

KNOWLEDGE BASED ECONOMY (KBE) IN THE EMERGING MARKETS: CASE OF BANGLADESH

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ABSTRACT

This paper examines whether Bangladesh as a nation is transforming or transitioning toward Knowledge-Based Economy (KBE) through the lens of Knowledge Economic Index (KEI) and Knowledge Index (KI). Knowledge is a prerequisite for any nation economic development. The method used KEI rankings and KI 2012, developed by The World Bank, literature review on role play by Higher Education (HE). The results show that Bangladesh is not progressing in all the four pillars of KEI. The Global Competitive Index 2016 results also show that Bangladesh is regressing in all the 12 pillars.

Keywords: Education, Higher Education, Knowledge Economy Index (KEI), Knowledge Based Economy (KBE), Development, Growth, Bangladesh.

INTRODUCTION

Transforming Bangladesh into the Knowledge-Based Economy (KBE) is vital for economic development and growth as emerging economy. Today much of the economic development and growth comes from natural resources, such as gas, physical assets such as land, steel, and iron to name a few. KBE has not been seen as a driving force for economic development and growth and therefore, if Bangladesh wants to be transformed into KBE, KBE should be taken very seriously. KBE has become a yardstick to assess any national economic development and hence Bangladesh cannot continue to live in the past while other nations are developing their economy using the right tool for economic development.

Natural resources alone cannot continue to be the driver of economic development. Knowledge is central to the economic development of Bangladesh, which allows enterprises, communities, and individuals to utilize resources to improve their well-being. In the developed world or economies, knowledge is seen as a strategic plan for economic development, new advanced technologies, and growth Amavilah et al., (2017). Therefore, nation like Bangladesh needs to be transformed into KBE because knowledge and information are replacing the old traditional economy which concentrated on natural resources. Apart from Bangladesh moving toward KBE, it is vital for both countries to maintain and consolidate democracy, good governance and enhance national unity. Education in Bangladesh can play an important part in the areas of national integration, peace, justice, social cohesion, and democratization. The World Bank has urged countries to use education as a means of fostering development. In other words, encourages countries to embrace knowledge and innovation-based development and KBE Appiah & Abdulai (2017).

On the other hand, while examining KBE some studies show that paralleled to other communities of the world, Africa and Asia are not progressing in its ambition toward KBE (Asangu, 2017). No study has been done in Bangladesh to examine whether these nations are transforming or moving toward KBE. There is less or no study on the researcher's knowledge of such studies conducted in Bangladesh Asongu (2017). This paper is, therefore, to examine whether Bangladesh is moving or transitioning toward KBE. KBE has been identifying by the Organization for Economic Co-operation and Development (OECD) (Godin, 2006) and the World Bank as being the most essential element for the economic development of nations.

Many countries in Europe, Latin America, and Asian countries are moving toward KBE (Tchamyou, 2017). North America, Europe, and Japan have been able to master KBE and are now the leading countries in determining the economic development of many nations internationally and that countries in Asia and Latin American been catching up except some African and Asian countries Bilola & Pascal (2016). Thus, the significance of the paper is to shed light on whether Bangladesh are moving toward KBE and the role play by Higher Education through the lens of KEI 2012 Bramwell & Wolfe (2008).

The method used in this paper is KEI and KI (2012) with four pillars to analysis the situation of the current position of Bangladesh to ascertain whether or not these countries are transitioning into KBE and KI. These four pillars are education, innovation, information and communication technology (ICT), and the prerequisite economic and institutional regime KBE and KI (2012). Education is the most important and the most powerful instrument in transforming any given nation into greatness Chen & Dahlman (2005). Moreover, education is vital for human, social, and economic development in Bangladesh in particular and the world in general. Similarly, some scholars of KBE attest to the fact that education and training are the best strategies used by governments toward KBE in the 21st Century (Finegold, 1999).

In examining the knowledge economy many scholars have maintained that KBE focuses on the creation and managing knowledge as a vital source of growth in the KE, not natural or mineral possessions of the country (Cooke & Leydesdorf, 2006). For them, brainpower is the key to economic development Cloete et al., (2015). Bangladesh is gifted with abundant talents. Such abundant talents require good leaders, transparent government, and the role of law to manage these resources. However, Bangladesh are lacking in the area of good governance, accountability, and knowledge to manage their God-given resources. In today's world of KBE, natural resources are not enough or sufficient for economic development on its own. Hence, countries like Bangladesh to be transformed into KBE there is a need to enhance its education especially higher education. Resources without good governance and education are a waste of resources Cohn & Addison (1998).

In a traditional economy, capital is described mainly in monetary terms while KE views it in terms of intangibles capital, which requires the professionalism of the staff and their knowledge to develop and use it. The intangibles assets of KE are knowledge and information management which are the core competencies. The brainpower or the cognitive domain is ideal and is worth billions Garnier & Schafer (2006). Therefore, KE is the way forward toward economic development for knowledge has replaced labor and capital as tradition production factors. Intellectual capital or intellectual property is the basses for knowledge. It is hoped that if Bangladesh as developing nations can embrace KBE, they can move toward a new spirit of the entrepreneurship and good citizenship capable of modernizing its economy and transforming its KBE for all Huggins & Johnston (2009).

Some scholars acknowledge that KE is founded on managing time and detachments: information and knowledge (Suciu, 2004; Gertler & Wolfe, 2004). On the other hand, some maintain that KE “is what you get” when companies carry together powerful computers and well-educated minds to create wealth, as such wealth can be obtained through ICT and educated workers (Brinkley, 2006; Cloete, 2012). The Organization for Economic Co-operation and Development (OECD, 1999) defines KBE as “the production, diffusion, and use of technology and information as keys to economic activity and sustainable growth”. Bangladesh can also learn from countries within OECD or other countries that have been able to transform their countries into a KBE. In other words, they can learn from other nations that have implemented KBE as a means for economic development and growth. It is therefore anticipated that the findings from this paper would enable policymakers at all levels in

Bangladesh both Public and Private sectors and civil society to look at the findings and lessons to be learned.

Bangladesh A Brief Historical Perspective

Bangladesh, country of South Asia, located in the delta of the Padma (Ganges [Ganga]) and Jamuna (Brahmaputra) rivers in the northeastern part of the Indian subcontinent.



**FIGURE 1
LAND OF THE BENGALS**

The riverine country of Bangladesh (“Land of the Bengals”) is one of the most densely populated countries in the world, and its people are predominantly Muslim. As the eastern portion of the historical region of Bengal, the area once formed, along with what is now the Indian state of West Bengal, the province of Bengal in British India. With the partition of India in 1947, it became the Pakistani province of East Bengal (later renamed East Pakistan), one of five provinces of Pakistan, separated from the other four by 1,100 miles (1,800 km) of Indian territory. In 1971 it became the independent country of Bangladesh, with its capital at Dhaka Figure 1.

Bangladesh’s heavy dependence on agriculture has long contributed to seasonal unemployment among rural farmworkers, as well as to a generally low standard of living in many areas. To counteract this imbalance, a policy of industrialization was adopted in the mid-20th century. During the period of Pakistani administration (1947–71), priority was given to industries based on indigenous raw materials such as jute, cotton, hides, and skins. The principle of free enterprise in the private sector was accepted, subject to certain conditions, including the national ownership of public utilities. The industrial policy also aimed to develop the production of consumer goods as quickly as possible in order to avoid dependence on imports Marginson, (2010).

The Pakistani administration established new types of autonomous corporations to deal with industrial development, electricity, water and sewerage management, the development of forest industries, and road transportation. In 1972, however, the government of the new, independent Bangladesh implemented socialist policies, nationalizing these corporations and establishing several new corporations to manage the nationalized enterprises. Hasty change, coupled with the inexperience of those placed in charge of the corporations, produced widespread disruptions, and industrial production nearly came to a halt. In 1973 the government launched a five-year development plan (the first of a series of such plans that have guided the country's economy into the 21st century). The policy of nationalization was gradually revised and was replaced by a 19-point program announced in 1979 that emphasized greater productivity and efficiency. In an effort to encourage private investment, the government also returned many state-owned enterprises to the private sector.

Education System in Bangladesh in Brief

Over the last decade, Bangladesh has made notable progress in expanding access to education. In a country of over 18 million primary school students, Bangladesh has achieved near universal net primary enrollment, with approximately 98 percent of children of primary school age enrolling in school. Bangladesh has also achieved gender parity in access to education, and 50.9 percent of all enrolled students were girls in 2016.

Nonetheless, the quality of education in Bangladesh remains low. The most essential measure of quality in a school system is whether its students are learning the foundational skill for all future learning: reading. In Bangladesh most children are not acquiring basic reading fluency. A USAID-funded assessment in spring 2018 found that 44 percent of the students finish first grade unable to read their first word, and 27 percent of third grade students cannot read with comprehension. These poor learning outcomes contribute to grade repetition and dropout, and 20 percent of all students drop out before completing fifth grade. Poor literacy in the early grades also inhibits Bangladesh's economic growth, as the pipeline of youth workers lack the foundational skills to be productive and engage in a knowledge-based economy Ngalim, (2014).

The foundation of the educational system in Bangladesh was laid down during the period of British rule. The system has three levels—primary, secondary, and higher education. Primary and secondary education are both compulsory, though universal participation has remained more an ideal than a fact. Primary education consists of eight years, while secondary education lasts four years. Secondary education is divided into a lower level and a higher level, and public examinations are held at the conclusion of each level of schooling. Schools in cities and towns are generally better-staffed and better-financed than those in rural areas.

There are hundreds of colleges, most of them affiliated with one of the larger universities, such as the University of Dhaka (1921), the University of Rajshahi (1953), or the University of Chittagong (1966). Other prominent institutions include Jahangirnagar University (1970) on the outskirts of the capital, the Bangladesh Agricultural University (1961) at Mymensingh, the Bangladesh University of Engineering and Technology (1962) at Dhaka, and the Islamic University (1980) at Kushtia. Medical education is provided by several medical colleges and an institute of postgraduate medicine at Dhaka. Each college or institute has a full-fledged hospital attached to it.

For vocational training Bangladesh relies on several engineering colleges and a network of polytechnic and law colleges. In addition, an array of specialized colleges are dedicated to training students in areas such as the arts, home economics, social welfare and research, and various aspects of agriculture. Literacy improved significantly in the 21st

century: less than half of the population could read and write at the beginning of the century, but by the late 2010s more than two-thirds were literate.

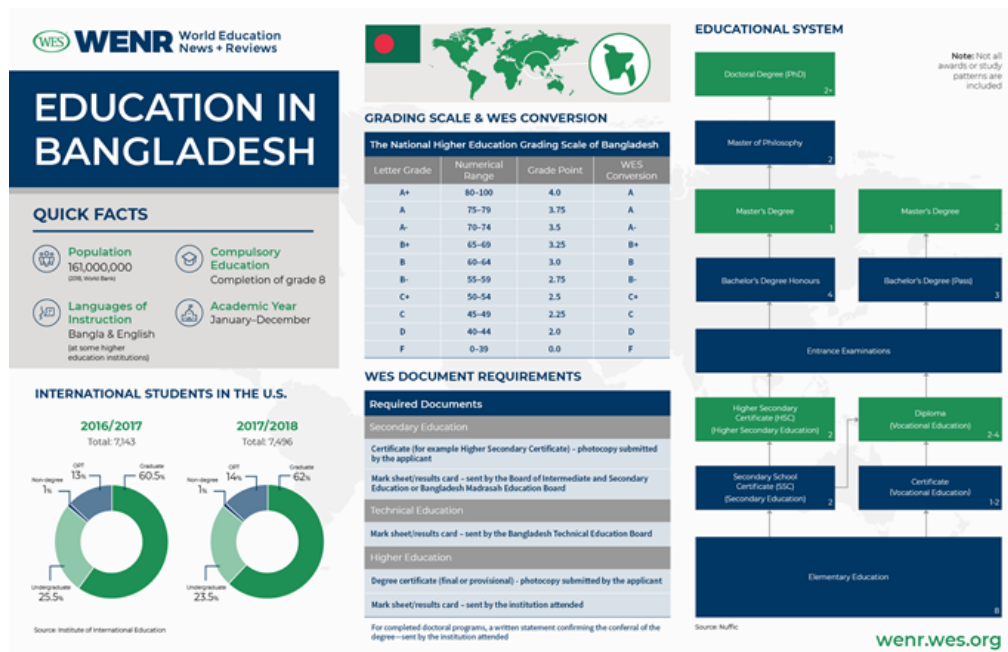


FIGURE 2
EDUCATION IN BANGLADESH

Bangladesh Higher Education System

University seats are a scarce commodity in Bangladesh, especially at quality institutions—in 2017, there were 801,711 potential students who had passed the HSC exams, but fewer than 50,000 available seats in the top tier of competitive public universities. However, larger numbers of spaces are available at the less reputable and non-competitive National University, as well as in open distance education Oketch, (2016).

Admission criteria differ by institution and faculty, but entrance examinations that are often hard to pass are a common requirement at competitive institutions in addition to set minimum GPAs in the HSC/Alim exams. There may also be minimum grade cutoffs in specific subjects (for example, high grades in mathematics for science programs). Science and engineering programs are generally harder to get into than programs in the social sciences and humanities. All public HEIs are required to use centralized entrance examinations in Bangla, English, and major-specific subjects, according to the current national education policy Figure 2.

Holders of 10+4 Diplomas in Engineering and similar credentials may also be admitted and might be granted some course exemptions. Admission into private universities tends to be far less difficult than into the highly selective public universities, but private universities offer only a limited range of degree programs and are often prohibitively expensive. The average semester fees at private HEIs ranged from USD\$470 to USD\$946 in 2015.

As in neighboring India, Bangladesh’s higher education system features a limited number of degree-granting universities, but it does have many smaller affiliated teaching institutions called colleges. The most recent MOE statistics number 3,196 colleges, most of them affiliated with Bangladesh’s National University (NU), the country’s dedicated affiliating university. Founded in 1992 to expand capacity in higher education, NU today is Bangladesh’s largest higher education network, enrolling 2.8 million students in 2,300

predominantly private colleges across Bangladesh, according to the institution's website. That means that colleges affiliated with NU enroll the clear majority of Bangladeshi tertiary students, although it should be mentioned that many colleges also offer upper-secondary HSC programs.

NU may grant affiliation to colleges if they have been in operation for at least three years and satisfy certain conditions, such as adequate facilities and teaching staff. The university prescribes the admission requirements, program curricula, and criteria for teacher recruitment. It conducts examinations and awards the final degrees Ricceri, (2008).

However, not all NU-affiliated colleges teach the full range of degree programs; they most commonly offer three-year bachelor programs (pass degrees) rather than four-year honors programs and they usually don't teach programs in professional disciplines or doctoral programs. Colleges are much smaller than universities and often have lower tuition fees than private universities, so that many of their students come from lower income households.

Aside from NU, there are an additional 44 public universities, as well as 103 UGC-approved private universities in Bangladesh.⁴ Most public universities are "general" multi-faculty universities offering a broad range of study programs, but there are also a number of specialized universities in fields like agriculture, health care, Islamic studies, medicine, textile engineering, or women's studies. Other public HEIs include the Bangladesh Military Academy and the National Defense College Salem, (2014).

Some of the largest, oldest, and most reputable public research universities are the University of Dhaka, the Bangladesh University of Engineering and Technology, and the University of Rajshahi. However, while these universities have the highest research output in Bangladesh, their research contributions are minor by international standards, and Bangladeshi HEIs, public or private, are not well represented in global rankings. While there aren't any Bangladeshi HEIs included in the Times Higher Education or Shanghai rankings, the University of Dhaka and the Bangladesh University of Engineering and Technology are ranked in the 801 to 1000 range in the current QS ranking.

Worthy of mention is also the Bangladesh Open University (BOU), a public university and one of the world's largest mega-universities with more than 500,000 students enrolled. Like NU, BOU was established in 1992 to widen access to higher education. BOU offers formal diploma, bachelor's, and master's programs, as well as non-formal programs via distance education on audiocassettes, radio broadcasts, television broadcasts, and the internet. BOU plans to deliver all its programs online in the near future. As the only distance education provider in Bangladesh, the open university plays a significant role in providing educational opportunities for underserved populations in rural areas.

The Role of Higher Education In Bangladesh In Transforming Bangladesh Into KBE

We need to transition from a labor-based economy to a knowledge-based one by investing in our most valuable asset – our young girls and boys. Bangladesh is set to graduate out of the Least Developed Country (LDC) category in the next few years, and then become a developed country by 2041 while achieving the Sustainable Development Goals (SDGs) by 2030. We have even developed the Delta Plan 2100. This will require us to transition as quickly as possible from a labor-based economy to a knowledge-based one within the next generation by investing in our most valuable asset – our young girls and boys.

Bangladesh's leadership has long understood that its future prosperity is closely tied to educational progress. The government's dedication to that idea is already bearing impressive fruit, as the percentage of students enrolled in primary and secondary schools grows, alongside gains in poverty reduction and other significant advances in human development.

Those efforts extend to the higher education sector, where the government works to improve opportunities to build Bangladesh's capacity to produce new technologies and for its students to seize opportunities in a global economy that increasingly puts a premium on knowledge. The Higher Education Quality Enhancement Project (or HEQEP) is one of Bangladesh's primary implements in this quest. With World Bank support of \$238.1 million since 2009, HEQEP's toolbox includes a funding mechanism known as the Academic Innovation Fund (or AIF), which offers public and private universities competitive grants for gains in teaching and learning, enhancements to academic research and innovative research that results in technology transfer to the private sector and university-industry collaboration.

AIF funded, for example, a contest in May called "Make-a-Thon 2016" to incentivize Bangladeshi graduate students to build prototypes for new technologies, set up fabrication labs in their universities and, overall, move promising new projects from concept to concrete reality. Over three days, they developed 32 prototypes addressing challenges in healthcare, transport and infrastructure, agriculture, biomedical engineering, energy generation, physical challenges and sustainable energy management.

HEQEP also established the Bangladesh Research and Education Network (or BdREN), which provides universities with high-speed internet connectivity that is imperative to share knowledge within the country and with leading researchers and research databases around the world Weber, (2011).

The payoff of these and related interventions is already apparent. AIF has awarded 345 academic innovation grants awarded to 27 public and 9 private universities around the country, supporting, for example, research on enhanced methods for breast cancer detection, vaccination for farm animal disease, as well as 194 peer-reviewed academic journals. BdREN connectivity is fully functional in 35 public and private universities, and a University Grants Commission digital library is now allowing, 44 member universities and research institutions access to more than over 30,000 research databases, e-journals and e-books. Strengthening Bangladesh's higher education and research sector remains an unfinished work, but it is essential to the country's continued social and economic progress and to claiming its share of the burgeoning global knowledge economy.

The successful transition to knowledge-based economy and developing the country as a knowledge-hub depends on the key contribution from higher education institutions. For this, special emphasis needs to be placed on the development of educational infrastructure, curriculum, research, innovation, as well as on the improvement of generic skills (e.g. communication, teamwork, leadership, planning and organizing, self and stress management, analytical thinking and enterprise skills) and enhancement of the use of technology in teaching and learning process, including online and distant learning.

Bangladesh needs to put knowledge and innovation policies, as well as higher education, at the core of its development strategies and build indigenous knowledge capacity through huge investments in education and research. We expect that 2016-2026 strategic planning for higher education will provide a guideline in overcoming weaknesses in the present education system and revitalization of universities and for linking higher education to development.

Higher Education and Poverty Reduction Strategy in Bangladesh

Bangladesh has achieved outstanding development in poverty alleviation during the last decade as a result of the dedicated efforts of the government and the proper and effective implementation of various public and private development activities. According to the household income and Expenditure Survey (HIES) 2016, the poverty rate declined to 24.3 percent in 2016, which was 40.0 percent in 2005. The Government has been working

diligently to adopt and implement bold, strong, people-centric and inclusive policies for poverty reduction. Bangladesh's success in poverty reduction through the pursuit of appropriate poverty reduction strategies, such as expanding social safety nets for people vulnerable to poverty, financial incentives, encouraging micro savings, effective disaster risk reduction programs and building resilience against the effects of climate change, etc. has attracted the attention of global poverty alleviation experts. Besides, different government and non-government institutions, autonomous bodies carry out various activities including providing microcredit to accomplish the government's efforts of poverty reduction. In addition, the government offers allowances for widows, destitute women, old aged people and so on. In FY 2020-21 a total of TK. 95,683 crore has been allocated in the revised budget to ensure the poor population's social safety. The stagnation, though temporary, caused by the ongoing corona pandemic in global economic activity, including that in Bangladesh, has brought challenges to progress in reducing poverty reduction. A sum of TK.2,500 each has been provided to protect the selected 35 lakh poor families nationwide who faced sudden unemployment and income loss due to the pandemic. Therefore, the poverty situation in Bangladesh did not worsen to a scale of catastrophe during the pandemic. On the other hand, the government is also taking effective and deliberate steps to address the potential impact of the recent second wave of the COVID-19 pandemic on the country's poverty situation (Bangladesh Economic Review 2021).

METHODOLOGY

To measure and analyses whether Bangladesh is transforming toward KBE, the World Bank KEI 2012 is used. The basic assumption here is that the KBE is assessed using the KEI four pillars: economic incentives, institutional regimes, education, and the innovation system and ICT. The four pillars of KEI are examined by looking at ranking on each of the four indexes. The value of KEI falls in the range of 0-10 and it is an expression of the relative position of a country in the index ranking. The top ten countries usually fall within the range of 9-10 and the second highest fall in the range of 8-9, and so on. The top ten performing countries appear in the first place, then the next best and so on. some African and Asian states are at the lowest of the index ranking especially Bangladesh. Thus, this paper uses a secondary data analysis, which is observed in the philosophical position of an interpretive paradigm.

The interpretive paradigm is versed in trying to comprehend the world as it is and also seeks to explain things within each individual comprehension (Burrell & Morgan, 1979). For them the frame of reference is the participant as opposed to the observer of the action, and that the interpretive paradigm consists of several types such as ethnomethodology, phenomenological, and symbolic interactionism.

Knowledge Economic Index (KEI 2012) of Bangladesh

To assess the readiness of a country for the knowledge economy through use of indicators a country can be benchmarked. For this purpose, WBI developed a methodology and a database covering data for countries computing them into indexes that reflect a country's performance regarding the knowledge economy pillars. The selection of 4 (four) indicators gives an overall view of Bangladesh's knowledge economy readiness in comparison with Developing countries. A country is able to use this methodology in order to identify problems and opportunities; however, it does not reveal the solution to how to use this opportunity. Identification of strengths and weaknesses is possible by comparison to countries in the region since it is important for these countries to coordinate their economic

policies. Measurement of the level of readiness for knowledge economy development in Bangladesh is the first step in understanding the possibilities of this country.

Major Challenges for the Knowledge Based Economy in Bangladesh

Bangladesh's efforts towards a knowledge-based economy would pose some challenges and the road ahead would not be rosy. First, the major challenge for Bangladesh is to be able to convince the different sectors in the country about the importance of moving towards such a new economy. There is also the need to be able to change the mindset of the people from thinking about the production for the old economy to that of producing for the new. This would require an innovative and creative way of thinking. This kind of thinking would lead to the production of innovative products for the global marketplace in the knowledge-based economy. Second, a lot of people are still in the dark about what the knowledge-based economy is all about. The government would have to educate these masses as to what it entails and its importance to the growth and development efforts of Bangladesh. To develop a competitive edge in a knowledge based economy, Bangladesh would need a highly skilled manpower. Another important challenge is building an innovative capacity in the country to be able to develop goods and services for the knowledge-based economy. Such would not happen without a firm commitment on the part of the government. A commitment of incentives and recognition are a good place to start. It would also require a proactive approach where the requisite resources should be provided for research to develop products and processes to help the country to compete in the knowledge-based economy. To bring about innovation, the government must foster an environment where creative and innovative thinking is rewarded. Furthermore, the challenge of the government should be in the direction of its energies to garner funds and make such funds available to local entrepreneurs to enable them to produce competitive goods and services for the knowledge-based economy.

Key Areas for Developing Knowledge Based Economy of Bangladesh

Development of knowledge based economy requires sustainable development in every aspect which have significant contribution in this process. For building a knowledge based economy of Bangladesh, it is imperative to focus on the following issues very meticulously.

Building the Knowledge Manpower

Human capital will be the key driver for growth in the knowledge-based economy and will determine the competitive position of the nation. The successful development of the knowledge-based economy will, therefore, largely depend on the quality of the education and training system. The institutional framework to ensure an adequate supply of appropriately qualified and skilled manpower and to continually retrain them will be put in place. The education system from pre-school level will be reviewed to enable it to meet the manpower requirements of the knowledge-based economy. The key areas that will be reviewed include the curriculum, teaching methods, enrollment at the tertiary level and the quality of the teaching profession. The curriculum will emphasize the teaching of core competencies and will be in line with changing manpower requirements. Vocational and technical education and training will be given greater prominence and will be refocused to produce the skills required by the knowledge-based economy. In addition, teaching methods will be transformed to promote creativity, originality, innovation as well as thinking and analytical skills. The use of IT as a tool for teaching and learning will be made more pervasive. Public

and private tertiary institutions will need to become more market driven and proactive by moving beyond traditional areas to new fields of education required by a maturing knowledge-based economy.

Intensifying research and development: Bangladesh needs to harness its potential to drive the key sectors in R&D and become a competitive knowledge based economy. In this context, during the development period, priority will be accorded to increasing R&D manpower, improving related infrastructure, strengthening existing mechanisms for supporting R&D and technology development and diffusion. These will provide the basis for a well-functioning national innovation system. To provide an impetus for R&D initiatives, the public sector will increase the proportion of the budget allocated for this purpose. The funding mechanism for R&D activities will be streamlined to ensure optimum utilization of funds. Proposals for research will be evaluated by a panel of experts, including foreigners, in the proposed area of research. The corporate sector, including the small- and medium-scale enterprises (SMEs), will be provided significant incentives to allocate a greater proportion of their revenue for R&D.

Accelerating the Development of Info-structure: Concerted efforts will have to be initiated in order to ensure equitable distribution and provision of telecommunications infrastructure and services to underserved areas and groups to bring them into the mainstream of the knowledge-based economy so that it can support the rapid flow and accessibility of information within the country and across countries at competitive prices. A more integrated and comprehensive approach will be taken in developing the regulatory environment and institutional framework to create a conducive environment for the development of the knowledge based economy and proliferation of knowledge activities. The legal framework will be fine-tuned to support the orderly operation of electronic activities such as ecommerce, e-government, e-financing and e-education as well as to support a flexi-working system. Legislation relating to intellectual property rights and protection of privacy and security will be reviewed to improve the flow of information and knowledge.

Restructuring the Financial System: The financial system, including sources of financing, rules and regulations as well as institutions, will be realigned to support the growth of knowledge-based economy activities and industries. The banking system, which currently serves as the main source for corporate financing will introduce innovative lending instruments and develop capability to assess future cash flow potential of knowledge-based projects. In addition, the government will also encourage the inflow of foreign venture capital funds as well as increasing foreign equity ownership in order to tap foreign expertise and experience in this area. Furthermore, capital market will become an increasingly important source for raising funds for new and expanding companies engaged in knowledge-based activities. Initiatives to develop the capital market will be accelerated with the introduction of innovative funding instruments and the development of alternative capital raising avenues to finance high-technology companies.

RAISING THE KNOWLEDGE-CONTENT IN AGRICULTURE, MANUFACTURING AND SERVICES SECTORS

While all sectors of the economy are expected to become more knowledge intensive, efforts will be intensified to increase the knowledge-content in all sectors, especially agriculture, Manufacturing and service sector. The greater application of knowledge will strengthen as well as increase the dynamism and competitiveness of these sectors and contribute to sustained rapid economic growth. In addition, the rapid advancements in ICT, which will underpin the growth of the knowledge-based economy, will itself spawn new activities and areas of investment in these sectors. To remain competitive and maintain its

position as an important contributor to economic growth, the manufacturing sector will have to undertake rapid structural change. Firms must aspire to move up the technology ladder to produce high-end products that generate greater value added. Firms will also be encouraged to move along the value chain into knowledge-intensive activities. In the services sector, efforts will be taken to modernize and enhance its efficiency so that it becomes more competitive as well as supports an advanced industrial sector. While developing the traditional sectors, there is the need to identify and develop new service products that will be generated by the knowledge based economy. In order to ensure that SMEs are brought into the mainstream of the knowledge-based economy, the Government will formulate programs to accelerate the creation of a critical mass of capable, progressive and efficient SMEs. To facilitate the participation of SMEs in knowledge-intensive activities, particularly in the manufacturing and services sectors, they will be encouraged to establish supply linkages with large high technology companies as well as form smart partnerships and strategic alliances with foreign high-technology SMEs. The Government will facilitate the access of SMEs to venture capital funding as well as funds to carry out R&D so that they can design, innovate and produce components and products and thereby effectively participate in the new industries emerging in the knowledge based economy. Industry associations will also need to be more active and committed in assisting the development of SMEs so that they will be able to partake in the opportunities that will be generated in the knowledge-based economy.

Preparing the private sector for the change: The private sector will continue to be the engine of growth in the knowledge based economy. The private sector, including the SMEs, will have to swiftly redefine their production processes by applying appropriate and cost-efficient technology. They must also take a global view as markets will become virtual and borderless. Traditional modes of sourcing inputs and marketing products will have to be complemented by the greater use of e-trading and e-business tools. In addition, the private sector will need to create new value by developing capacity to undertake R&D, product development and innovation, as well as package, market and distribute their products efficiently and speedily.

CONCLUSION

In this paper, the World Bank Knowledge Assessment Methodology was used. The aim and objectives are to measuring and analyze whether Bangladesh as nations are transforming toward KBE and the role of education especially HE. The basic methodology assumptions are that the KBE comprises four pillars: economic incentive and institutional regime, education and human resources, the innovation system, and ICT. However, 's and Bangladesh's performance in all the four pillars of KEI is regressing in all the pillars. The global competitiveness framework was also used to assess Bangladesh standing in the world and the results show that Bangladesh are still at a key factor-driven stage. In other words, Bangladesh are regressing backward instead of progressing. Some scholars blame their inabilities to transform into KBE on colonization, the colonial education system, and some International partner's donor countries which lay emphases on primary and secondary education for all, for example the International Conference in Jastin, Thailand 1999. The politicians in Bangladesh should learn lessons from the Western countries, Korean, Singapore, and Malaysia on how they manage to transform their economy into KBE. Politicians in Bangladesh have used education as a political tool, not as a means for economic development and growth. Traditional education was more fashionable as it was seen as social welfare for training the manpower to serve the government and the economic development of the country. There is an urgent need for policymakers, private sector and society as a whole at all levels in Bangladesh to redouble their effort on education reforms so

that the countries can be diversified and move towards transforming into KBE. Higher education improves skills and technology at all levels and also bust Research and Development. The government of Bangladesh should do more by providing financial inducement to private sector to invest in technology, innovation, and R&D. The governments may require collaboration from universities and institutions abroad and more importantly with ians in diaspora. The failure by the governments to utilize it Diasporas is a problem. Diasporas are a source of stability for many countries that try to tap their potential. Many countries in the world have to use the services of their diaspora but not Bangladesh for the reasons unfounded.

Policymakers especially those with responsibilities with HE should help Bangladesh transform into KBE. The result from this paper show that Bangladesh are far away from transforming into KBE and the role higher education in enhancing the transformation is weak or nonexistence. The good news is that if there is a genuine need for transformation into KBE there are many countries to learn from, for example the West and other countries that have used KBE to transform and develop their economic and growth. KBE is good for Bangladesh if they can change their mindset and sour the ingredient for it through genuine reforms and good governance.

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