

Export Processing Zones and Economic Growth: Bangladesh Perspective

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***Abstract:** This paper focuses on the significance of Export Processing Zones (EPZs) and tends to highlight the impact of EPZs' export and investment on economic growth of Bangladesh. Findings show that, 499 enterprises are presently conducting their business operations in Bangladesh among which 56.71% are fully owned by foreign investors. Following the fact, BEPZA's contribution to economic growth has increased and export amount ranges between 16-17% of the total national export. Covering the time-series data from FY 1996-97 to 2015-16 (20 years), empirical result also confirms the existence of positive relationship between the independent variables (export and investment) and dependent variable, economic growth.*

***Keywords:** BEPZA; DTA; economic growth; industrialization*

1. INTRODUCTION

The government of Bangladesh has taken many remarkable initiatives to boost up the economic development among which progress of industrialization has always been considered as an essential indicator of economic growth. Development of industrialization has been facilitated by the government through adoption of the "Open Door Policy" as well as formation of Bangladesh Export Processing Zones Authority (BEPZA) as an official support for providing convenience to the potential investors. The Export Processing Zones (EPZ) emphasize on keeping and maintaining a friendly investment climate while promoting, attracting and facilitating the foreign investment in the economic enclaves. Being regulated by the BEPZA act 1980, the EPZs of Bangladesh have been supporting the industrial progress through ensuring private capital inflows and adequate technical knowhow to the prospective projects (Fakir et al. 2013). The organ also provides sound law and order situation being affiliated with the International Centre for Settlement of Investment Dispute (ICSID) and Multilateral Investment Guarantee Agency (MIGA) aiming to provide arbitration of international disputes and probable political risk guarantees. BEPZA also holds memberships of World Intellectual Property Organization (WIPO) and Overseas Private Investment Corporation (OPIC) in order to encourage creativity and facing development challenges in the emerging market.

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Presently 8 EPZs are operating in Bangladesh following the success of the first zone named Chittagong Export Processing Zone (CEPZ), which turned Bangladesh into a “New Horizon for Investment”. CEPZ also earned the recognition as the 3rd best competitive zone and 4th best economic potential in the year 2010-2011 (Fakir et. al., 2013).

Moreover, the government aims to set up 100 economic zones with a view to convert Bangladesh as a hub for investment and export. As on January 2017, 15528 acres’ land had been acquired and another 20000 acres’ land acquisition was under progress (Businessnews24bd.com). It is also expected that the EPZs will help to achieve government’s vision of 2021 and 2041 as well as targets of Sustainable Development Goals (SDGs) by using its capacity in terms of production, export and investment facilitation and above all employment generation.

Most of the developing countries in Asia have established EPZs in order to promote economic development. Thus, it is crucial to understand that which elements of EPZs are contributing to the economic growth. It is also required to figure out the trends in export, investment and employment generation by these economic enclaves. Following these facts, the main contribution of this paper lies in identifying the impact of EPZs export and investment on GDP growth of Bangladesh, which has been seldom done in literature.

This paper presents the data of EPZs investment, export, employment generation as well as its contribution to national export, which includes aggregate data of 8 EPZs. Moreover, the data of GDP, investment and export of EPZs has been analyzed covering the period of FY 1996-07 to FY 2015-16 (20 years). The result suggests that, there is significant impact of investment by EPZs on GDP growth of Bangladesh for last 20 years. Again, the impact of exports by EPZs on GDP growth is also statistically significant for the stated period. Thus, the findings of this paper may be beneficial for the exporters, investors and policymakers while developing their policies.

2. LITERATURE REVIEW

The Economy of Bangladesh has been experiencing gradual changes since last three decades. For example, the very agriculture-based economy has been transforming towards a manufacturing-based one. However, the RMG sector has been acting as a prior one in terms of export and employment generation (Islam and Mukhtar, 2011). In addition to this, EPZs are also playing a crucial role to attract FDI following the various phases of Bangladesh Economic Development (Hossain and Cheng, 2005). EPZs have been conceptualized as ‘economic enclaves’ for its contribution in promoting free trade and foreign investment as well as facilitating exchanges of goods which are manufactured with minimal duties and customs office intervention (Warr, 1989). Due to this fact, many

developing countries adopted this concept since 1960 with a view to promoting industrialization (Amirahmadi et al., 1995), while Bangladesh joined in the 1980s.

The contribution of EPZ, particularly in respect to export, employment and investment is mentionable. Fakir et al., (2013) examined the significance of EPZ using the GDP growth rate as a dependent variable and addressing factors such as up gradation of managerial and technical skills, better technology acquisition, and diversification of export, strength of backward linkages and up gradation of export-oriented legislation. The study also revealed the prevailing infrastructure, incentives, available product brands and their overall contribution (Fakir et al., 2013). The cost-benefit analysis suggests that, the economic impact of EPZs is positive, particularly for the host country (Jayanthakumaran, 2002). Moreover, this economic impact is mostly in the form of employment generation (Eusuf et al., 2007; Aggarwal, 2005).

The EPZs with visionary design, operations and establishment has brighter chances of success in terms of sound investment climate, infrastructure and governance (Aggarwal, 2005). Aggarwal (2005) argued that being a part of the overall economy, it requires significant improvement to succeed in the long run. His comparative study showed the difference between the EPZs of India, Sri Lanka and Bangladesh and suggested that zones need to be specialized depending on the availability of domestic resources such as infrastructural facilities and human capital to encourage the growth of related industries as well. In Sri Lanka, the zones provided positive economic rate of return having been operated in an economically efficient way (Jayanthakumaran and Weiss, 1997). However, in Philippines, government investment in infrastructure did not result in employment generation, increased tax revenue and foreign exchange earnings (Jayanthakumaran, 2003). Unsteady labour relation may also cause low attractiveness of the economic zones, as it was in case of Trinidad and Tobago (Willmore, 1996). Also, in Africa, many zones suffered due to lack of management skills (Watson, 2001). While in a positive side, Malaysia experienced positive direct effect even outside the economic zones (Johanssen and Nillson, 1997). Moreover, zones in South Korea, China and Indonesia also earned returns that were above their forecasted opportunity cost (Jayanthakumaran, 2003).

Many research works have focused on how EPZs have encouraged women to migrate from rural areas to urban cities influencing their lives in every sphere (Amin et al., 1998; Kundker, 2002; Kabir and Mahmud, 2004). Women's participation in the labour force, decision making and having control over income has narrowed the gender gap in many cases. However, there still is gender discrimination in terms of wage rates (Paul-Majumder and Begum, 2000). A survey from 1990 to 1997 revealed that the disadvantages of migrated women are treated as comparative advantage for the export-oriented industries. In addition, they are also exploited by unhealthy conditions and

working more than regular hours (Amin, 2006). However, formation of CEPZ has a positive significant effect in employment generation which has evidenced that 85% of the total labour force were female and among them majority were floor workers; whereby male workers mostly were occupied in administration, management and accountancy (Dowla, 1997). Moreover, export by garment industry grew from 0.2 percent in 1980's to 76 percent in FY 2010-11 (Muqtada et al., 2002; Kabeer and Mahmud, 2004).

Li, Whitwell and Yao (2005) also conducted a macroeconomic analysis to determine the contribution of Special Economic Zones (SEZs) in China and concluded that the output level and the response of foreign investors towards changes in output level has a significant contribution on economic growth. Chinese economy is also being facilitated by the existence of Open door policy and sound investment climate (Li, Whitwell and Yao, 2005). Aggarwal (2006) viewed the SEZs and its promotion as a tool for dealing infrastructural weaknesses, procedural complexities as well as various trade and monetary barriers. Literature also suggests that the degree of diversification depends on the type of sector or activity such that it may extend the already existing export base, it may absorb production and export or it may also bring in new manufacturing processes to the host country (Aggarwal et al., 2008).

However, the role of EPZs and its impact on the national economy of Bangladesh was discussed by Madani (1999) revealing the significant contribution of the economic enclaves in terms of promoting exports of various products (Madani, 1990). Bhattacharya et al., (2002) found the contribution of EPZs in attracting FDI as well as towards education, banking, insurance, logistics and shipping (Bhattacharya et al. 2002). Similar result was also found by Islam and Siengthai (2006) emphasizing on the contribution of the liberalized export policy by the Government of Bangladesh with a view to keeping pace with the rules and regulations laid down by the WTO (Islam and Siengthai, 2006). The economic profile of Bangladesh, as well demonstrates the significance of EPZs in facilitating exports of various products (Islam and Hossain, 2015).

Although the effect of EPZs on national economy has been highlighted in various studies, no literature exists on finding the direct impact of export and investment on the GDP growth of Bangladesh. This paper tries to fill this gap by testing the effect of these economic enclaves on economic growth.

3. METHODOLOGY

This study has been conducted based on the investment and export by EPZs and their impact on the Gross Domestic Product (GDP) of Bangladesh. The study is both qualitative and quantitative in nature including a very limited use of primary data in the form of informal conversation with higher authority officials and observation of the existing environment of Dhaka Export Processing Zone (DEPZ) only. However, the

secondary sources of information include different publications of Bangladesh Export Processing Zone Authority (BEPZA), Bangladesh Bank (BB), Ministry of Finance (MOF), Board of Investment (BOI), Export Promotion Bureau (EPB), related journals and other websites. The study covers the period from FY 1996-97 TO FY 2015-2016 (20 years) and the data is time series in nature. This study mainly aimed at enumerating the impact of export and investment by EPZs on the economic development or GDP of Bangladesh. With a view to investigating the impact, the following two alternative hypotheses have been developed-

H₁ (1): There is significant impact of investment by EPZs on GDP growth of Bangladesh for last 20 years.

H₁ (2): The impact of exports by EPZs on GDP growth is statistically significant for last 20 years.

To test the hypotheses GDP has been considered as the dependent variable to find out the effect of independent variables (export and investment) on GDP growth of Bangladesh. However, the model is developed as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + e_i$$

Where,

Y= GDP

α = Intercept Coefficient

X₁= Export

X₂= Investment

B_i = Slope Coefficient, ϵ =Error Terms

4. SCENARIO ANALYSIS

Formation of EPZs in the late 70s had a manifested target to boost up industrialization, technology transfer as well as employment of human capital. However, these targets are supported by the required infrastructures and investment opportunities such as fiscal and non-fiscal incentives (Bhattacharya, 1998). Fiscal barriers separate the EPZs from Domestic Tariff Area (DTA) ensuring low cost and duty free export-oriented environment. The initiation of “Single Window Facilities” reduces corruption and smoothen the investment procedures.

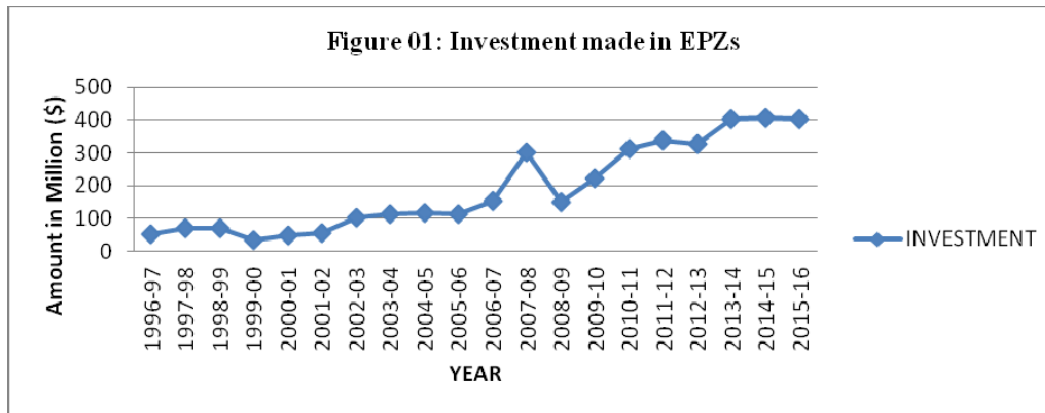
BEPZA allows investment in three categories ranging from full foreign ownership to full local ownership or a joint venture between foreign and local owners. There is a free will of the investors to determine the type of business, the investment on which is also supported by their convertibility against foreign currencies.

Table 1: Mode of investment

Mode of Investment	No. Of Investors (from 37 countries)	Percentage of total investment
A 100% Foreign Ownership	283	56.71%
B Joint Venture	64	12.83%
C 100% Local Ownership	152	30.46%
Total	499	100%

Source: Bangladesh Export processing Zone Authority (BEPZA), FY 2015-16

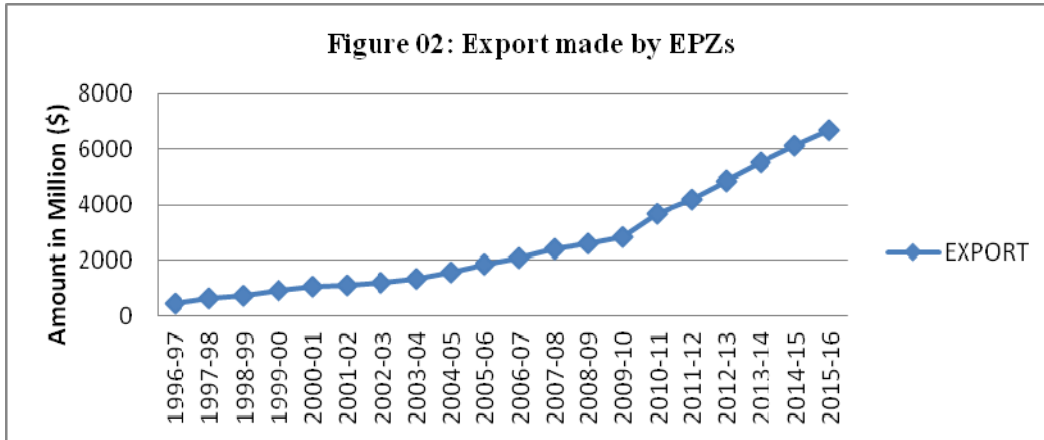
The table exhibits the percentage of investors in different categories. The number of industries with full foreign ownership and joint venture is significantly higher due to the strategic advantages Bangladesh offers to the foreign investors. The wage rate in Bangladesh is becoming competitive and comparatively cheaper whereas many countries like China, Sri Lanka, Thailand, Indonesia, Malaysia, Philippines and Cambodia are experiencing increase in wages resulting in inflated production costs. On the other hand, investment protection, one window service, opportunities regarding convertible foreign currencies, structural facilities (utility connections) and other support facilities (insurance, clearing and forwarding agents, freight forwarder, transportation etc.) are attracting higher Foreign Direct Investment (FDI) for Bangladesh.



Source: Bangladesh Export Processing Zone Authority (BEPZA)

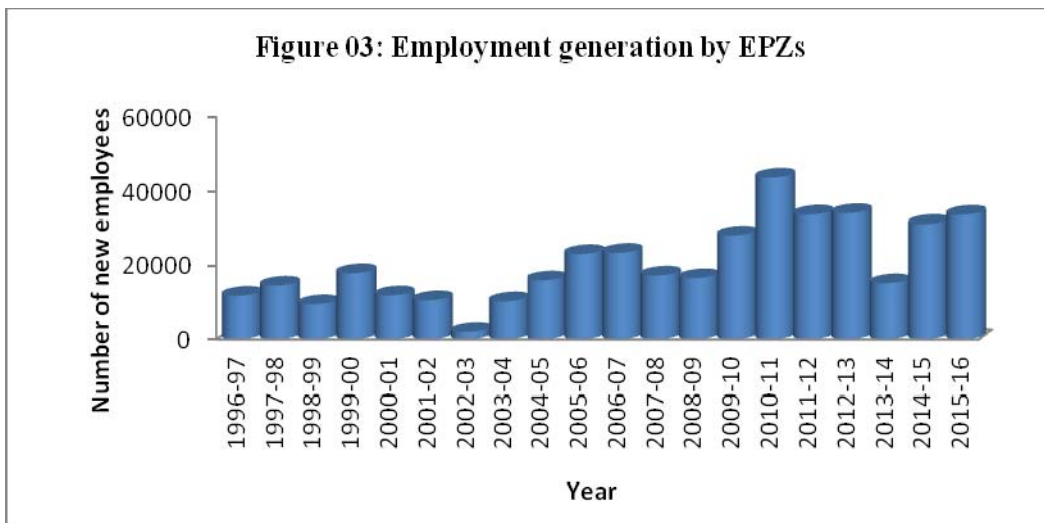
The total investment made by two EPZs operating back in 1996-97 was US\$ 53.9 million which increased later on with the formation of new EPZs and initiation of attractive investment opportunities. During FY 2005-06 the investment amount was US\$ 112.91 million that increased by 34% in the later year. During FY 2006-07 BEPZA far outreached the export target by exporting US\$ 2.064 billion's products. On the other hand, there was a growth of investment by 198% in FY 2007-2008 due to the lease

signed investment by BEPZA. The cumulative investment amount by the EPZs since its inception is US\$ 3801.3 million with a constant trend within the last three years.



Source: Bangladesh Export Processing Zone Authority (BEPZA)

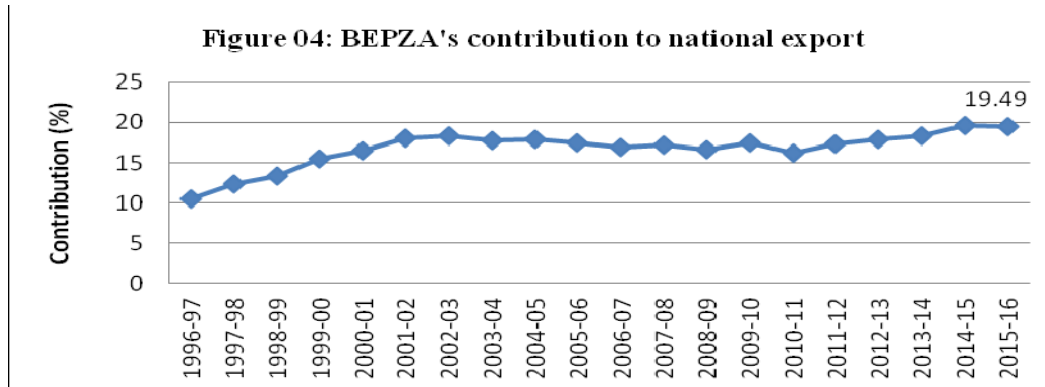
Currently the number of enterprises running in the 8 EPZs is 499, which are owned by foreign investors, local investors as well as joint ventures (Table 1). The local enterprises of Bangladesh mostly exports garments accessories, textile products, tent and camping items, leather goods and agricultural products. The accumulated export amount up to FY 2015-16 is US\$ 52817.47 million showing an increasing trend and steady growth in exports (shown in figure 02).



Source: Bangladesh Export Processing Zone Authority (BEPZA)

The accumulated employment generated by EPZs up to FY 2015-16 is 453652 among which female work force constitute a major portion of the total workforce. The highest

employment was generated in FY 2010-11 following the higher growth of investment in same year. BEPZA emphasized on women empowerment and their financial independence by employing 64% of their total employees from female category in FY 2012-13.



Source: Export Promotion Bureau (Compiled by BGMEA) and Bangladesh Export Processing Zone Authority (BEPZA)

Acceleration of real economic growth and progress of industrialization has far been facilitated by the export oriented enclaves, named EPZs. Figure 4 exhibits BEPZA's contribution as a percentage of total national export of Bangladesh. It is noteworthy that (%) export ranges between 16-17% from FY2002-03 to present with highest contribution in latest two years. Garments and accessories constitute the largest portion of total export. Other important export products are textile products, backward linkage, tent and camping items, leather goods, agro products, electronic items, furniture etc. BEPZA absorbs skilled as well as unskilled workforce to make Bangladesh as labor intensive manufacturing country. Technology transfer and efficient manufacturing activities are also attracting more Foreign Direct Investment in Bangladesh. Domestic industries is also getting attention through diversified activities of EPZs resulting in tertiary businesses' expansion, rising domestic consumption as well as goods and services outsourcing. Besides, generating employment, promoting export and attracting investment, EPZs are also working towards export diversification by adding more export oriented items in the list.

Countries with highest investment, employment and larger number of enterprises are Bangladesh, South Korea, China, Taiwan, Japan, India, United Kingdom (UK), United States of America (USA), Malaysia, Pakistan, Sri Lanka, Germany etc. Chittagong EPZ (CEPZ) has the highest number of industries in operation with highest investment, export and employment while Dhaka EPZ (DEPZ) has been following the trend of CEPZ since its inception in 1993. The other 6 EPZs are also contributing significantly to the

economic development of Bangladesh through their friendly infrastructure and efficient workforce.

Besides, facilitating the economic growth, EPZs have designed their employment patterns to empower women, a step towards achieving the Millennium Development Goal (MDG). The ultimate effect is on poverty reduction as the socially and financially independent women permanently migrate from the remote rural areas to join in the productive workforce, thus linking themselves with the industrialization process (Kabir and Mahmud, 2004). Privatization is also being emphasized as evidenced by the praiseworthy decision taken by BEPZA to convert two loss making Enterprises of Bangladesh to active Export Processing Zones.

5. EMPIRICAL RESULTS

The literature suggests that EPZs may have a direct contribution on generating employment, which again contributes to the overall economic growth of the country. More specifically, the investment and export may have significant effect on generating employment in the EPZs and employment; in addition to export and investment has an indirect effect on the growth of GDP. However, the following results summarize the effect of independent variables (export and investment) on GDP growth of Bangladesh.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.997 ^a	.994	.993	3784.156

a. Predictors: (Constant), INVESTMENT, EXPORT

The coefficient of correlation of this model .997 indicates that there is strong relationship between the dependent and independent variables. Coefficient of determination is $R^2 = .995$ and goodness of fit of the model is also excellent as adjusted R Square is 99.3%. Here, standard error of estimates is very high which indicates more samples needs to be included to minimize the standard deviation.

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	36192.629	2653.817		13.638	.000
	EXPORT	2.183	1.294	.748	1.687	.109
	INVESTMENT	9.617	17.157	.249	.561	.582
a. Dependent Variable: GDP						

$$Y = 36192.629 + 2.183X_1 + 9.617X_2 + \epsilon$$

In the above equation these are found that there is a positive relationship between GDP and Export as well as GDP and investment. If export of EPZs increase by 1 million (\$), GDP grows by 2.183 million (\$). Again, 1 million (\$) increase in Investment results in 9.617 million (\$) GDP growth in nominal amount. If both the independent variables are zero the GDP amounts to 36192.629 Million (\$) as GDP is dependent on many other significant factors. However the P value of the model is less than the significance level of 5% (or 0.05) indicating that the R-squared values are significantly different from zero and the null hypotheses can be rejected. Thus, with 95% confidence it can be concluded that the alternative hypotheses of H₁ (1): There is significant impact of investment by EPZs on GDP growth of Bangladesh for last 20 years and H₂ (2): The impact of exports by EPZs on GDP growth is statistically significant for last 20 years can be accepted.

6. CONCLUDING REMARKS

The Export Processing Zones provide the basic financial and social infrastructures which are prerequisites for ensuring improved investment and export activities. Stringent policies regarding Income Tax, Foreign exchange, landing permit, customs may make the EPZs as independent body to exercise the regulatory functions. The skilled manpower, cheaper labor, geographic location, investment protection and other supportive facilities have made Bangladesh as a lucrative nation for investment. Ensuring easier international access and effective promotion can widen the scope and opportunities of investment in the zones. Moreover, the government of Bangladesh has taken many initiatives to develop the underdeveloped areas through industrialization process. The loss generating and once abandoned industries are being converted to functioning zones. However, the facility enhancement of the existing zones is also important to view Bangladesh as an attractive destination for investment. The findings of this study appear as interesting that may help the future researchers to enrich their work by extending time horizon and analyzing more variables.

References

- Aggarwal, A. (2005). Performance of export processing zones: a comparative analysis of India, Sri Lanka and Bangladesh. *Indian Council for Research on International Economic Relations*, 155, 10-13.
- Aggarwal, A. (2006). Special economic zones: revisiting the policy debate. *Economic and Political Weekly*, 4533-4536.
- Aggarwal, A., Hoppe, M. & Walkenhorst, P. (2008). Special Economic Zones in South Asia: Industrial Islands or Vehicles for Diversification?. Retrieved January, 10, 2017.

- Amin, S. (2006). Implications of trade liberalization for working women's marriage: Case studies of Bangladesh, Egypt and Vietnam. *Trading Women's health and Rights*, 97-120.
- Amin, S., Diamond, I., Naved, R. T. & Newby, M. (1998). Transition to adulthood of female garment-factory workers in Bangladesh. *Studies in family planning*, 185-200.
- Amirahmadi, H. & Wu, W. (1995). Export processing zones in Asia. *Asian Survey*, 35(9), 828-849.
- Bhattacharya, D. (1998). *Export processing zones in Bangladesh: Economic impact and social issues* (No. 80). International Labour Organization.
- Bhattacharya, D., Rahman, M., & Raihan, A. (2002). Contribution of the RMG Sector to the Bangladesh Economy. *CPD Occasional Paper Series*, 50(6).
- Dowla, A. (1997). Export processing zones in Bangladesh: the economic impact. *Asian Survey*, 37(6), 561-574.
- Eusuf, M. A., Faruque, O. & ABM, R. A. (2007). Institutions for facilitating FDI: Issues for BEPZA, Bangladesh. *IPPG Programme Office, IDPM, School of Environment & Development, University of Manchester, UK*.
- Fakir, A. A., Miah, S. M. & Hossain, S. M. (2013). Export Diversification and Role of Export Processing Zones (EPZ) in Bangladesh. *ASA University Review*, 7(1), 89-105.
- Hossain, S. & Cheng, M. Y. (2002). Bangladesh: building for a better future?. *International journal of social economics*, 29(10), 813-821.
- Islam, M. Z. & Siengthai, S. (2009, July). Quality of work life and organizational performance: Empirical evidence from Dhaka Export Processing Zone. In *ILO Conference on Regulating for Decent Work, Geneva*.
- Islam, S. & Hossain, I. (2015). The Global Treadmill of Production and the Environment. In *Social Justice in the Globalization of Production* (pp. 144-158). Palgrave Macmillan, London.
- Islam, Z. & Mukhtar, U. (2011). EPZ history in Bangladesh and its administration and legislation for economic enclave. *Business and management review*, 1(7), 86-107.
- Jayanthakumaran, K. (2002). An overview of export processing zones: Selected Asian countries.
- Jayanthakumaran, K. (2003). Benefit-cost appraisals of export processing zones: A survey of the literature. *Development Policy Review*, 21(1), 51-65.
- Jayanthakumaran, K. & Weiss, J. (1997). Export processing zones in Sri Lanka: a cost-benefit appraisal.
- Johansson, H. & Nilsson, L. (1997). Export processing zones as catalysts. *World Development*, 25(12), 2115-2128.
- Kabeer, N. & Mahmud, S. (2004). Globalization, gender and poverty: Bangladeshi women workers in export and local markets. *Journal of international development*, 16(1), 93-109.
- Kabeer, N. & Mahmud, S. (2004). Rags, riches and women workers: export-oriented garment manufacturing in Bangladesh. *Chains of fortune: Linking women producers and workers with global markets*, 133-164.

- Khundker, N. (2002). Globalisation, competitiveness and job quality in the garment industry in Bangladesh. *Bangladesh: Economic and Social Challenges of Globalisation*, 61-82.
- Li, K., Whitwell, J., & Yao, S. (2005). A growth model for China's special economic zone. *Pacific Economic Review*, 10(4), 439-449.
- Madani, D. (1999). *A review of the role and impact of export processing zones* (Vol. 2238). World Bank Publications.
- Muqtada, M., Singh, A. M. & Rashid, M. A. (2002). *Bangladesh, economic and social challenges of globalisation*. University Press.
- Paul-Majumder, P. & Begum, A. (2000). The gender imbalances in the export oriented garment industry in Bangladesh. *The World Bank, Development Research Group/Poverty Reduction and Economic Management Network, Washington, DC*.
- Warr, P. G. (1989). Export processing zones: The economics of enclave manufacturing. *The World Bank Research Observer*, 4(1), 65-88.
- Watson, P. L. (2001). *Export Processing Zones: Has Africa Missed the Boat? Not Yet!*. World Bank.
- Willmore, L. (1996). Export processing in the Caribbean: lessons from four case studies.
- Zohir, S. C. (2007). *Role of Dhaka export processing zone: Employment and empowerment*. Bangladesh Institute of Development Studies.