments stipulated in the paper. Furthermore, relevant statistics are shown and analyzed in order to authenticate the postulates put forward throughout the paper.

3. Results

Public sector education in Bangladesh has three major stages - primary, secondary and tertiary education. Educational arrangements are delivered to these three stages by three main streams, namely the general government stream, which covers every stage of public education; the Technical and Vocational Education and Training (TVET) stream, which provides specialist secondary and tertiary institutions; and the Madrasah stream, which emphasizes on Islamic education from primary to tertiary level and has a similar structure to the formal government system. However, it is noteworthy here that a small but significant number of private institutions including institutions run by Non-Governmental Organizations (NGOs), along with the public sector, are also delivering education to all the stages (Thornton and Thornton 2012). A brief sketch of each stage of education in Bangladesh is presented in the following three sections.

3.1 State of Primary Education

Bangladesh has demonstrated praiseworthy performance in achieving the second goal of Millennium Development Goals (MDGs) that designates universal primary education emphasizing the objective of equal education for boys and girls and the completion of a full course of primary schooling. Both the Gross Enrolment Rate (GER)(Note 1) and the Net Enrolment Rate (NER)(Note 2) of primary schooling corroborate the good performance of Bangladesh in achieving MDG-2. Table 1 shows Bangladesh's performance in achieving nationwide primary schooling as regards both GER and NER.

Table 1. Primary Education Enrolment Rate in Bangladesh, 2005-2012

	GER (%)			NER (%)		
Year	Boys	Girls	Total	Boys	Girls	Total
2005	91.2	96.2	93.7	84.6	90.1	87.2
2006	92.9	103	97.7	87.6	94.5	90.9
2007	93.4	104.6	98.8	87.8	94.7	91.1
2008	92.8	102.9	97.6	87.9	90.4	90.8
2009	100.1	107.1	103.5	89.1	99.1	93.9
2010	103.2	112.4	107.7	92.2	97.6	94.8
2011	97.5	105.6	101.5	92.7	97.3	94.9
2012	101.3	107.6	104.4	95.4	98.1	96.7

Source: Bangladesh Bureau of Educational Information and Statistics (BANBEIS) (2012)

The above table shows a satisfactory trend of both GER and NER in Bangladesh's primary education. The statistics are also almost compatible with the targets that were projected in Education for All (EFA) National Plan for Action-II, 2003-2015 for primary education. The total GER and total NER were targeted 110 percent and 95 percent respectively in 2015, while the targets were 108 percent and 92 percent respectively in 2010 (Ministry of Primary and Mass Education 2003). Table 1 illustrates that though the actual rate of gross enrolment is slightly below the target, the rate of net enrolment is above target. However, it is also important to note that the gender gap – enrolment rate between male and female students – in primary education has also been narrowing, although it was higher previously due to unfavourable situation of enrolment rate for male students in comparison with their female counterparts. Nevertheless, the trend of dropout rate still reckons an alarming situation which appears to counterbalance the exemplary success in achieving higher enrolment rate in primary education. Although the EFA National Plan for Action-II 2003-2015 targeted to reduce the dropout rate to 10 percent by 2015 (Ministry of Primary and Mass Education 2003), the current trend, demonstrated in table 2, does not show that promise.

Table 2. Dropout Rate in Primary Education, 2005-2012

Year	2005	2006	2007	2008	2009	2010	2011	2012
Dropout Rate (%)	47.2	50.5	50.5	49.3	45.1	39.8	29.7	26.2

Source: BANBEIS (2012)

This decelerated declining trend of dropout rates in primary education also blurred the prospect of achieving 100 percent completion of primary education by 2015 for Bangladesh. However, apart from this problem of high dropout rates, primary education in Bangladesh still faces such predicaments as shortage of teachers, poor teacher quality, inefficiency in using academic time, poor teaching aids, and lack of supervision and accountability (Ullah 2010, p. 110). A study by Power and Participation Research Centre (PPRC) (2005) indicates some further issues regarding the problems underlain in primary education system in Bangladesh. The study shows that a well-off family with an average income of Tk.(Note 3) 16,336 per month expends Tk. 329 on primary education, which is only 2 percent of its income. On the other hand, a middle class family with an average monthly income of Tk. 4386 spends Tk. 279 on primary education, which is 6.4 percent of its income and a poor family with an average income of Tk. 1471 per month spends Tk. 251 on primary education, which is 17.1 percent of its income. The nature of the burden of expenditure especially on poor families raises the question of effectiveness and quality of primary schooling in Bangladesh. The families spend money on primary education as regards such major expenditure items as private tutoring, pen and paper, tiffin, dress, and evening lighting. Dependence on private tutoring by the families is indicative of unsatisfactory teaching quality in school, which undermine the state's effort to finance primary schools to the tune of 97 percent to 99.6 percent (PPRC 2005).

In addition, there has been found some functional flaws in the working of primary education system in Bangladesh. Among them, loss of school working calendar days, teacher absenteeism, mismanagement of time scheduling, lack of space in classrooms, low rate of student presence, extra-teaching activities of teachers are at the alarming level. The PPRC (2005) study highlights that 16 percent working day loss happens in primary schooling in Bangladesh. A primary school remains open for only 201 days while it is supposed to follow a working calendar of 238 days a year. The incidence of teacher absenteeism is as high as 15 percent, while a total of 125 hours has been found to be

spent by a teacher for extra-teaching activities as shown in a chart of extra-teaching activities of teachers in primary schools (PPRC 2005). It is further complained that in reality the loss of time may be much higher since the revelation of 2 hours spent for any extra-teaching purpose by a teacher virtually means the loss of the whole working day (Ullah 2010, p. 111). Besides, the average rate of student presence was 79.8 percent, while the break-hours are found to be utilized for assembly and play time and the extra-curricular activities remain limited to only physical training (PPRC 2005).

3.2 State of Secondary Education

System of secondary schooling in Bangladesh can be categorized into three parts, namely junior secondary school that covers grade 6 to 8, secondary school covering grade 9 to 10, and higher secondary school that delivers education for grade 11 to 12. After completing primary education that covers grade 1 to 5, students enter the secondary schooling which is imparted by both government and private institutions. BANBEIS (2012) shows that there are 19,208 institutions that currently impart secondary education in Bangladesh. Of this number, only 318 institutions that constitute 1.66 percent of total number of secondary schooling institutions are owned and managed by the government. The other 18,890 institutions that constitute 98.34 percent of total number of secondary schooling institutions are owned and managed by the private sector. However, though this large number of institution is owned and managed privately, 100 percent of its salary bills, costs of physical infrastructure development, durable education supplies and equipments are supplied by the government (Rahman et al. 2009, p. 58).

The scenarios of secondary schooling in Bangladesh as regards GER, NER, dropout rate, completion rate, and survival rate are not at a satisfactory level. BANBEIS (2012) evinces that the GER at secondary level for grade 6 to 10 is 50.94 percent on an average in 2012, while it is 56.63 percent for female students and only 45.70 percent for male students. Table 3 indicates that the number of secondary age population aged from 11 to 15 was nearly 1.56 crore, while total enrolment in grade 6 to 10 was barely 8 million and enrolment of students aged from 11 to 15 in grade 6 to 10 was nearly 7.1 million.

Table 3. Gross and Net Enrolment Rate in Secondary Schools in 2012

Indicators	Both	Male students	Female students
Gross Enrolment Rate (%)	50.94	45.70	56.63
Net Enrolment Rate (%)	45.80	41.42	50.56
a) Secondary Age Population (11-15 years)	1,55,81,326	81,13,214	74,68,112
b) All Enrolment in grade VI to X	79,37,235	37,07,943	42,29,292
c) Enrolment of students aged from 11 to 15 in grade VI to X	71,36,801	33,60,842	37,75,959

Source: BANBEIS (2012)

Recent statistics on GER in secondary education in Bangladesh demonstrates that though there is an increasing trend in GER, the rate is still fairly low. In 2008, the GER in secondary education was 39.67 percent, while it was found 43.23 percent, 47.34 percent, and 47.63 percent in 2009, 2010, and 2011 respectively. Along with this low enrolment rate, secondary education in Bangladesh has been witnessing an alarming rate of dropout from schools. Besides, the completion and survival rates are also unsatisfactory. The average dropout rate in secondary schools is as high as 46.70 percent in 2012, while it is 40.44 percent for male students and 51.83 percent for female students (BANBEIS 2012). It is evident that the dropout rate of students particularly of female students is ominously high in secondary education. Although primary schooling witnesses a higher dropout rate of male students than that of the female students, secondary education witnesses the reverse. Consequently, women education and development remain under serious challenge, since half of the female students drop out from education at their secondary level. Table 4 reveals the appalling scenarios of dropout, completion, and survival rates in secondary schools.

Table 4. Completion, Dropout, and Survival Rates in Secondary Schools in 2012

Indicators	Both	Male Students	Female Students
Completion Rate (%)	53.30	59.56	48.17
Dropout Rate (%)	46.70	40.44	51.83
Survival Rate (%)	66.34	72.75	61.06

Source: BANBEIS (2012)

The table 5, however, demonstrates the dropout rates by grades in secondary education in Bangladesh.

Table 5. Dropout Rates by Grades in Secondary Schools in 2012

	Grade				
Sex	VI	VII	VIII	IX	X
Male Students (%)	3.40	3.23	17.28	5.52	17.87
Female Students (%)	5.59	6.53	22.93	8.49	20.17
Both (%)	4.59	5.02	20.35	7.06	19.07

Source: BANBEIS (2012)

The above two tables are eloquent by themselves. Low enrolment rate, along with high dropout rate, signals the weakness of secondary schooling in Bangladesh. Though the country has achieved exemplary success in achieving nearly 100 percent enrolment rate in primary education, it lags far behind in structuring its secondary education in a way that can lead to its subsequent success in tertiary education resulting in enrichment of its human capital. Furthermore, the quality of secondary schooling does also not reach the level of inculcating creativity and innovation into students. Taylor (2005) makes an incisive observation on secondary education in Bangladesh as regards its underlying functional flaws that essentially undermine the attempts at propping up creativity and innovation. In essence, the overall scenario of current secondary schooling reckons much worrying circumstances as regards thinking of approaching toward a knowledge-based society.

Comparative unsatisfactory performance of Bangladesh in secondary education can partly be attributed to socioeconomic characteristics of the students. As mentioned earlier, 98.34 percent of total institutions rendering secondary schooling in the country are owned and managed privately; students studying in these institutions have to bear higher expenditure on their education purpose. The cost of schooling in these institutions is three times higher than the cost in public institutions (Rahman et al. 2009, p. 59). On the other hand, research on secondary students' family background indicates that 73.9 percent students come from the families where the main occupations of household heads are farmer, labourer, and small trader. As a result, the low enrolment rate and high dropout rate in secondary schooling can be ascribed to the economic hardship of the guardians of school going children. In addition, disparities in regional performance in secondary education are also very conspicuous in the country. Government secondary schools that are considered as model school as regards their good performance are mainly concentrated in urban areas. As a result, majority of children from rural areas, socioeconomically backward families, and ethnic minorities lack access to secondary education (Rahman et al. 2009, p. 59).

3.3 State of Tertiary Education

Tertiary education renders the platform for research and development which generate external economies and productivity improvements in the economy through strengthening human capital in a country. The concept of endogenous growth reinforces the importance of research in development theory, since the investments in research and development discard the neoclassical assumption of diminishing marginal returns to capital investments and permit increasing returns to scale in aggregate production through fostering external economies and productivity improvements that offset the natural tendency for diminishing returns to scale in the economy (Todaro and Smith 2003, pp. 147-148). However, the performance of Bangladesh in tertiary education to create an effective human capital is not satisfactory. The main reason behind this unsatisfactory performance in tertiary education in Bangladesh is mainly attributed to the absence of quality schooling in institutions rendering higher education. Besides, it has been found that a large number of institutions, particularly private universities, lack minimum requirements of physical infrastructure, full time qualified faculty, teaching aids, library and other facilities to facilitate quality education (Aminuzzaman 2011).

A significant increase in enrolment in universities, particularly in private universities, has been noticed during the last decade. BANBEIS (2012) shows that there are currently 86 universities, of which 34 are public and 52 are private, delivering higher education in Bangladesh. The number of private universities has been growing dramatically since the private university enactment act 1992, although the issue of quality schooling in these institutions remains under serious concern. Enrolment in private universities is impressive, but the quality of the students getting enrolled in these institutions is poor. Statistics show that whereas the total enrolment in private universities was 8,718 in 1998, it became 35,968 in 2001 and more than 100,000 in 2006 (Aminuzzaman 2011). The total enrolment in private universities has doubled between 2006 and 2012, as the total enrolment has been calculated at 280,822 in 2012 in these institutions. Table 6 reveals the scenarios of enrolment, number of universities and teachers in Bangladesh in 2012.

Table 6. Number of University, Number of Teacher, and Enrolment in 2012

Type of University	Number of University	Number of Teacher			Enrolment		
		Total	Female	% of Female	Total	Female	% of Female
Public	34	9962	1931	19.38	316331	108377	34.26
Private	52	10683	2784	26.06	280822	70977	25.27
Total	86	20645	4715	22.84	597153	179354	30.03

Source: BANBEIS (2012)

The backdrop of rising number of private universities in Bangladesh can be ascribed to people's falling confidence in the performance of public universities on the one hand, and low intake of students by these universities on the other. The common predicaments in public universities are session jam, violent student politics, and bad governance, causing the students of public universities to lag behind their counterparts studying at the private institutions as regards entering the job market and demonstrating their capabilities. Parents of higher study seeking students are much worried about these scenarios of public universities, since such crises delay their wards' entrance into the job market. As a result, they do not vacillate to pay much higher cost charged by the private universities in the hope that their wards will graduate within a shorter period than the students studying at the public universities. Having graduated sooner than the students of public universities, private university students are supposed to enter the job market early and earn much vis-à-vis the students of public universities whose graduation and entrance into job market become delayed due to session jam. However, it is needless to say that only well-off parents can bear the cost of schooling in private universities, while, except for few, the quality of schooling in these institutions is not up to the mark. Few private universities have their own campus, while most of them run their schooling in rented accommodation. Furthermore, these private institutions do not have full time qualified teachers and, therefore, largely rely on public universities for qualified faculty support. Although the faculty members of public universities are criticized for teaching at private universities, it has been argued that, apart from exception, they teach at private universities only after the authority allows them to do. It is, however, further argued that while there is a huge lack of qualified teacher to teach at university level in the country, intensive utilization of qualified teachers from the public universities by the private universities should be considered normal from the economic point of view (Ullah 2010).

4. Discussions

4.1 Quality Education: How far is Bangladesh from a Knowledge-Based Society?

In an attempt to define knowledge-based society earlier in this paper, the aspects of structural and human capital that essentially prop up the structure of a knowledge-based society in a country have been pointed out briefly. However, it is important to note that the main feature of a knowledge-based society reflects sharing and diffusion of knowledge through knowledge seeking, innovation, training and research which are the key tools in fighting against poverty and creating wealth in the nation (Matsuura 2006). As a result, an increasing trend has been noticed internationally in putting emphasis on knowledge and learning that render an economy with opportunities to adapt rapidly to world's changing environment and thus to prosper (Conceicao et al. 2003; Dolfsma 2006; Houghton and Sheehan 2000; Powell and Snellman 2004; Rodrigues 2002; Soete 2006; UNESCO 2005). Hence, the developments in ensuring quality education to create a strong human capital play the key role in approaching toward a knowledge-based society. Taking this argument into account, an assessment of the quality of education in Bangladesh as regards the primary, secondary and tertiary education is essential.

Although Bangladesh has recently achieved spectacular developments in increasing enrolment rate in primary education, the country still lags behind in assuring quality education at primary level. Along with the lack of qualified teacher, teacher absenteeism and alarming dropout rates at different grades, a large number of primary schools lack necessary physical infrastructure. In 2012, the teacher-student ratios were 1:50 in government primary schools, 1:47 in registered non-government primary schools, and 1:42 in non-registered non-government primary schools (BANBEIS 2012), while almost 24 percent of total government primary school and registered non-government primary school teachers are untrained (UNICEF 2009). In addition, the lack of trained and qualified teachers, the dominant and traditional way of teaching in primary schools cause the students to memorize facts rather than develop analytical, practical or vocational skills. Consequently, low achievement rate, high dropout and high repetition rate ensue in primary schooling in Bangladesh.

Absence of quality education in primary schooling can also be attributed to low contact hours, whereas contact hours are considered a key component of learning at primary level. UNICEF (2009) observes that the average contact hours in the primary schools in Bangladesh are nearly half of the international standard of 900-1000 hours per year. Almost 90 percent primary schools run two shifts - students in grade I and II attend in the 2-hour morning shift and students in grade III to V attend in the 3.5-hour afternoon shift. As a result, along with high student absenteeism, the actual average contact hours in the primary schools in Bangladesh could be found even lower. As regards physical infrastructure, the quality schooling at primary level is directly associated with the retention and attendance rate of students which largely depend on infrastructural facilities i.e. improved toilet and water supply at schools, toilet facility is inadequate and access to drinking water is not smooth in the primary schools in Bangladesh. For instance, it has been found that on average 150 students have to rely on a single toilet in the primary schools in Bangladesh (UNICEF 2009). However, the assurance of quality education in primary schools is ascribed to the development of such competencies as language, numeracy and learning of life skills i.e. values and attitudes among the students, which enable them to become productive in the society through pursuing higher education (Masum 2008). Education watch (1999), however, indicates that only 29.6 percent of total children enrolling at primary schools in 1998 can satisfy the minimum level of four competency areas i.e. reading, writing, numeracy and life skills, while it was 26.7 percent in 1993. Such a slow improvement in assuring quality education remains under serious concern as regards approaching toward a knowledge-based society in Bangladesh.

The quality of education in secondary schools in Bangladesh cannot also be reckoned satisfactory, though a dramatic increase in average pass rate has been noticed lately in both Secondary School Certificate (SSC) and Higher Secondary Certificate (HSC) examinations (89.03 percent in SSC in 2013 and 74.30 percent in HSC in 2013). While secondary education set the scenes of higher education under such major streams as science, humanities and business studies, the performance of students in qualifying examinations of universities, especially of some public universities, is quite incongruous vis-à-vis their results in SSC and HSC levels. The quality of secondary education in Bangladesh remains unsatisfactory due mainly to lack of modern pedagogical thinking among the teachers, underemphasized practical learning especially in science stream, lack of modern educational equipments and less scope of creative thinking for the students. In addition, poor physical infrastructure causes the institutions rendering secondary education in Bangladesh, especially in rural areas, to impart education of poor quality as well. Table 7 demonstrates the scenarios of electricity, multimedia and computer facilities in the secondary education in Bangladesh.

Table 7. Number of Institutions Having Electricity and Multimedia Facilities, 2012

Type of School	Management	Institutions having electricity connection (%)	Institutions having computer facility (%)	Institutions having multimedia facility (%)
Junior Secondary School	Private	41.6	24.1	2.7
Secondary School	Public	96.6	99.7	39.7
	Private	82.4	76.9	10.1
	Total	82.6	69.1	10.7
School and College (School Section)	Public	100.0	100.0	60.0
	Private	94.1	99.1	24.7
	Total	94.2	99.1	25.2
All	Public	96.7	99.7	40.4
	Private	76.7	69.8	9.6
	Total	77.0	70.3	10.1

Source: BANBEIS (2012)

Education at tertiary level is considered to inculcate the characteristics into the students that develop the quality of leadership among the students and raise awareness in them to think of independence, sovereignty, integrity and development of their country. As mentioned earlier, the quality of education is reflected in the students' learning of moral, humanitarian, religious, cultural and social values, knowledge and perspectives that make them contribute to nation's social and economic development. In this regard, tertiary education plays the key role in shaping the innovative thoughts of students and creating a large and effective base of human capital leading to the creation of a

knowledge society. It is, however, important to note that the quality of tertiary education must be assured prior to thinking of achieving a large and effective base of human capital in the nation. A number of 597,153 students are currently enrolling at the tertiary education level in Bangladesh (BANBEIS 2012), which reckon a possibility of approaching toward knowledge-based society in the country. However, the issue of quality education at tertiary level in Bangladesh blur such a prospect.

To assess the quality of higher education, several analytical factors have been developed throughout the discourse of education research (Delors 1996). Five approaches – exception (high standard), consistency (zero defects), meeting the stated purposes, value for money, and transformation of the participants – are generally taken into consideration while assessing the quality of education at tertiary level. The assurance of quality education also reflects in the achievement of such four pillars of education as learning to know, learning to do, learning to live together and with others, and learning to be (Delors 1996). Diagnostic review and evaluation in relation to these criteria of quality education is absent in the institutions delivering higher education in Bangladesh. There is neither any internal quality assurance cell nor any external system that assesses the quality issues at university schooling in Bangladesh (Aminuzzaman 2011). As a result, a number of issues such as mission, vision, academic programs, teaching and performance of students, research and governance have been found anomalous as regards the question of quality education at tertiary level in the country.

Quality assessment of tertiary level schooling remains limited to sporadic administrative review by the departmental head or deans of the faculties. Teaching quality assessment of the teachers through the evaluation made by students is hardly followed in public universities, while it may be found in some private universities on occasion without any significant impact made by such evaluation on the quality of teaching. The examination system and evaluation of answer scripts do not also comply with the promise of quality assurance. It has been found that students confine themselves to few and common sources to answer a question in the examination. As a result, most of the answers are found identical and can hardly be differentiated as regards arguments, logic and substantiation of the arguments (Aminuzzaman 2011). In addition, there is found a tendency among the question setters to repeat a good number of questions every second year. Consequently, innovative thoughts remain dormant. Furthermore, delayed publication of the final results in public universities is a common scenario resulting in long session jam. In addition, research and innovations, that are integral parts in ensuring quality education in universities, are also not up to the mark due mainly to inadequate financial support, lack of priority in deciding areas of research, lack of facilities, lack of industry and corporate support in research, lack of incentive for research and teachers' unwillingness to do research works, while governance, transparency, ethics and humanities and quality sustainability are also not commensurate with the criteria of quality education in Bangladesh.

4.2 Reforming the Education System: Approaching toward a Knowledge-based Society

The education system in Bangladesh has undergone several reform measures since the nation's independence in 1971. Educating the large population of the war ravaged poverty-prone nation was the massive challenge for every government. A number of education commissions have been established by the governments with a view to maintaining modern, scientific and effective education system in Bangladesh. However, governments have also been running three large scale development programs in education sector in collaboration with the World Bank in order to develop the sector through quality assurance. Among these three development initiatives, Primary Education Development Program (PEDP) which is currently in its third phase aims at (i) increasing participation and decreasing disparities in primary education; (ii) increasing the number of children completing primary education and improving the quality of the learning environment and measurement of student learning; and (iii) improving effectiveness of resource use for primary education (World Bank 2014a). The Secondary Education Quality and Access Enhancement Project (SEQAEP) aims at improving the quality of secondary education in Bangladesh, systematically monitoring the learning outcomes, and increasing access and equity in secondary schooling (World Bank 2014b). The other development initiative in education sector is the Higher Education Quality Enhancement Project (HEQEP) which has been undertaken by Bangladesh government with the assistance of the World Bank and implemented by University Grant Commission (UGC) of Bangladesh. The objectives of the project are to improve the quality and relevance of teaching and research environment in higher education institutions through encouraging both innovation and accountability within institutions and enhancing the technical and institutional capacity of the higher education sector in Bangladesh (World Bank 2014c).

Despite undertaking such development projects with a view to ensuring enhanced access as well as improved quality in education, however, Bangladesh still lags behind in achieving quality assurance in educating its huge population in an attempt to create a strong base of knowledge society. In order to overcome the shortcomings of current

education system as discussed in the previous sections, some pressing reform measures are worth considering as regards the nation's attempt at approaching toward a knowledge-based society. Primarily an emphasis has to be put on the size of national allocation for the development of education sector and importance should be given on science-education in general, while thoughtful policy changes need to be taken as regards primary, secondary and tertiary education in particular. Bangladesh has been lagging behind other developing countries in allocating budget for education sector. In 2011, education budget in Bangladesh was 2.53 percent of Gross Domestic Product (GDP), while it was 3.2 percent in India and 6.8 percent in Maldives. Malaysia and Nepal allocated 5.1 percent and 4.7 percent of their GDP for education sector respectively in 2010 (BANBEIS 2012, World Bank 2014d). Therefore, it is obvious that investment in education is not up to the mark in Bangladesh. The country has to think of allocating a budget of 5 percent of its GDP for education sector in order to channel adequate resources into right path transforming the nation into a knowledge-based society. The issue of underemphasized science-education also demands immediate response that should be noted with priority in the reform agenda. Science-education fosters industrialization which is considered to be the driving force behind a nation's development. Bangladesh lacks well equipped laboratory and good instructors that eventually keep science education under-emphasized in the country (Ullah 2010). It is, therefore, urgent to invest in science-education to encourage innovation and thus development in the nation. However, apart from this general reform measures, following reform strides should be reckoned as regards primary, secondary and tertiary level in order to strengthen the education system and assure quality education in the nation.

- In order to improve the quality of primary education, much focus must be given on the quality of teaching. Intensive training programs have to be arranged through which teachers will learn child psychology and the pedagogy of teaching children. Contact hours in the schools should be increased to comply with international standard. Teacher absenteeism must be addressed with strict legal arrangements. Frequent inspection of primary schools by *UpazelaNirbahi Officer* (UNO) should be arranged. Two positions under the designation of UNO may be created in order to effectively carry out both the school inspection and administrative tasks. In that case, one office will be assigned to school inspection, while the other will be responsible for the administrative tasks.
- As discussed in the previous sections, secondary education in Bangladesh undergoes low enrolment and completion rate along with inadequate physical infrastructure. Enrolment rate especially of the female students has to be increased through nationwide campaign aiming to enhance access to secondary education. Research has to be carried out in order to address the causes of high dropout rate of female students and necessary steps need to be undertaken to resolve the problem. In addition, Ministry of Education has to be vigilant while allocating resources. Physical infrastructures i.e. improved laboratory, electricity, computer facility, increased number of classrooms and toilets, supply of pure drinking water must be ensured in order to provide a sound environment for the students to learn quality education. Intensive training programs have to be arranged for the teachers and periodical review of curriculum has to be carried out in order to check international standard.
- Finally, much emphasis has to be put on tertiary schooling which create and disseminate new knowledge and increase the knowledge base in the society. Quality assurance in the universities has become the massive challenge for the nation now. The UGC has to be watchful in approving private universities to deliver education in the country. Monitoring and evaluation of academic programs in the universities should be carried out periodically and properly by the commission. The provision of teachers' evaluation by their students has to be reinvigorated to monitor their performance. The universities must concentrate on extensive research works with a view to innovating new facts and creating new knowledge. Contribution of faculty members to new knowledge creation has to be widely recognized and published in internationally top rated academic journals. The government has to think of establishing a world-class university in the nation and target to achieve one thousand PhD degree holders within next seven years.

5. Conclusion

Turning the large population of Bangladesh into effective and efficient human capital can bring impressive strides in alleviating nation's poverty and inequality. The country has been showing its promise in doing so, though there are some structural and functional flaws in its measures taken to create a strong human capital. In this regard, one of its spectacular achievements is the nearly 100 percent of enrolment rate in primary education, which has been appreciated worldwide. The country has, however, not yet achieved such a high enrolment rate in its secondary

education, though the enrolment rate tends to be increasing over the years. A significant dropout rate has been noticed among the female students in secondary schools. On the other hand, tertiary education has yet to create a truly large and innovative knowledge base that would prop up the creation of a knowledge-based society in the country. The quality assurance in education system in the country is, therefore, under serious diagnosis as regards its strength to create an effective human capital. In order to overcome the challenges to the achievement of quality assurance in education, a number of reform measures should be undertaken as regards all the primary, secondary and tertiary education levels in the nation. These reform measures include both the institutional and structural changes with a view to assuring quality education at all schooling levels, and thus creating a strong human capital and large knowledge base in the society.

References

Aminuzzaman, S. M. (2011). Quality Issues of Higher Education in Bangladesh. *Journal of General Education, 1*, 1-15.

BANBEIS. (2012). "Basic Education Statistics-2012". Ministry of Education, Dhaka.Retrieved January 03, 2014 from http://www.banbeis.gov.bd/webnew/index.php?option=com_content&view=article &id=662&Itemid=212

Bontis, N. (2001). Assessing knowledge assets: a review of the models used to measure intellectual capital. *International Journal of Management Reviews, 3*(1), 41-60. http://dx.doi.org/10.1111/1468-2370.00053

Conceicao, P., Gibson, D. V., Heitor, M. V., & Stolp. C. (2003). Knowledge and innovation for the global learning economy: Building capacity for development. In D. V. Gibson, C. Stolp, P. Conceicao, and M. V. Heitor (eds)., *Systems and Policies for the Global Learning Economy.* Westport, CT: Praeger.

Delors, J. (1996). *Learning: The Treasure Within.* Paris: UNESCO.

Denison, E. (1962). *Why Growth Rate Differ: Post-war Experience in Western Countries*. Brooking Institution, Washington D. C.

_____. (1967). Some major issues in productivity analysis: an examination of estimates by Jorgensen and Griliches. *Survey of Current Business, 49*, 1-28.

_____. (1974). *Accounting for the United States Economic Growth, 1929-1969.* Brooking Institution, Washington D. C.

Dolfsma, W. (2006). Knowledge, the knowledge economy and welfare theory. In W. Dolfsma, and L. Soete, *Understanding the dynamics of a knowledge economy.* Cheltenhan, UK and Northampton, MA, USA: Edward Elgar. http://dx.doi.org/10.4337/9781845429898.00015

Education Watch. (1999). *Hope not Complacency: State of Primary Education in Bangladesh*. Dhaka.

Edvinson, L. (2000). Some perspective on intangible and intellectual capital.*Journal of Intellectual Capital, 1*(1), 12-16. http://dx.doi.org/10.1108/14691930010371618

Houghton, J., & Sheehan, P. (2000). "A primer on the knowledge economy". Paper prepared for the *National Innovation Summit*, Melbourne, Australia, February 2000.

Masum, M. (2008). Higher Education in Bangladesh: Problems and Policies. *Journal of the World Universities Forum, 1*(5), 17-30.

Matin, K. A. (2012). "A Demographic Divident in Bangladesh: An Illustrative Study". Paper prepared for presentation at the *18th Biennial Conference of the Bangladesh Economic Association* to be held on 12-14 July, 2012 at Dhaka. Retrieved February 15, 2014 from http://bea-bd.org/site/images/pdf/40.pdf

Matsuura, K. (2006). "Knowledge Sharing – a powerful tool in the fight against poverty". *The Straight Times*, 6th December 2007, p. 27.

Ministry of Primary & Mass Education. (2003). "Primary Education in Bangladesh". Directorate of Primary Education, Peoples Republic of Bangladesh.

Olssen, M., & Peters, M. A. (2005). Neoliberalism, higher education and the knowledge economy: From the free market to knowledge capitalism. *Journal of Education Policy, 20*(3), 313-345. http://dx.doi.org/10.1080/02680930500108718

Powell, W. W., & Snellman, K. (2004). The Knowledge Economy. *Annual Review of Sociology*, *30*, 199-220. http://dx.doi.org/10.1146/annurev.soc.29.010202.100037

PPRC, (2005). *Quality Improvements in Primary Education: Micro Insights for a Macro Agenda*. Dhaka.

Rahman, M. M., Hamzah, M. I., Meerah, T. S., & Rahman, M. (2009). Secondary Education in Bangladeh: History and Contextual Perspectives. *Journal of Bangladesh Studies*, *11*(2), 57-68.

Rodrigues, M. J. (2002). *The New Knowledge Economy in Europe: A Strategy for International Competitiveness and Social Cohesion.* Cheltenham, UK, Northamption, MA, USA: Edward Elgar. http://dx.doi.org/10.4337/9781781950425

Soete, W. D. (2006). *Understanding the Dynamics of a Knowledge Economy*. Cheltenham, UK, Northampton, MA, USA: Edward Elgar.

Taylor, B. J. (2005). Preparing for Higher Education: The Role of Secondary Schools. In M. Ullah. 2010. Reforming the Education System in Bangladesh, *Dhaka University Journal of Development Studies*, *1*(1), 103-114.

Thornton, H., & Thornton, P. (2012). *Institutional Assessment of Education in Bangladesh*. British Council. Retrieved January 29, 2014 from http://schoolsonline.britishcouncil.org/sites/default/files/files/Institutional%20Assessment%20of%20Education%20in%20Bangladesh.pdf

Todaro, M. P., & Smith, S. C. (2003). *Economic Development*. Pearson Education: Singapore.

Ullah, M. (2010). Reforming the Education System in Bangladesh. *Dhaka University Journal of Development Studies*, *1*(1), 103-114.

UNESCO. (2005). *From the Information Soceity to Knowledge Soceities*. Paris, France: UNESCO Publishing.

UNICEF. (2009). *Quality Primary Education in Bangladesh*. UNICEF Bangladesh. Retrieved February 02, 2014 from http://www.unicef.org/bangladesh/Quality_Primary_Education(1).pdf

World Bank. (2014a). *Bangladesh – Primary Education Development Program III*. Washington D. C.: The World Bank. Retrieved February 19, 2014 from http://www.worldbank.org/projects/P113435/primary-education-development-program-iii?lang=en

_____. (2014b). *Bangladesh – Secondary Education Quality and Access Improvement*. Washington D. C.: The World Bank. Retrieved on February 20, 2014 from http://www.worldbank.org/projects/P106161/secondary-education-quality-access-improvement?lang=en

_____. (2014c). *Bangladesh – Higher Education Quality Enhancement Project*. Washington D. C.: The World Bank. Retrieved February 22, 2014 from http://www.worldbank.org/projects/P106216/higher-education-quality-enhancement-project?lang=en

_____. (2014d). *Public Spending on Education, total (% of GDP)*. Washington D. C.: The World Bank. RetrievedFebruary 23, 2014 fromhttp://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS

Notes

Note 1. GER is calculated though the number of student enrolled in a level, regardless of age, divided by the population of the age group that officially corresponds to the same level.

Note 2. NER is calculated through the number of children enrolled in a level who belong to the age group that officially corresponds to the same level, divided by the total population of the same age group.

Note 3. Tk. 75 is equivalent to 1 US dollar.