

# **Economic and Social Impacts of Export Processing Zones on the Economy of Bangladesh**

**Study Team:** Mohammad Yunus and Abdul Hye Mondal

## ***Executive Summary***

According to existing legislation of Bangladesh, the primary goals of export processing zones (EPZs) are to: (i) provide foreign exchange earnings by promoting non-traditional exports; (ii) provide jobs to alleviate unemployment and underemployment and assist in income creation; and (iii) attract foreign direct investment (FDI) and engender technological transfer, knowledge spillover and demonstration effects that would act as catalysts for domestic entrepreneurs to engage in production of non-traditional products. The present study seeks to calibrate achievements of the EPZs to these goals with two-fold immediate objectives to: (i) make a comprehensive assessment of the direct and indirect impacts of the EPZs on the national economy of Bangladesh; and (ii) examine whether there is any policy space for further expansion and replication of EPZs in the new areas of the country.

The study is based on both secondary and primary data. BEPZA provided all the secondary data and information. Primary data were generated through an in-depth field survey of 117 enterprises in all the 8 EPZs, organizations and parties involved in the backward and forward linkage industries, local and foreign enterprises in and outside EPZs, support services to and from EPZs and other stakeholders.

Key findings of the study are as follows:

Average ROI for the surveyed EPZ firms works out to 40.4% compared to 16.32% for the DTA enterprises in 2010-11 indicating much better commercial performance of the EPZ enterprises. Much of this, however, is attributable to the tax holiday and other fiscal and infrastructural supports granted to the EPZ enterprises. Average planned capacity of these firms increased from US\$ 6.48 million in the initial year to US\$ 18.8 million in the most recent year marking about three-fold increase suggesting business buoyancy of the EPZ firms. Operating capacity also increased from 61.12% in the initial year to 77.17% in the most recent year with about 33% short of capacity utilization indicating that very shortly they can cover the gap and will be great at capacity utilization. However, EPZs contribute to the optimum use of land in the country.

Out of 117 enterprises, 69 (58.97%) enterprises undertake contract work. While all the enterprises in AEPZ undertake work on contract basis (possibly due to rich heritage of industrial conglomeration and robust growth of service industries around it), none of them in IEPZ and MEPZ undertakes any work on contract basis. About half of the contracts (49.28%) are solely for the enterprise or contractor followed by mainly contract but also for other customers. Incidence of mainly or solely customers is very thin. The type of contract varies widely across EPZs. While incidence of contract solely for enterprise/contractor is predominant in UEPZ (83.33%) followed by KEPZ (58.33%) and CEPZ (56.52%), the case for mainly on contract but also for other customers predominates in AEPZ (72.73%). It means that work of the EPZ enterprises other than MEPZ and IEPZ go essentially by contract in order to ensure and better handle temporary periods of high work volumes by subcontracting portions of their work to others so that the work would be completed on time. In MEPZ and IEPZ all works are done in-house and independently. Duration of contracting out any

work by the EPZ enterprises is mostly occasional followed by a few months of the year. There is a single case of an enterprise in CEPZ which contracts out work all round the year. EPZ enterprises contract out their work mostly to the enterprises of smaller size implying that their volume of work contracted out is small.

However, there is no evidence of subcontracting in production among the EPZ enterprises in KEPZ, COEPZ, MEPZ and IEPZ. Enterprises in AEPZ, DEPZ and CEPZ subcontract in very little of their total production (0.15–4.39%). Subcontracting in production is substantial only in UEPZ (42.86%) possibly due to its acute underutilization of capacity and remote location from the prime business centers of the country. Besides, the EPZ enterprises except those in UEPZ who subcontract in do not get orders regularly from these firms. Enterprises in UEPZ present a showcase example of subcontracting in. EPZ enterprises contract out very little (8.62%) or no work. While enterprises in AEPZ, DEPZ, CEPZ, KEPZ and COEPZ contract out 7.69–12.50% of their work none of the enterprises in MEPZ, IEPZ, and UEPZ contracts out any work.

Currently, enterprises in the EPZs procure their inputs and sell maximum 10% of their outputs through four channels, viz. (a) foreign imports/exports, (b) intra-zone trade, (c) inter-zone trade, and (d) the DTA imports/exports. During 1993-94 only \$1.45 million worth of inputs accounting for 1.2% of total imports by the zones was procured from the DTA. Thus, foreign imports constituted 98.8% of total imports by enterprises in the EPZs. This share grew to 11% during 2008-09/2010-11 to again reduce to 9% in 2014-15. Despite the inter-year variations, the trend growth rate of value stood at an impressive 25.41% while growth of the share is estimated at 11.58%. Imports from the DTA may be underestimated because the data cover only those supplies which are procured with the approval of the BEPZA. There exists a host of items which are “freely” imported from the DTA. Similarly, only \$5.25 million worth of goods accounting for 3.61% of total exports by the zones was sold to the DTA. This share grew to around 22% during 2005-06/2008-09 to again reduce to 14% in 2014-15.

Over the last one decade considerable improvement has taken place in both forward and backward linkages of the EPZ industries. Across different products, plastic goods, garment accessories and knitting products show strong forward linkages. For the rest of the products, backward linkages seem to be gaining momentum. Creation of backward linkages seems largely conditional on the existing industrial base of Bangladesh. Foreign firms in the EPZs very often complain of the poor quality or the incompatibility of local inputs.

The EPZ program has been quite successful in attracting investment. Between 1983-84 and 1989-90, average annual investment flows into the EPZs were less than US\$4 million; this grew to about US\$40 million during 1990-91/1999–00 and has nearly increased three-fold to US\$138 million during 2000-01/2009-10. The last four years witnessed astounding increase of investment in the EPZs to US\$ 402.58 million in 2013-14. Over this period the current investment grew at 17.92% p.a. However, growth of investment in CEPZ and DEPZ is around 11-12% compared to impressively high 30-40% in other zones. The growth of cumulative investment is estimated at about 23% p.a.

The majority (70%) of cumulative investment by companies in the EPZs are fully foreign owned. Second most prevalent are 100% locally owned enterprises accounting for 20% of cumulative investment. Joint ventures account for the remaining 10%. Of the active companies operating in the EPZs, nearly two-thirds are in the garment sector. Cumulative investment of A-category companies is growing at 13% p.a. as against 15% for B- and C-category enterprises. The local-foreign investment ratios in B-category enterprises rose from 46:54 in 1998 to about 50:50.

Over the period 1996-97/1999-00, Bangladesh received net FDI flow of \$437 million of which about \$100 million was investment in EPZs. FDI in the EPZs during the second half of 1990s accounted for about 20% of the total inflow of FDI in the country. However, the high share was

due to sudden jump in 1999-00 when the share rose to 44% of the total inflow of FDI. During the first decade of the 2000s the share of FDI in the EPZs remained resilient at around 10-12%. However, in recent years, the relative share of EPZs in the total FDI inflow steadily increased from 15.50% in 2011-12 to 25.95% in 2013-14. Despite a sharp fall in the total FDI in 2013-14, the increasing trend of FDI inflow in the EPZs remains uninterrupted indicating prevalence of much better business climate in the EPZs for the foreign investors.

Foreign exchange earned through exports from the EPZs currently accounts for 19.58% of total foreign exchange earnings from exports nationally. Relative share of EPZs in foreign exchange earnings shows almost a steadily increasing trend over the last two decades reflecting increasing role of EPZs in foreign exchange earnings of the country – annual growth rate at around 15%. The dominant contributors of exports are A-category enterprises which contributed US\$108 million in mid-1990s increasing to US\$1032 million by the middle of the first decade to US\$ 4193 million during the next years with annual growth of 15%. However, the export share of this category has remained rather static with a marginal negative growth of 0.51%. In contrast, the shares of exports of B-category enterprises increased at 5.21% p.a. even though exports grew at 21% p.a. The share of exports of C-category remained steady at around 20% with a mild growth of 1.25%. However, true amount of foreign exchange earnings increased from meager US\$ 1.45 million in 1994-95 to US\$ 336.50 million in 2014-15.

Additionally, foreign investors convert a large amount of foreign currency into local currency in order to pay for wages and salaries of the local employees and workers. Total indirect foreign exchange earnings contribution through wages and salaries amounted to US\$ 642.89 million in 2013-14. Besides, a respectable amount of foreign exchange benefit accrues from rents from factory spaces and buildings, and service charges paid by the foreign investors usually in US dollars. The upshot of these estimates is that total direct and indirect foreign exchange earnings from EPZs has far exceeded one billion dollar in recent years.

During 1999-00/2014-15 period the EPZs contributed Tk. 4.5 billion in the form of income taxes. BEPZA contributed Tk.1.8 billion in the form of DSL during 1992-93/2014-15 period. While income tax payment grew at 19.42 percent per annum, DSL grew at 18 percent. Besides, the foreign expatriates paid Tk. 707.26 million in the form of income tax during the last 5 year period over 2010-2015. Even though information on the magnitude of corporate tax paid by the investors in the EPZs after the expiry of tax holiday period is not readily available, anecdotal evidence suggests that the contribution of the EPZ investors on this account is substantial.

Cumulative direct employment in the EPZs was 420,101 by 2014-15 in 441 units currently in operation in the eight zones. Between 1983-84 and 2014-15, local employment in the EPZs increased at almost 19% p.a. Over those years the employment at the CEPZ grew by more than 16% compared to 12% in the DEPZ (during 1993-94 to 2014-15). Growth rates of direct employment in the EPZs established in the 2000s are impressive – 67% in the IEPZ and 60% in the KEPZ. The share of direct EPZ employment in the total formal manufacturing employment steadily increased from 0.14% in 1983-84 to 5.33% in 2005-06 with further one percentage point increase in 2010-11. The sluggish growth of the share of EPZ employment in recent years may be attributed to greater automation in the EPZ enterprises and consequent growth of skilled workforce in the country.

Average number of employees in the survey firms increased from 417 in the initial year to 1,243 in the most recent year showing about three-fold increase. AEPZ shows largest employment expansion followed by UEPZ, KEPZ and IEPZ. Average number of operatives also more than tripled over the reference period. Thus EPZ firms greatly contribute to employment generation in the country both in absolute and relative terms.

Contribution of EPZs to new job creation has increased from 17,540 in 2013-14 to 32,967 in 2014-15 with an annual increase of 87.95%. Besides, growth rate of employment in the EPZs is about double of that for the country as a whole, reflecting very little or no job replacement in the domestic tariff area (DTA) and new job creation in the EPZs. Thus, BEPZA is playing a vital role in implementing *Vision 2021* by creating huge employment opportunities. As of June 2015, the cumulative employment stood at 420,101 in the eight EPZs from 389,017 in June 2014. Creation of new jobs is attributable to the emergence of 17 new industries which started commercial operation in 2014-15. By and large, it is estimated that EPZ industries have an employment multiplier of 2.25 – meaning that for every job generated in the EPZs, 2.25 other jobs are created in the DTA. Thus, total employment including the indirect employment more than doubled direct employment in the EPZs.

In the readymade garments (RMG), actual wage for all categories of workers in the EPZs is much higher than the BEPZA minimum wage. As the minimum wage rates in the DTA are lower than that in the EPZs, it is still higher than that of the workers in the DTA. Higher wages in the EPZ firms may be attributed to their greater trade openness suggesting that reciprocity of the employers in the EPZs constitutes a basic motivational drive. Besides, although for apprentice gender equality of wage exists, in case of other categories of workers there is very negligible gender wage gap. In electronics, for apprentice and unskilled workers actual wage equals, while for semi-skilled and skilled workers actual wage is much higher than, BEPZA minimum. In all cases, gender equality of wage prevails, indicating equal pay for work of equal value. In terry towel, average wage for apprentice as well as for semi-skilled workers for both sexes is much higher than BEPZA minimum wage. There is no wage difference between male and female workers indicating gender equality. In textile, average wage for male unskilled workers and that for semi-skilled workers for both sexes is lower than BEPZA minimum. For apprentice and skilled workers average wage for both sexes is much higher than BEPZA minimum. For these two categories of workers female wage is strikingly higher than male wage primarily due to preponderance of female workers in these two high-paying jobs. However, in the DTA average wage for the unskilled workers happens to be much lower than BEPZA minimum and that prevailing in the EPZ enterprises, although average wage for skilled workers happens to be higher than BEPZA minimum. Overall, EPZ enterprises pay much higher wage than DTA enterprises.

EPZ firms provide a number of fringe benefits to their workers in the regular payroll. Most important among them include: pension/gratuity, life insurance, company medical service, paid holidays, maternity leave, food facility and transport facility. These fringe benefits are mutually exclusive and universal. Among different types of fringe benefits, the incidence of maternity leave is very low across different skill categories of workers.

Empirical studies tend to support the prediction of a tradeoff between wages and fringe benefits when other factors e.g. worker quality is held constant. While fringe benefits of workers are selective in some showcase DTA firms, they are universal in the EPZ firms conforming to social protection of the workers.

Most of the EPZ enterprises (97.41%) provide training to the workers. Most of these trainings are on-the-job (79.65%) provided mostly to the production workers (73.04%). EPZ enterprises also provide off-the-job training to workers abroad on their own (20.35%). These training provisions greatly contribute to the formation and development of workers' skills. Most of the workers (80%) are trained locally, while 12% of them are trained both locally and abroad and only 8% of them are exclusively trained in foreign countries. Very few of the EPZ enterprises (5.17%) provide training for the staff/workers of other enterprises. Thus training provision remains internalized for most of the EPZ firms. Usually, smaller and newer EPZ enterprises outsource training for their workers/staff.

Skills transfer to the rest of the economy occurs mainly through the movement of people who have received training in 100% foreign and joint-venture firms in the EPZs and through learning by locally owned firms. The factories in the EPZs contribute significantly to workers' technical production and factory management skills even though the acquisition of broader management capability or marketing skills is very slow. Technicians and managers who have acquired the ability to compete in the world market have carried this expertise to the rest of the economy. Hard data for measuring skills transfer in terms of replacement of foreign employees by local employees are available only for COEPZ. Time-series data for 2006-07/2014-15 period shows erratic trend of the extent of replacement of foreign employees by local employees. While there are nuances of replacement in the CEPZ and the DEPZ, it appears to be replenishment in the newly established EPZs except MEPZ. In the C-category enterprises there is no evidence of foreign employees except in CEPZ, while there is negligible presence of foreign employees in the B-category enterprises with preponderance of them in the A-category enterprises. However, foreign training of the local employees in batches by some of the A-category enterprises is in evidence.

Technology transfer is intertwined with skill transfer. In a relatively simple industry with no proprietary technology, such as RMG, textiles and footwear, technology transfer takes place readily both inside and outside the EPZs, though on a very limited scale. The transfer is from foreign technicians and managers working together on factory floors, from foreign buyers to local firms, and through consultants, movement of employees and so forth. But industries, e.g. electronics, electrical goods, metal products and high fashion garments resist challenging, fast-changing, and largely proprietary technology transfer to Bangladesh. In such industries, the direct transfer of product and process technologies through the EPZs has been very small. In general, software technology seems much easier for transfer than patented hardware technology. Across the board, the contribution of foreign EPZ firms to technology transfer to Bangladesh is very insignificant. This may be explained primarily by the low-cost labor, which is one of the major incentives that attract foreign investors and severely limits technology transfer.

On average annual turnover of the linked agencies increased from Tk. 9.04 million before establishment of EPZ to Tk. 24.10 million in 2014 with about three-fold increase. As high as 85 out of 102 reporting linked agencies came into being after the establishment of EPZs implying that their growth is exclusively attributable to EPZs. For CEPZ, COEPZ, IEPZ, MEPZ and UEPZ linked agencies were nonexistent before the establishment of EPZs. In the remaining three EPZs, the existence of linked agencies is explained by the prevalence of externalities in the EPZ area. Revenue attributable to EPZs averages 66.88% varying from 38.33% in the case of MEPZ to 100% in the case of COEPZ and UEPZ. Average employment in the linked agencies increased from 13.88 before the establishment of the EPZs to 23.17 in 2014 showing about two-fold increase. Emergence of about 78.42% of linked agencies is attributable to the EPZs.

The growth of ancillary industries in the neighborhood of EPZs is remarkable. Number of ancillary establishments grew to as high as 889 in 2014 from a low of 87 before the establishment of EPZs. In MEPZ, there was no ancillary industry before the establishment of the EPZ. Average turnover of these industries increased from Tk.1.89 million before establishment of EPZ to Tk.2.1 million in 2014. Revenue of the ancillary industries attributable to EPZ in 2014 averages 70.07% ranging from 57.52% in KEPZ to 78.68% in CEPZ. Their turnover accounts for a miniscule 0.68% of gross output of micro enterprises all over the country in 2012. Total employment of these industries increased from 150 before establishment of EPZ to 2,413 in 2014 indicating more than sixteen-fold increase. Average employment of these industries increased from 1.72 before establishment of EPZ to 2.71 in 2014 compared to national average of employment of micro enterprises at 16 in 2012. Their employment accounts for a miniscule 0.89% of total employment in the micro enterprises all over the country in 2012.

The EPZs have been making a significant contribution to the gradual empowerment of women through more employment. Every year an increasing number of young girls and women are joining the productive workforce of the EPZs. Centering an EPZ backward and forward linkages and supportive service industries grow up which create employment opportunity especially for women. This contributes to poverty reduction.

Direct and indirect impacts of EPZs can hardly be overrated because of several limitations. They can seldom be underrated either. The EPZs program in Bangladesh is one of the important contributors to direct employment generation and foreign exchange earnings, a number of indirect and induced employment creation, foreign exchange effects and other spillover benefits to the Bangladesh economy. EPZs in Bangladesh are coming of age with huge potential. However, the EPZs in Bangladesh have chiefly attracted labor-intensive, non-complex manufacturing processes which are least likely to fuel national growth.

The expected benefits of the EPZs include: (i) the difference between wages paid to local labor and the shadow wage; (ii) the difference between payments by firms for public utilities and locally purchased inputs and the opportunity cost of these public utilities and locally purchased inputs; (iii) all tax payments by the EPZ firms; and (iv) net profit income that goes to local equity shareholders in the EPZ firms. The expected costs include: (i) capital infrastructure cost of the establishment of EPZs; and (ii) administrative expenditure for zone operations.

Besides, the EPZs entail a number of indirect or spillover effects which could not be imputed in monetary terms: (i) among a number of social services provided in the EPZs, mention can be made of hospital, medical centers and educational institutions with BEPZA supervision, subsidy and patronage to indirectly benefit the workers; (ii) the EPZ enterprises have contributed significantly in terms of export diversification of the country compared to those in the DTA; and (iii) BEPZA also introduced digital connectivity across zones and between individual zone and its head office.

An analysis of the cost and benefits has revealed that all the EPZs, except MEPZ, have yielded positive economic effects with the single, largest benefits accruing to labor. From a national perspective, the net overall welfare effect of EPZs in Bangladesh is a positive one, even after accounting for the BEPZA's loss, based on economic prices. Thus, one has strong reason to believe that investment in the creation of most of the EPZs has been worthwhile.

The achievements of EPZs in Bangladesh are tested and merit undivided policy attention. Most of the issues relating to the kindred programs with lofty ideas can receive fair treatment by strengthening existing EPZ program with renewed mandate of linking the rest of the economy. This accommodation rules out the desirability of separate treatment of other programs of similar nature. By all chance, if at all, they need to be subordinated to the existing EPZ program.