

**WASTAGE IN HIGHER EDUCATION IN DEVELOPING COUNTRY:
A COMPARATIVE STUDY ON SELECTED GRADUATES
OF PRIVATE AND PUBLIC UNIVERSITIES
OF SYLHET, BANGLADESH**

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Abstract

This paper attempted to indentify the wastage of youths' higher educational efforts in both knowledge and compensation level. This is a descriptive analytical research done through primary and secondary data. The stratified probability sampling is used to collect the representative data from the population. Data collection was done by a well-designed questionnaire that was formulated with the help of the experts. The data were collected from 198 graduate respondents of different subjects who are studying and working at different careers in Sylhet-one of the seven divisional cities of Bangladesh. Due to lack of employment opportunity by lower educational level, people are directed to achieve higher degree in the expectation to start a better career. But it increases only the surplus of educated manpower in the employment race. The collected data were processed through Microsoft excel 07 and SPSS 19 to get the desired outputs to analysis in the viewpoints of objectives. The simple statistical methods (frequency distribution, cross tabulation, Chi-square etc.) are used to interpret the data. It is supposed to get better opportunity of getting better return from their career by using the knowledge and skill level earned in the valuable time of achieving higher degree from universities. But this study found a disappointing situation prevailing in the country where the respondents perceived that the design of the programs is not consistent with requirement of practical life and poor execution debar them in achieving the desired skill. Further the state of economy is not responsive to the expenses of time and efforts of individuals in achieving the higher degree along with inability of involving the excess supply of educated people in productive activities. Those increase the wastage in higher education of Bangladesh.

Keywords: Wastage, Higher Education, Unemployment problem, Supply of graduates

1. Introduction

Education is the constitutional right of all citizens. The Constitution of Bangladesh demands on state to ensure the non-paid and compulsory education for all citizens up to certain level, to arrange consistent education to the demand of society and to eradicate illiteracy within certain time limits (GOB, 2013). So the state must ensure the education according to the requirement of the society. The failure to do so would create burden on the society as the state must bear the expenditure of such unusable education in the cost of public money. The wastage of public money collected by taxes and other ways in the name of unnecessary education makes the economy pile and the authority must be liable for such wastage.

Education is supposed to increase the knowledge level of individuals that result in increased skill level of them. By using that knowledge and skill, the youths can make their career strategy in optimum level to get the appropriate return from it. Wastage is the result of gap between efforts and consequences. To achieve the higher educational degree, the individuals have to invest their time and efforts expecting greater return in the form of knowledge, skill and compensation from their career. But poorly designed educational program with inefficient execution debars them from achieving the desired knowledge and skill levels required by the career. Consequently they are deprived of getting expected return from their career. Additionally, the economy with stiff unemployment problem increases the wastage due to failure in occupy the supply of graduates from universities. This is because of heavy density of population in a comparatively smaller land.

Basic education is the right of every citizens but the higher education must be productive. The non-productivity of higher education intensifies the unemployment problems. If the higher education exaggerates the unemployment problem and proves useless in the work field then it is logical to question the continuation of such higher education. The sincere nation modified their education system according to the need of society by calculating every units of money in terms of return. Continuous modification is the routine work of every sincere nation.

In Bangladesh there are total 34 public universities. Total 1890543 (86% of total enrollment) students were enrolled in 2012 studying at those universities. But 90% of them (1693000) are studying at two largest universities; National University and the Open University. In 60 private universities 14% of total students (314640) were enrolled in 2012 (BBS, 2013).

Nearly 190,000 graduates are produced annually by these public and private universities (Nooh, 2011). It is questionable that whether those huge numbers of university graduates are demanded by the work fields or not. Graduates from public universities are completing their degree by the major support and subsidy of state. They students are destroying their valuable more than four years time of their life for that degree. It is supposed that he would repay the subsidy of state by contributing more to the economy. But if the graduates do not get any place to use their talents, then the state have no chance to get the investment returned from the graduates rather the state have to bear the load of these unemployed youths. The non-technical higher education is not totally failed. Very few of them getting job and also very few of them become entrepreneurs to create job for others. But what happened to the majority of them? They have to be enrolled themselves in the list of educated unemployed persons. Education is to remove discrepancy among the citizens but in developing countries like Bangladesh it is creating more discrimination. The able persons are

making more money by spending the money of the state and creating more discrimination among rich and poor. It is important to assess the need of graduates in History, political science, philosophy, sociology and other non-technical subjects by the country. As Bangladesh is not industrially and economically developed expectedly, so how many BBA and MBA degree holders is needed to be determined.

In developed country the structure of educated persons is like the pyramid. At the highest level the students enrolled and passed is the minimum. At the bottom, all are enrolled in the primary and secondary education. But in Bangladesh it is flat.

It is not necessary that all students enrolled in primary education must have the highest degree of universities whether it on Bangla or philosophy or other non-productive courses. Reports of education commissions like Sharif Commission of 1957, Hamdur Rahman Commission of 1960s, 1970's new Education policy, Kudrath-E Khuda Commission of 1974, Education Enquiry commission of 1977, 1978's & 1988's Bangladesh national Education Commission, Commission for National education policy of 1997, National education Commission of 2003, Twenty year strategic plan of 2006 – all emphasized on making the education consistent to real life problem rather than non-production education system (Nooh, 2011). But there is almost failure of the authority in implementing the recommendations of those commissions. Universities of Bangladesh are sliding back in the world university ranking. Many experts highlighted mismanagement, partisan, terrorism and deliberation of inferior quality education in the universities are the root causes for this position.

Having a youthful population, Bangladesh is suffering from 32% of unemployed and underemployed youths as per the census of 2011 (The daily Star, March 8, 2015). Failure in linking the education to the job requirement create a big problem of 47% unemployed graduates in this economy according to the report of The Economist (The daily Star, March 8, 2015). In this situation, it is important to study whether the higher education in Bangladesh is a wastage or productive?

2. Literature Review

Researchers tried to find out the return from education in many studies (Hermon & Walker, 1999; Appleton 2000). But it proved the difficulty in calculating the overall return. Though the financial return can be calculated and someone had done it (Psacharopoulos & Patrions, 2002) but the return in social and economic development of a nation is very difficult to calculate. The general perception is that people with more education make more money than those with less education. The difference between the pay of both may be considered as the monetary return on education. Another viewpoint is that ability of people makes that difference not the education. The college going people has that ability (Kolesnikova, Natalia A. 2010). Though the economists have not certainly able to calculate the return on education, Alan B. Krueger mentioned that an additional year of schooling can increase the individual's income by 10%. Among the social and cultural benefits, making friends, learning the social norms and rules and understanding the civic roles are important (Bernasek Anna, 2005). In some research it is proved that the economic return of individuals in some places of the world is very small but there is the hope for higher contribution in social and economic development of the nations (Murphy & Welch, 1992; Rouse, 1999). It is also found that schooling return is higher in LDCs, education provides indirect impact on growth, impact of education depends on the economic position of the country and the schooling quality and efficiency have impact on quantity of education growth (Sianesi and Reenen 2002).

Jorgenson-Fraumeni (1992) found that 26% of economic growth is depends on labor quality that is reflection of education. Among the indirect impact of education investment of human capital (Barro,1991, Gemmel, 1996, Benhabib and Spiegel, 1994), Speedy transfer of foreign technology (Griffith, Redding and Van Reenen, 2000, Cameron, Proudman and Redding, 1998, Benhabib and Spiegel, 1994), health issue like lower fertility and population growth ((Barro, 1991, Barro and Lee, 1994), and other dimension of human capital like higher life expectancy, lower infant mortality and higher levels of primary and secondary school enrolment rates (Barro and Lee, 1994) is to be mentioned. Everywhere return from primary education is very high but it is declining with the level of education. Public investment in higher education is found regressive (Psacharopoulos George,1994).

The world famous magazine The Economist reveals the fact that about 47% of Bangladeshi Graduate unemployed are creating frustration, unrest in the society. Among 22 lakh graduated entering the job market every year, Bangladesh can absorb 7 lakh suitably. Reducing only 2% unemployment rate can bring the GDP growth rate to 8%. So there must be a linkage between educational programs and requirement of jobs to achieve the goal (The Daily Star, March 8, 2015). Chowdhury (2015) opined that quality education is needed to address unemployment of graduates. Bhadra and Bhadra in their book 'Red and Green: A Bangladesh College' (1997) identified the Investment in Higher education as wastage. Sanath Kumar Saha in his article 'Education & skill building in Bangladesh' identified that the universities of Bangladesh seldom deliver the education for increasing skills in youths (Shaptahik 2000).Even the resources persons are not competent in doing so. Zillur Rhman Siddiqi in his book 'Visions and Revisions: Higher education in Bangladesh 1947-1992' (1997) highlighted the sources of wastage in higher education as: i. wastage in time and money ii. Wastage for admission in humanities iii. Wastage due to inconsistency of university education to job requirements and iv. Session-jam. He also identified wastages in universities due to corruption of student leaders and loss of lives due to political clashes in universities. Gazi Mahbubul Alam, Taher Billal Khalifa & Miraza Mohammad Shahjahan (2009) tried to assess rate of return in education in differtent levels. They found Govt. total expenditure per unit in primary level is \$4700. It is increased to \$33200 in university level. The economic and social rate of return subtracting the unemployment cost in primary level is 12.1% and from higher education it is 13.5% only. From their analysis it is found that higher education is contributing only 1.9% more by spending huge amount of money from public fund.

3. Objectives

The main objective is to study the extent of wastage in higher education of Bangladesh. The specific objectives are:

- i. To find out the perception of educated youths regarding their expenses of time in money in higher education.
- ii. To find the perception of educated youths regarding their returns from higher education.
- iii. To find the perception of educated youth regarding their use of knowledge and skill acquired from universities in working field.

4. Methodology

This is a descriptive analytical research done through empirical analysis of perception of educated youths regarding the use of higher education in work area. The stratified method of sampling used to include the professionals from educational institutions, business enterprises, public enterprises and unemployment to judge the extent of wastages in the

professionals of different sectors. The research was designed in survey method by questionnaire to get the relevant information in quantity and quality. The questionnaire was duly examined by the expert researchers to check the reliability and validity. Being assured in reliability and validity of the research, the data was collected from 198 individuals and processed through using SPSS 19 to get the outputs in the form of cross tabulation and Chi-square tests to come on conclusions. The respondents profile (age) is as follows:

Table 1: Age of Respondents

N	Minimum	Maximum	Mean	Std. Deviation
198	18	34	22.58	1.825

The range of the age of respondents proves that they are either students or employees of different organizations. The students are selected from undergraduate and graduate levels and employees are working at human resource department and have the responsibility of selecting the candidates for vacant positions. So, at a time the employees are employees and employers.

5. Findings

The graduates are produced in three major streams in Bangladesh; Public University, Private University and different colleges under state owned National and Open University. As the National and Open University are state owned, so the researchers have analysed the issue by considering two categories; Public and Private by considering the graduates from National and Open University as from Public University. The cost and return from higher education is the main concern of the study. So they researchers have tried to pinpoints the perceptions of respondents regarding the cost and benefits of higher education related to the two types of universities. Table 2 illustrates the issue.

Table 2: The Liking and Disliking of Institute in Respect of Cost And Benefits

Type	Description	Reasons for Liking/Disliking		Total
		Dislike for Cost	Liking for More benefit	
Private	Count	65	21	86
	Percent	75.60%	24.40%	100.00%
Public	Count	40	72	112
	Percent	35.70%	64.30%	100.00%
Total	Count	105	93	198
	Percent	53.00%	47.00%	100.00%

Source: SPSS outputs on Field Survey conducted on January - March 2015.

It is found that the respondents dislike the private university more than public university for excess cost involved with the degrees of that type of university. The graduates of public universities get priority in selection for employment due to the good reputation of such universities in job market for quality education. So the respondents opined that the return from public universities is more than that of private universities.

The student wings of political parties disrupt the normal flows of activities of universities. Exams and classes are to be suspended frequently in every session and create session jam. SO the students have to waste more times than the scheduled time to be awarded with the degrees. Without those certificates they cannot apply for jobs of suitable positions. The wastages due to the political unrest is reflected in Table 3 according to the perception of the respondents.

Table 3: Wastage in Both types of Universities due to Students' Politics

Type of Institution	Description	Waste due to Politics				Total
		Very High	High	Similar	Low	
Public	Count	22	3	38	0	63
	% within	34.90%	4.80%	60.30%	0.00%	100.00%
Private	Count	29	10	79	17	135
	% within	21.48%	7.40%	58.52%	12.60%	100.00%
Total	Count	81	13	87	17	198
	% within	40.90%	6.60%	43.90%	8.60%	100.00%

Source: SPSS outputs on Field Survey conducted on January - March 2015.

It is found that the perception of wastage due to political unrest is higher in the public universities than private universities. The Chi-Square analysis testifies that there are significant difference in the perception of wastages due to political unrest between the public and private universities and the wastages in the public universities is higher than the private universities ($\chi^2 = 19.691$, $df = 3$ and $p\text{-value} = 0.000 < 0.05$).

Better management ensures the efficiency by minimizing the wastages in every level of an university. Mismanagement brings wastages. The waste due to the managerial problems is depicted in Table 4.

Table 4: Waste due to Management Problem in both types of Universities

Type of Institution	Description	Waste due to Management				Total
		Very High	High	Similar	Low	
Public	Count	42	1	20	0	63
	% within	66.70%	1.60%	31.70%	0.00%	100.00%
Private	Count	37	0	78	20	135
	% within	27.40%	0.00%	57.80%	14.80%	100.00%
Total	Count	79	1	98	20	198
	% within	39.90%	0.50%	49.50%	10.10%	100.00%

Source: SPSS outputs on Field Survey conducted on January - March 2015.

The selections of authority in the public universities are somehow politically biased in this country. The efficiency of the management may not be given priority over political influences. So in the management of those universities, there may be indication of mismanagement that the respondents noticed. So, wastages in public universities due to managerial limitations are found more than private universities according to the perceptions of the respondents. The Chi-square tests duly testify the significant difference between wastages in private and public universities and the cross table verifies that wastages in public universities due to managerial problems is higher than that of the private universities ($\chi^2 = 39.316$, $df = 3$ and $p\text{-value} = 0.000 < 0.05$).

Universities have to design their programs according to the requirement of the practical field. The employers require that the graduates should be capable in implementing their modern and updated knowledge in their field and bring competitive edge for their organizations. The failure in doing so brings wastage of time and talents of the graduates. The wastages in both types of universities due to the impractical programs of the universities are shown at Table 5.

Table 5: Waste due to Impractical Course Design in both Types of Universities

Type of Institution	Description	Waste due to Improper Course Design				Total
		Very High	High	Similar	Low	
Public	Count	41	9	13	0	63
	% within	65.10%	14.30%	20.60%	0.00%	100.00%
Private	Count	38	32	38	27	135
	% within	28.10%	23.70%	28.10%	20.00%	100.00%
Total	Count	79	41	51	27	198
	% within	39.90%	20.70%	25.80%	13.60%	100.00%

Source: SPSS outputs on Field Survey conducted on January - March 2015.

According to the perception of the respondents the wastages in public university is much higher than the private universities due to improper program designs for the graduates. Private universities are offering limited number of programs shaped according to the requirement of the working field. But public universities bear the responsibilities of enhancing knowledge of the citizen by offering various courses in different field of knowledge. They do not consider making their programs consistent with the requirement of working fields. The Chi-square test proved that ($\chi^2 = 30.065$, $df = 3$ and $p\text{-value} = 0.000 < 0.05$) there are significant differences between the public and private universities in making consistency of the programs with the job requirements.

Faculty members have the responsibility of prepare the graduates according to the requirement of working fields. So sincerity and efficiency of faculty members is required to carry out the programs effectively. Failure to doing so brings wastes in the youths' energy and intelligence. The Table 6 reflects the wastage due to inefficient and insincere faculty members in failure to prepare the graduates according to the requirement of job fields.

Table 6: Perception of Waste due to Inefficient & Insincere Faculties

Type of Institution	Description	Waste due to inefficient & insincere Faculties				Total
		Very High	High	Similar	Low	
Public	Count	30	14	18	1	63
	% within	47.60%	22.20%	28.60%	1.60%	100.00%
Private	Count	35	44	44	12	135
	% within	25.90%	32.60%	32.60%	8.90%	100.00%
Total	Count	65	58	62	13	198
	% within	32.80%	29.30%	31.30%	6.60%	100.00%

Source: SPSS outputs on Field Survey conducted on January - March 2015.

It is found that wastage due to insincere and inefficient faculties is severe in the public universities than in the private universities as the recruitment in public universities is not transparent but the private universities are taking the matter seriously and are successful in attract and restore the efficient faculties freshly and from experienced faculties of public universities. So wastage is much lower in private universities due to that reason. The Chi-Square test satisfies the criteria to announce that ($\chi^2 = 12.108$, $df = 3$ and $p\text{-value} = 0.007 < 0.05$) there are significant difference in sincerity and efficiency of faculties of public and private universities.

With a huge educated unemployed persons, Bangladesh cannot occupy the graduates of public and private universities timely. They have to wait for placement and waste their

efforts and knowledge due to lack of scope in use. Table 7 illustrates the waste due to wait for placement of graduates of public and private universities.

Table 7: Perception of Waste due to Wait for Placement

Type of Institution	Description	Waste due to waiting for placement				Total
		up to 1 year	1-2	2-3	6	
Public	Count	60	1	0	2	63
	% within	95.20%	1.60%	0.00%	3.20%	100.00%
Private	Count	52	11	62	10	135
	% within	38.50%	8.16%	45.92%	7.40%	100.00%
Total	Count	112	62	12	12	198
	% within	56.60%	31.30%	6.10%	6.10%	100.00%

Source: SPSS outputs on Field Survey conducted on January - March 2015.

It is found that private university graduates have to wait more for placement than the graduates of public universities. This is due to the fact that public universities have a reputation of producing more qualified graduates than private universities as more intelligent students choose public universities rather than private because of minimum tuition fees of such universities. The employers are still giving priority to the graduates of public universities over private. Public universities provide small number of graduates in each subject and the graduates are involved easily to the different organizations. Moreover the numbers of public universities are much lower than private universities who are producing more graduates in limited subjects and create excess of supply in the job market. Consequently, the graduates have to wait more for placement and make wastage of their efforts and merits. The Chi-Square test proved ($\chi^2 = 71.950$, $df = 3$ and $p\text{-value} = 0.000 < 0.05$) a significant difference between waiting time of private and public universities for placement.

Joining after primary and secondary saves the time and efforts for university degree. So question about joining the work after secondary education or after university degree of 4-6 years may arouse. The opinion of students and employees on this debating topic is illustrated on Table 8. As the students are at graduate levels and are much aware of the job market and its return, so they can participate in giving their opinion regarding this topic and the employees and employers are well known about it.

Table 8: Perception about Waste due to Joining Works after University Degree

Type	Description	Waste for joining work after university degree				Total
		Very high	high	similar	Low	
Student	Count	52	20	69	16	157
	% within	33.10%	12.70%	43.90%	10.20%	100.00%
Employee	Count	10	8	1	22	41
	% within	24.40%	19.50%	2.40%	53.70%	100.00%
Total	Count	62	28	70	38	198
	% within	31.30%	14.10%	35.40%	19.20%	100.00%

Source: SPSS outputs on Field Survey conducted on January - March 2015.

Students are facing frustration about future placement. Their opinion is in favor of joining the job after secondary education rather than after university degree. But the

employee/ employers are in touch of real world and they are experiencing the consequence of joining in job after secondary and after graduation. From their experience they are in favor of joining after graduation because the return of a secondary degree holder is much lower than the graduates as they observe.

The use of knowledge in the workplace is a vital question in this issue. The perception of both students and employees in this regard is expressed on Table 9.

Table 9: Perception about Use of Earned Knowledge in Works of Surveyed Students

Type	Description	Relationship of job with learning				very insignificant	Total
		very significant	significant	indifferent	insignificant		
Students	Count	63	48	36	10	0	157
	% within	40.10%	30.60%	22.90%	6.40%	0.00%	100%
Employee	Count	10	10	8	1	12	41
	% within	24.40%	24.40%	19.50%	2.40%	29.30%	100%
Total	Count	73	58	44	11	12	198
	% within	36.90%	29.30%	22.20%	5.60%	6.10%	100%

Source: SPSS outputs on Field Survey conducted on January - March 2015.

It is found that the employees opined that the relationship between learning and job requirement is not so significant as the students' perception. Students are acquiring knowledge and they have the perception that they could use their learning at the workplace but the employees observe that the relationship is not so significant because the academic programs could not co-opt the job requirement in their syllabus properly.

6. Overall Discussion

Attraction to public university is due to the lowest cost and better image in the job market. But private universities are preferred for better return in respect of easy access, timely completion of the degree and demandable programs (Table 2). Waste due to political unrest, managerial problems, impractical course design, insincere and inefficient faculties and wait for placement hampers graduates from both types of universities private and public. But students of private university suffer less than those of public university due to all limitation except wait for placement (Table 3, 4, 5, 6 & 7). Graduates from public university enjoy more demand in the market due to the fact that comparatively intelligent students get the chance of admission in the public universities. The individual intelligence and perception of better quality education in the public universities keep them a bit advanced than the graduates of private universities. The perception of wastage due to the placement after university degree prevails in the mind of both types of respondents' students and employees/employers (Table 8). But the students are seemed as more frustrated about their future and regrets more than employees for not joining after secondary education. Employees are in touch of practical world and they are less repenting for not joining secondary level except as entrepreneurs. Again students are learning as they thought that there will be implementation of their learning in the practical world but the employees are not so optimistic about relationship of learning with the practical world (Table 9). In all respects, we observe the wastage in the higher education is prevailing.

7. Conclusion

Education is important to convert the humans to valuable resources for any economy. The huge unemployment of graduates in Bangladesh raised the question about essentiality of higher education in Bangladesh. But the study explore that present competitive market needs graduates for employment. Though, there are wastage of time and efforts of youths to get graduation certificate from public or private universities, the students are attracted by the public universities due to less monetary investment and to private universities by less but certain time investment. More wait for placement by the private university graduates intensify the sufferings more than the graduates of public universities. Perceptions of employers regarding the intelligence level of students of both types of universities make the difference. The educational institutions are failed to provide quality education according to the need of job market. So, there are small linkage between learning and job requirements. Wastage is created in public and private universities in every aspect like political unrest, mismanagement, incompetent faculties, inappropriate course design, and lack of strong relationship of learning to jobs etc. Because of such wastages, students are found as more frustrated about their return from higher education than the employees- who perceive that the return from higher education is significant in youths' career. Proper demand assessment is needed to make the higher education fruitful in youths' career. Accordingly the proper planning Authority should address these issues and make proper policy and implement the planning to adept the learning to the requirement of practical world to solve the vital issue. Minimizing the wastage in higher education is important to increase the individuals' and societies' monetary and non-monetary return that is most important contributor in the economy.

8. Managerial Implication

The result of the study can be used in policy making about higher education. The higher education that create unemployment and frustrations among educate persons and making the society more unstable, it is not wise to spend the money of tax-givers in the form subsidy from the state for higher education in public universities.

The money that are to spend on subsidy and allotment is to be used to create productive market oriented education curriculum. Such investment is justified. It is the fact that the unemployed high educated person is less and less contributing to the country and society than the half educated technician of Jinjira (a hub of local technology).

It is also important to form a commission consisted by the production and market oriented persons of practical world to create a practical education commission. The inclusion of highly academicians, scholar or traditional bureaucrats in the commission would lead to a implementable education policy. And the commission must be ensured that the suggestions of them would be implemented and if it needed to modify the existing laws that creates barrier in implementing the education policy, it should be done to make a proper implementation.

9. Limitation

The study is suffering from the limitation of appropriate sample size and sampling frame. Besides these discussed factors there are other factors that are active in that issue. The unaddressed factors bring limitations. The return from education and wastage in acquiring the degree is not measures objectively by quantitative methods considered as another limitation of that research.

10. Further Study

The sampling size and frame can be extended to generalize the findings. Other factors can be addressed to do a research by the techniques of factor analysis. The return and wastage in education can be computed by quantitative measures for further study.

References

- Appleton, S. (2000), "Education and Health at the Household Level in sub-Saharan Africa", Centre for International Development, Harvard University: 33
- Alam G. M., Khalifa T. B. & Shahjahan M. M. (2009), "Return from Education System in Bangladesh: An Investigation on Comparative flashback Scenario", *African Journal of Business Management*, 3 (10): 567-575.
- Bangladesh Bureau of Statistics (2013), "Statistical Year Book 2013, Dhaka: Ministry of Information", Retrieved from www.bbs.gov.bd
- Barro, R. (1991), "Economic Growth in a Cross Section of Countries", *Quarterly Journal of Economics*, 106: 407-443.
- Barro, R. & Lee, J. W. (1994), "Sources of economic growth", *Carnegie-Rochester Conference Series on Public Policy*, 40: 1-46.
- Benhabib, J. & Spiegel, M. (1994), "The Role of Human Capital in Economic Development: Evidence from Aggregate Cross-Country Data", *Journal of Monetary Economics*, 34: 143-173.
- Bernasekdec Anna (2005), "What's the Return on Education?". *The New York Times*, Retrieved December 11 from http://www.nytimes.com/2005/12/11/business/yourmoney/whats-the-return-on-education.html?_r=0.
- Bhadra Laura Jean & Bhadra Dipasis (1997), "Red and green: a Bangladesh college: free market principles in economics, politics, culture and education, Dhaka: The University Press Limited".
- Cameron, Proudman & Redding (1998), "Productivity Convergence and International Openness", Chapter 6 in (eds) Proudman, J and Redding, S, Openness and Growth, Bank of England, London.
- Chowdhury Oli Md. Abdullah (2015), "Quality Education to Address Unemployment", *The Daily Star*, March 8, 2015 Retrieved July 22, 2015 from www.thedailystar.net
- Gemmell, N. (1996), "Evaluating the impacts of human capital stocks and accumulation on economic growth: some new evidence", *Oxford Bulletin of Economics and Statistics*, 58: 9-28.
- Griffith, R., Redding, S. & Van Reenen, J. (2000), "Mapping the Two faces of R&D: Productivity, R&D, skills and trade in an OECD panel of industries' IFS mimeo".
- Govt. of Bangladesh (2014), Bangladesh Gadget, Retrieved from www.dpp.gov.bd/bgpress/index.php/document/gazettes/140
- Harmon, C. & Walker, I. (1999), "The marginal and average returns to schooling in the UK", *Eur. Econ. Rev.* 43: 879-887.

Jorgenson, D. W. & Fraumeni, B. (1992), "Investment in Education and U.S. Economic Growth", *Scandinavian Journal of Economics*, 94: S51-70.

Kolesnikova Natalia A. (2010), "The President's Message, Federal Reserve Bank of St. Louis" Retrieved from <https://www.stlouisfed.org/publications/regional-economist/january-2010/the-return-to-education-isnt-calculated-easily>

Murphy. K. & Welch. F. (1992), *The Structure of Wages*, Q. J. Econ. 107: 285-326

Nooh Abdullah (2011), "Education System", *Shaptahik 2000*, 13 (36): 31-49. Retrieved from www.Shaptahik-2000.com.

Psacharopoulos G. & Patrions AH. (2002), "Returns to investment in Education: A further update", *Policy research working paper*, 2881, Latin America and the Caribbean Region, Education Sector Unit, The World Bank.

Psacharopoulos George (1994), "Returns to Investment in Education: A Global Update", *World Development*, 22 (9): 1325-1343, 1994.

Rouse CE. (1999), "Further Estimates of the economic return of schooling from a New Sample of Twins", *Econ. Educ. Rev.* 18 (2): 149-157.

Sianesi B. & Reenen J. V. (2002), "The Returns to Education: A Review of the Empirical Macro-Economic Literature", *Journal of Economic Surveys, The Institute for Fiscal Studies wp02/05*, Retrieved from <http://www.ifs.org.uk/wps/wp0205.pdf>.

Siddiqi Zillur Rhman (1997), "Visions and Revisions: Higher education in Bangladesh 1947-1992". Dhaka: The University Press Limited.

The Daily Star, March 8, 2015, Retrieved July 22, 2015 from www.thedailystar.net.