



Impact of EPZs on poverty reduction and trade facilitation in Sri Lanka



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Abstract:

Export Processing Zones (EPZs) have been among the primary factors of export-oriented growth in recent decades. EPZs first came about in 1959 with the establishment of the Shannon Zone in Ireland. Following that, the first few zones were envisaged primarily as industrial zones that were to attract foreign investors to set up facilities to process imported materials and subsequently export their products. With regard to trade facilitation, it is clear that EPZs offer some important advantages. Through simplification of customs procedures that reduce the number of steps and documents needed when processing imports and exports, thereby cutting down on the amount of time taken to process these goods, EPZs have had a significant impact on facilitating trade. This is particularly the case with goods being delivered by sea. Furthermore, operating within an EPZ allows firms to take advantage of backward and forward linkages available in the zone. Manufacturers in the garment industry, for example, can source from suppliers of yarn and thread processing plants within the same EPZ and further down the supply chain, and they can link up with washing plants that create finishes for articles of clothing, also within the EPZs. These are opportunities that are rarely available for companies that operate outside these zones.

JEL Classification: F1**Key words:** Sri Lanka, Trade facilitation, Export Processing Zones

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Introduction

Export Processing Zones (EPZs) have been among the primary factors of export-oriented growth in recent decades. EPZs first came about in 1959 with the establishment of the Shannon Zone in Ireland. Following that, the first few zones were envisaged primarily as industrial zones that were to attract foreign investors to set up facilities to process imported materials and subsequently export their products. In the 1970s, EPZs were seen as playing one of the most important roles, with regard to employment strategies, that promoted export-oriented foreign investment. By 1997, 27 million workers were employed in more than 800 EPZs across the world.

The primary aims of an EPZ are manifold. They include generating employment, expanding the exports industry, attracting foreign exchange, encouraging technology transfer, improving human capital, developing backward and forward linkages, and promoting economic development in less-developed regions within a country (Thamarajakshi, 2001).

An EPZ is defined as a geographical area housing export-oriented manufacturing facilities or service enterprises. These zones may be located anywhere in a country and, in many cases, are situated in close proximity to ports and/or harbours to enable ease of access to shipping lines and freight forwarding services. Firms operating within EPZs usually benefit from special incentives aimed at promoting investment, with customs duty exemptions and tax incentives among the most common. They may be labelled under different names around the world, such as “enterprises” in Honduras, “special economic zones” in China and “special export processing zones” in the Philippines (Thamarajakshi, 2001).

The key objectives of EPZs – increasing exports and foreign exchange earnings, attracting foreign direct investment (FDI), diversifying exports and creating jobs – can, in turn, have a significant bearing on facilitating the trading process as well as alleviating poverty in an economy. For example, with the objective of boosting exports, EPZs could implement policies to simplify the export procedure. In addition, the need to attract FDI would necessitate improving the business (and trading) environment in the country; infrastructure development that accompanies many EPZ development schemes would, in turn, lead to a smoother and faster trading process. The establishment of zones in rural areas that promote infrastructure and industrial upgrading in such areas could enhance economic opportunities for the poor while employment generation, especially for the population in rural areas with low skill levels, could also play a key role in alleviating poverty.

It is well established that international trade plays a key role in acting as an engine of growth and poverty reduction in developing countries. While Sri Lanka initiated the process of trade liberalization in South Asia, other barriers such as administrative and technical barriers have become an increasingly significant impediment to trade. In order to promote export competitiveness in Sri Lanka, it is essential to remove such barriers. One way of doing so, and thereby facilitate trade, is through EPZs that provide customs-free and tax-exempt, export-oriented manufacturing facilities, investment incentives and streamlined administration, cheap utilities and better infrastructure. Trade facilitation may be the quintessential purpose of these zones, but another important aspect of EPZs is their potential to alleviate poverty.

The existing literature on EPZs in Sri Lanka mainly discusses the impact of trade and investment incentives on export performance, and the relationship between EPZs and employment generation (Sivananthiran, 2008). However, there has been limited quantitative analysis comparing firms that operate within EPZs and those that are located outside these zones, particularly with regard to assessing the livelihoods of employees and evaluating the impacts of trade facilitation for firms within these zones.

In this context, the study detailed in this chapter was aimed at conducting a comprehensive evaluation of the effectiveness of EPZs on poverty reduction as well as provide an analysis of these zones as a mechanism of trade facilitation through such processes as simplification of customs procedures, streamlined administration and socio-economic welfare in the immediate surroundings of these zones. The study also took into account the effect of EPZs on employment generation, education and specialized training among the poor in these areas.

2. Literature review

2.1. Overview

Tantri and Kumar, 2011) identified some specific means through which EPZs could promote trade facilitation levels in a country, primarily by reducing the time required for doing business and a reduction in associated transactions costs within EPZs.

Sri Lanka's first EPZ was established in 1978 at Katunayake as a part of the economic liberalization policy that was introduced following decades of protectionism. The setting up of EPZs was seen as a means of attracting FDI into the country. Sri Lankan zones provided modern infrastructure, a wide range of services and generous economic concessions to

foreign investors. The zones were expected to absorb labour from the urban and suburban districts around the capital and in areas with high levels of unemployment.

The Board of Investment (BOI) is the apex EPZ authority and has its origins in the Greater Colombo Economic Commission. Following the establishment of the Katunayake zone, BOI became involved in a massive expansion in EPZ schemes and has established 12 economic zones in the country since 1978, including nine EPZs, two industrial parks, and one export processing park (Board of Investment of Sri Lanka, March 2012) (table 1).

Table 1. Export processing zones in Sri Lanka, 2012

Location	Number of enterprises	Year established
Mirijawila Industrial Park ^{a,b}	3	-
Katunayake Export Processing Zone	86	1978
Biyagama Export Processing Zone	58	1985
Koggala Export Processing Zone	20	1991
Kandy Industrial Park ^b	21	1994
Wathupitiwala Export Processing Zone	17	1998
Mirigama Export Processing Zone	6	1998
Malwatta Export Processing Park ^b	4	1998
Seethawake Export Processing Zone	30	1999
Horana Export Processing Zone	12	1999
Mawathagama Export Processing Zone	7	2000
Polgahawela Export Processing Zone	5	2000
Total	269	

Source: Board of Investment of Sri Lanka, March 2012.

Notes: (a) Certain information for the Mirijawila Industrial Park was not available; and (b) Industrial Parks and Export Processing Parks are similar to EPZs, but have lesser status in terms of government support (Hancock and others, 2011a).

A study by Abeywardene and others (1994) showed that EPZs in Sri Lanka had made a significant contribution to the expansion of the production of manufactured goods. Whereas in 1980 the zones accounted for only 8.8 per cent of total industrial exporters, by 1991 their share had risen to 44 per cent. By 2007, EPZs were contributing 38 per cent of the country's

total exports in terms of value (Boyenge, 2007). The study also showed that employment generation had been significant, particularly in the Katunayake EPZ where the number of workers employed soared from 5,876 in 1979 to 53,289 by 1992. However, the findings also revealed poor working conditions in the EPZs and minimum protection against arbitrary dismissal. For example, wage disparities on the basis of gender, exposure to occupational health hazards, inadequate accident prevention measures and a lack of compensation for injured workers were identified as key issues.

Aggarwal (2005) conducted a comparative analysis of EPZs in Bangladesh, India and Sri Lanka. In terms of employment generation, she showed that while employment growth was significant in the immediate aftermath of zone development in Sri Lanka, in the 1990s it slowed down from 62 per cent in 1983 to a mere 2.8 per cent in 2003. Employment generation was higher among females as revealed in a study undertaken by Sivananthiran (2008), who found female employment was more than double that of male employment in the Katunayake EPZ and accounted for 66 per cent of total EPZ employment.

A more recent overview of EPZs in Sri Lanka (Japan Development Institute, 2011) showed that 1,726 projects were in operation in the 12 zones, generating 85,243 employment opportunities. However, when indirect employment opportunities are considered, that number rises to 346,516.

Another study on EPZs in Sri Lanka (de Alwis, 1994) showed that there had been significant infrastructure development following the establishment of the Katunayake EPZ, which would in turn have an impact on both poverty reduction and trade facilitation efforts.¹

Hancock and others (2011a) examined the role of Sri Lankan EPZs in helping women to obtain employment and turn their employment experiences into economic and social empowerment. A random sample of women who had worked one year or more in an EPZ were interviewed, both through a questionnaire and focus group interviews. An evaluation of job types revealed that 79 per cent of women were employed in low-to-medium level jobs such as machine operator, packer and cutter, while only 5.3 per cent were employed in

¹ Infrastructure has been developed in several key areas: (a) water supply – water treatment and storage facilities; (b) environmental protection – sewage and effluent collection system, and a central sewage treatment plant; (c) electricity – a grid substation to supply electricity to the zone industries; (d) post and telecommunication – telex and facsimile facilities to the zone industries, which are linked by satellite communication facilities; (e) transport facilities – a modern bus terminal; (f) security – security lightning, chain link fencing and intrusion detection systems; and (g) services – the administrative complex has been constructed to accommodate service organizations such as banks, customs, port, postal and medical services, cargo handling etc.

management positions. On average, women were found to be working 45.73 hours per week before overtime, ranging from a minimum of 30 hours to a maximum of 88 hours. Accounting for overtime, the study found that women worked 55.35 hours per week, earning an additional Rs 2,125.77 per month. The analysis revealed that women had gained personal empowerment, mainly from being able to use their income to assist their families, and/or improve their homes and living standards. Most women spent their salaries on items such as jewellery, furniture and household goods as well as in assisting siblings in their education.

The analysis by Aggarwal (2005) showed that the share of FDI attracted by Sri Lankan EPZs had been substantial, and had remained at more than 80 per cent of total FDI during recent years. The share of Sri Lankan zones in manufactured exports increased from 8 per cent in 1979 to 35 per cent by 1990. However, growth rates of exports in zones have shown a decline from 86.8 per cent during 1978-1982 to 5.5 per cent in 2000-2003. Aggarwal attributed this decline to a slowdown in export growth in the two main zones in the country, and the inability of exports in new zones to compensate for this low growth.

Similar to African zones, Sri Lanka's EPZs have historically been highly concentrated in the food processing, textile and clothing sectors that accounted for more than 90 per cent of total EPZ exports in the 1980s. However, an analysis of Sri Lankan EPZs by Sivananthiran (2008) showed that there had been a gradual decline in this concentration with the textile sector accounting for around 50 per cent, while the importance of chemicals, manufactured products and services had increased.

A recent paper (de Mel and others, 2011) which analysed in detail the export and import procedures in Sri Lanka yields some interesting findings. Interviews with companies both within EPZs and those outside suggested that some key differences existed in export/import procedures for the two groups of firms. The ability of companies operating under BOI to submit customs declaration forms (CUSDECs), make the payments and examine the cargo within the EPZ, places them at an advantage, mainly in terms of lower time expenditure and obstacles. In particular, they can avoid long queues and the need to transport imports (if selected for examination) to yards outside the ports. The only additional cost, according to the study, appeared to be the US \$3.3 that those companies had to pay as the BOI service charge, whereas companies outside EPZs have to pay only US\$ 2.5.

The main focus of the literature on EPZs has been on their general macroeconomic effects in terms of employment generation and contribution to infrastructure development, export and FDI growth. In Sri Lanka, there has been particular focus on the administrative setup

and procedures, quality of governance, working conditions and labour regulations within EPZs. However, there has been limited analysis of how EPZs facilitate trade by providing better governance through more efficient procedures and minimizing bureaucratic interference in customs-related procedures. Furthermore, poverty reduction impacts of EPZs have not been explored in Sri Lanka.

3. Methodology and data

The study carries out both quantitative and qualitative analyses of experiences in selected EPZs with regard to the impacts of export processing zones on poverty reduction among employees and an evaluation of these zones as a mechanism of trade facilitation.

A survey was conducted among employees working at five companies operating within the Katunayake and Biyagama EPZs (the two largest EPZs in Sri Lanka) to gauge the impact that these zones had on the livelihoods of their workers (annex 1). These two EPZs are located within 50 km of Colombo. A total of 42 survey interviews were conducted among randomly selected workers employed in those companies from November 2012 to May 2013.

A second survey was conducted among employees working at four manufacturing firms not located within EPZs. These four firms are also located within 50 km of Colombo. This second survey was used as a control group with which to compare the survey findings gathered from employees working at EPZs. In this second survey, a total of 41 survey interviews were conducted among randomly selected workers employed in manufacturing firms operating outside EPZs from April to May 2013, bringing the total survey size to 83 interviews.

To supplement these survey findings, in-depth interviews were conducted among managers and directors of manufacturing firms operating within the Katunayake, Biyagama, Horana and Seethawaka EPZs (annex 2). The semi-structured questionnaires take into account the respondents' views on the effect of EPZs on employment generation, education and specialized training among the poor in those areas as well as the impact that EPZs have had on facilitating trade for these firms. A total of seven in-depth interviews were carried out in November 2012.

When analysing the survey findings, the authors employed the z-test to evaluate whether there was a statistically significant difference between proportions in the two groups. For

example, the proportion of underweight workers in firms operating within EPZs was compared to the proportion of underweight workers in firms operating outside EPZs. The level of significance employed in this test was a 5 per cent level of significance unless otherwise specified. The details of the methodology are presented in annex 3.

Secondary data were obtained from BOI with regard to employment in EPZs across Sri Lanka. The data were obtained in September 2012 and were current as of March 2012. Data on firms operating within these zones, and the respective products and services they offered, were also obtained from BOI during the same period.

In order to further analyse the impact of EPZs on trade facilitation, the study drew upon recent research comparing firms operating within EPZs with those operating outside EPZs. This comparison is carried out in terms of processes such as simplification of customs procedures, streamlined administration, and time taken to process import and export goods.

4. Results and discussion

4.1. Impact of EPZs on poverty reduction

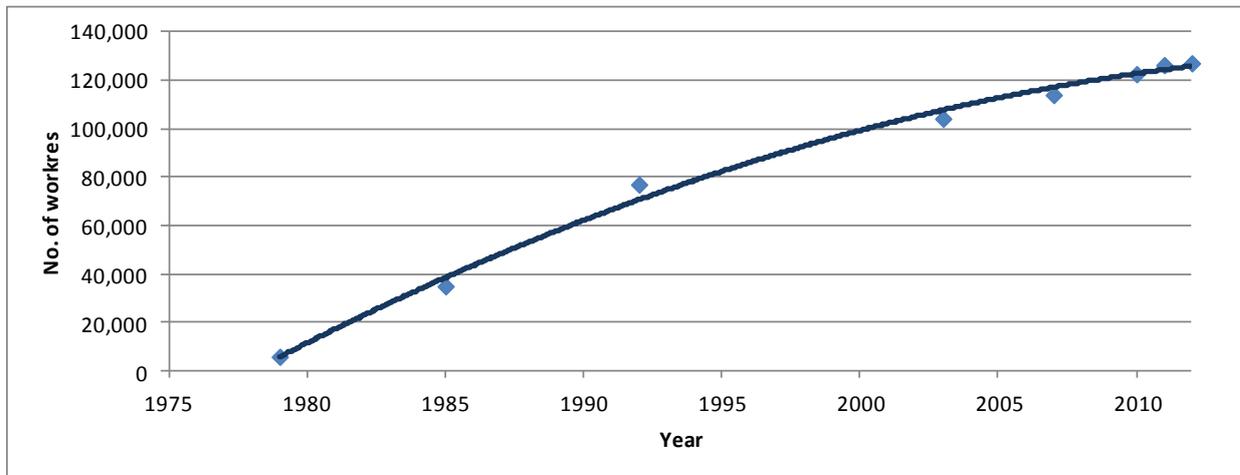
Among the positive impacts that EPZs have on poverty reduction, employment generation is perceived as the most significant.² However, there are other benefits from these zones, such as health-care benefits for workers, indirect employment generation and training programmes. Each is discussed in turn in the following sections.

(a) Direct employment generation

Among the most noticeable benefits arising out of EPZs is the generation of employment. Across the world, EPZs have contributed significantly to creating jobs. In Mauritius, for example, an unemployment rate of 20 per cent in 1970 transformed into almost full employment in the 1990s, following the implementation of the country's EPZ programme (Madhavi and Vijayalakshmi, 2001). Another case is China, where the considerable size and scope of these zones has led to substantial employment opportunities. In Sri Lanka, EPZs have offered an increasing number of jobs in several zones across the country, rising from 5,876 in 1979 to 127,123 in 2012 (figure 1).

² Information received from interviews conducted with manufacturers operating within the Katunayake, Biyagama, Horana and Seethawaka EPZs.

Figure 1. Change in total employment in economic zones in Sri Lanka, 1979-2012



Sources: Data obtained from BOI in March 2012; Sivananthiran, 2008; Hancock and others, 2011a; and Abeywardene, 1994

EPZs are particularly important for low-skilled workers in Sri Lanka. Approximately 83 per cent of all low-skilled workers in the manufacturing sector across the country are employed within EPZs (Department of Census and Statistics of Sri Lanka, 2012).³ For this study, all workers surveyed from firms operating within EPZs were engaged in low-skilled occupations, such as machine operator cutters and storage handlers.⁴

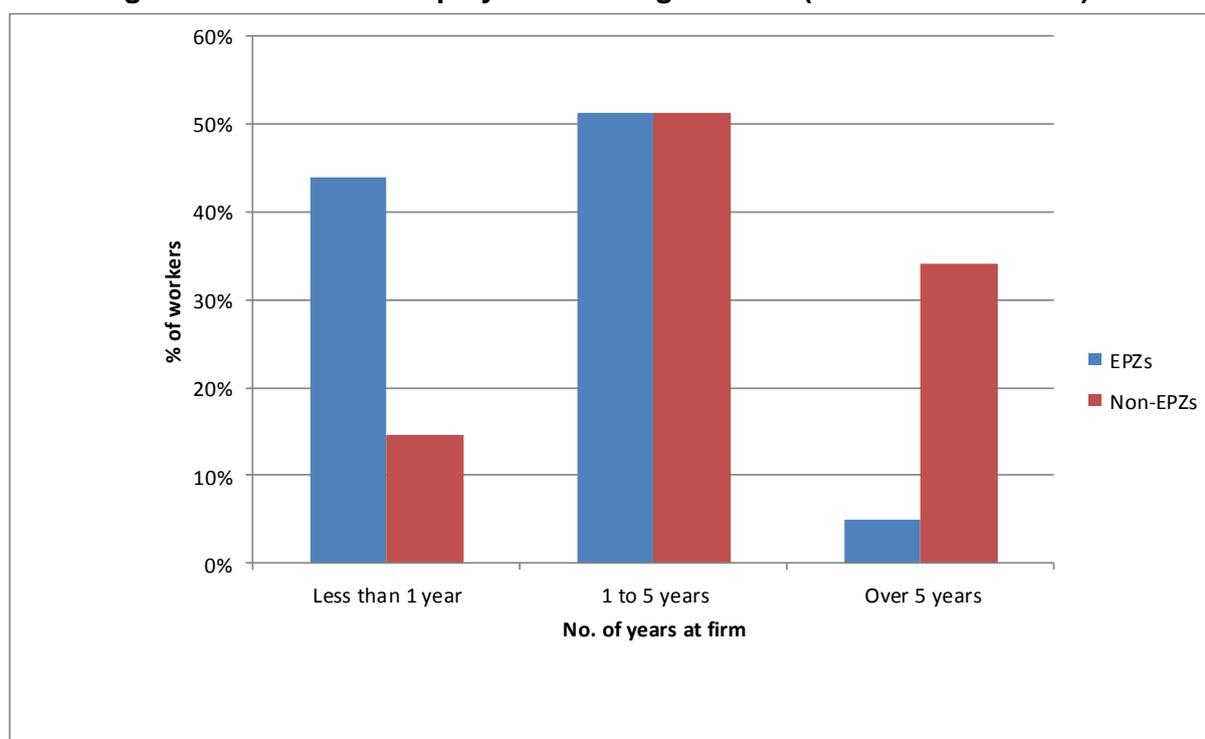
As figure 2 shows, there is a high turnaround of employees working in these zones. Surveys conducted among employees working at the Katunayake and Biyagama EPZs revealed that 44 per cent of the workforce surveyed had been working at their respective firms for less than a year. When compared with employees working in manufacturing firms outside EPZs, the survey results revealed that only 15 per cent of the workforce had been working at their respective firms for less than one year. That difference is statistically significant,⁵ with the proportion of workers that stayed for less than one year being significantly higher in EPZs compared with non-EPZs. Figure 2 gives an indication of the length of time for which the workers surveyed in both EPZs and non-EPZs had been working at their respective firms.

³ Data obtained from BOI, March 2012.

⁴ Surveys conducted by the authors at the Katunayake and Biyagama EPZs, November 2012- May 2013.

⁵ Level of significance is 5 per cent.

Figure 2. Duration of employment among workers (EPZs vs. non-EPZs)



Source: Surveys conducted among employees at firms inside and outside EPZs, during November 2012-May 2013.

This high turnaround of workers in EPZs may be an indication of the state of working conditions within the firms. Discussions with employees during survey interviews indicated that many were not fully satisfied and did not intend to stay long. Some complaints included the high cost of living, particularly with regard to expenditure on food, transport and lodging. Many others stated that overtime was in many cases the norm and complained of hectic work-schedules with seldom breaks.

On the other hand, workers employed in firms outside EPZs appeared to be more satisfied with their work conditions. Many noted the free meals provided on a daily basis, together with free lodging and transport facilities offered by their respective companies. Other benefits included an annual bonus, free health facilities on-site and training programmes, including English classes and computer classes.

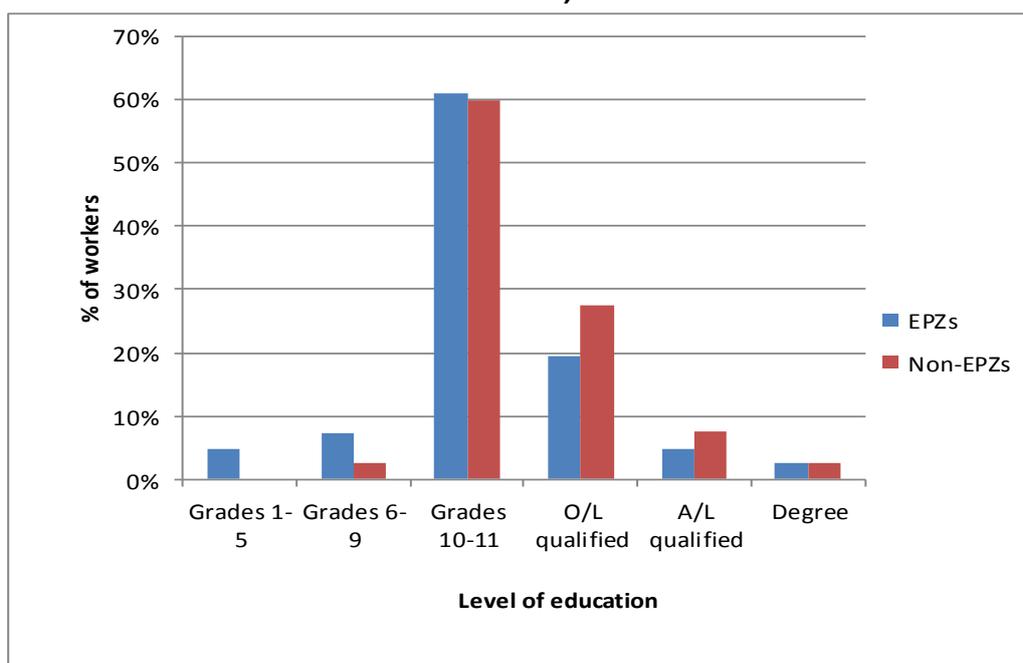
Interviews conducted among manufacturers that operate within several EPZs in the country confirmed that scarcity of labour is one of their biggest problems.⁶ To help solve this problem, firms have been sourcing employees from beyond the immediate vicinity of the

⁶ Interviews conducted with manufacturers operating within the Katunayake, Biyagama, Horana and Seethawaka EPZs.

zones, particularly from rural areas. This may indicate that EPZs play an important role in providing employment to the rural poor, many of whom do not have many employment opportunities in their respective hometowns.⁷

In fact, many of the surveyed employees in EPZs are not highly educated and are engaged in low-skilled occupations. The majority of workers (61 per cent) have completed only up to Grade 11 (inclusive) while only 5 per cent are GCE Advance Level qualified (figure 3). While these levels of education may seem quite commendable according to certain standards, this has to be viewed in the overall context of relatively high levels of education in the country.⁸ When looking at workers employed at manufacturing firms operating outside EPZs, survey results showed that levels of education were very similar, with a majority of workers (60 per cent) having completed up to Grade 11 (inclusive) and 8 per cent being GCE Advance Level qualified.

Figure 3. Levels of educational attainment among workers (EPZs vs. non-EPZs)



Source: Surveys conducted among employees at firms inside and outside EPZs during November 2012- May 2013.

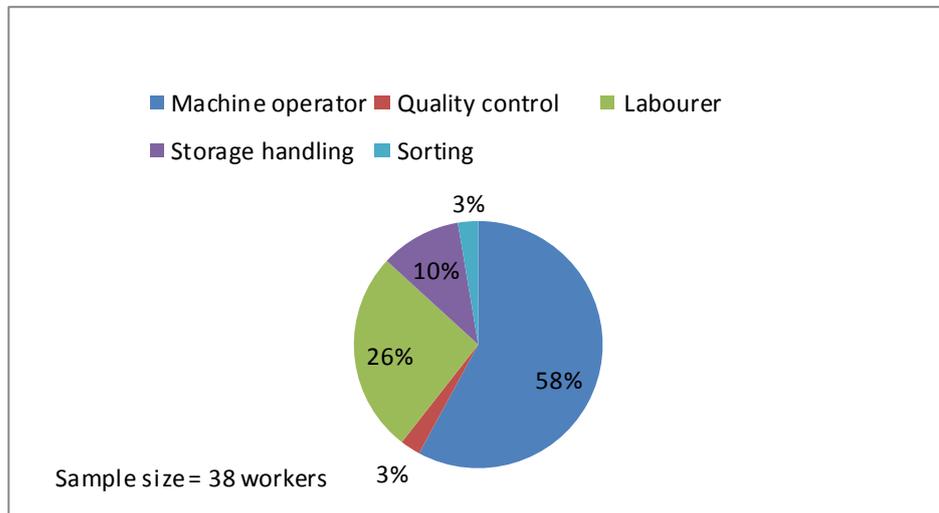
Furthermore, many employees are low-skilled, with all of the surveyed employees in EPZs engaging in low-skilled occupations. More than half (58 per cent) of all employees surveyed were employed as machine operators, while the remaining workers were employed as

⁷ Ibid.

⁸ Education in Sri Lanka has a long history which dates back two millennia and has always been a priority among the country's economic and social development efforts. Sri Lanka's population has a literacy rate of 92 per cent – higher than that expected for a developing country – and has the highest literacy rate in South Asia and, overall, one of the highest literacy rates in Asia.

labourers (26 per cent), storage handlers (10 per cent), sorters (3 per cent) and quality controllers (3 per cent) (figure 4). Given that unskilled workers with low levels of education are generally more likely to be poor, these findings reinforce the important role played by EPZs in providing employment opportunities for those engulfed in poverty.

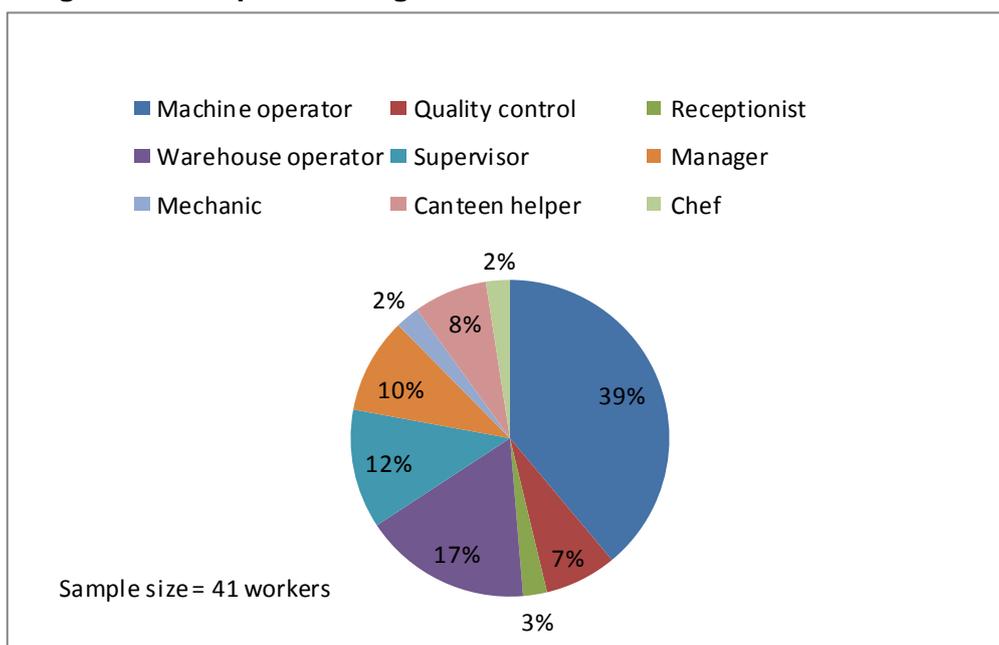
Figure 4. Occupation categories of EPZ workers



Source: Surveys conducted among employees at firms inside EPZs during November 2012-May 2013.

Similarly, surveys conducted among workers employed at manufacturing firms operating outside EPZs revealed that the majority of workers were engaged in low-skilled occupations. The most common occupation was machine operator, at 39 per cent, while 17 per cent were employed as warehouse operators (figure 5). However, there was a wider variety of occupations among those surveyed, including supervisors, managers, canteen staff and others.

Figure 5. Occupation categories of non-EPZ workers



Source: Surveys conducted among employees at firms outside EPZs during April- May 2013.

Another advantage of EPZs is the employment opportunities available to women. One key feature of EPZs across Sri Lanka is the high proportion of female workers. Overall, across the economic zones in Sri Lanka, 60 per cent of all workers are female. This stands in stark contrast to Sri Lanka's entire workforce, of whom only 33 per cent are female (Department of Census and Statistics of Sri Lanka, 2012). Of the 12 economic zones in the country, 10 have a higher proportion of females than males. In many of these zones, there is a substantially higher share of women workers. For example, in the Koggala EPZ, which employs more than 11,500 workers, 74 per cent of the workforce comprises females, while in the Wathupitiwala EPZ and Kandy IP, which employ roughly 8,200 and 6,900 workers, respectively, the proportion of female workers in both zones is 73 per cent. The Mirijawila IP, which totals more than 1,400 workers, features a workforce that is 91 per cent female.

Unlike the Katunayake EPZ, which houses a substantial portion of companies that manufacture textiles and garments, the share of companies engaged in this industry in the Biyagama EPZ is only 20 per cent. This may explain the lower proportion of female workers in the Biyagama EPZ.

Some employers believe that female workers possess certain gender-specific traits that make them more suitable for the kind of work demanded in certain industries.⁹ Dexterity and patience are two attributes that are needed for the delicate yet repetitive work that often takes place on the production line of certain firms, particularly those that manufacture clothing (Madhavi and Vijayalakshmi, 2001). One of Sri Lanka's key exports is garments, which may explain the high demand for female workers whose careful attention to detail is believed to enable steady production. Table 2 shows the proportions of male vs. female workers for all economic zones in Sri Lanka.

Many of the workers surveyed were quite young, with 40 per cent of respondents in EPZs aged 18-20 years. Figure 6 shows the age distribution among the surveyed EPZ workers.

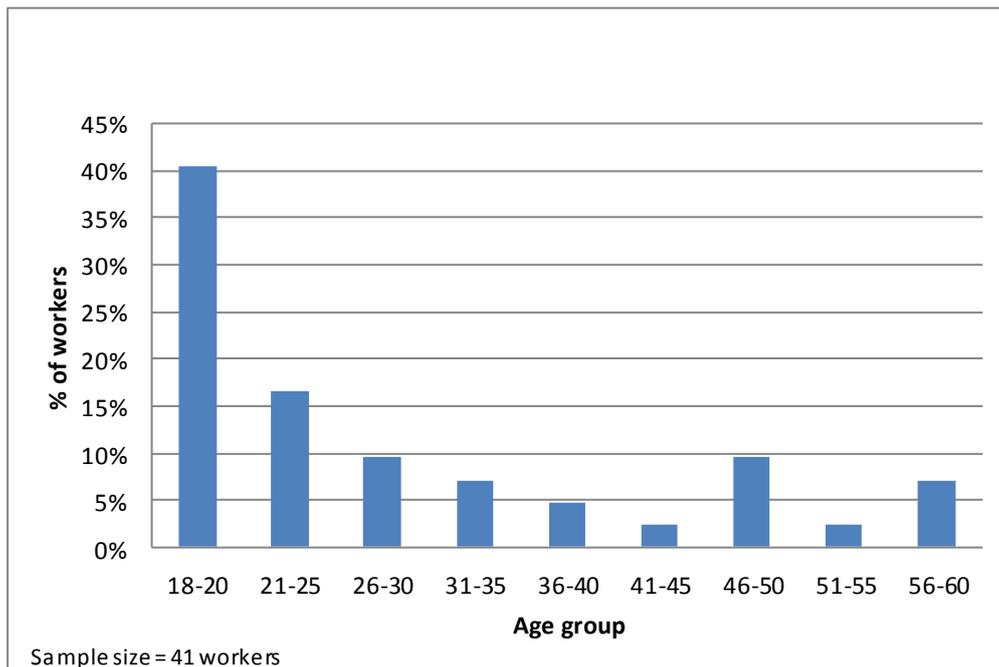
Table 2. Proportion of male vs. female workers in EPZs in Sri Lanka, 2012
(Unit: Per cent)

Location	Male	Female	Total No. of employees
Katunayake EPZ	41	59	42 329
Biyagama EPZ	55	45	21 092
Seethawake EPZ	46	54	20 050
Koggala EPZ	26	74	11 698
Wathupitiwala EPZ	27	73	8 232
Kandy IP	27	73	6 881
Mawathagama EPZ	24	76	4 985
Polgahawela EPZ	23	77	3 427
Malwatta EPP	30	70	2 887
Mirigama EPZ	34	66	2 528
Horana EPZ	94	6	1 602
Mirijjawila IP	9	91	1 412
Total	40	60	127 123

Source: Board of Investment of Sri Lanka, 2012.

⁹ Interviews conducted with manufacturers operating within the Katunayake, Biyagama, Horana and Seethawaka EPZs.

Figure 6. Age distribution among workers in EPZs

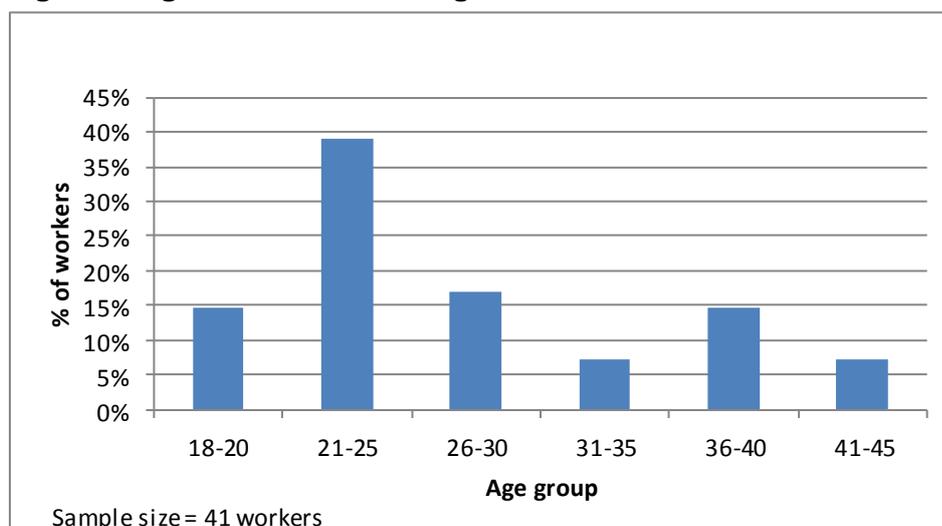


Source: Surveys conducted among employees at firms inside EPZs during November 2012-May 2013.

When workers employed in manufacturing firms operating outside EPZs were surveyed, results showed a rather different scenario (figure 7). Respondents tended to be slightly older, with only 15 per cent of employees aged 18-20 years. The difference in age between workers in the two samples is statistically significant, with the proportion of workers in the 18 to 20-year age group being significantly higher in EPZs compared to non-EPZs.¹⁰ However, the mean (average) age of workers in EPZs is not statistically different from that of workers in non-EPZs. Figure 7 shows the age distribution among non-EPZ workers surveyed.

¹⁰ Level of significance is 5 per cent.

Figure 7. Age distribution among workers in non-EPZs



Source: Surveys conducted among employees at firms inside EPZs during November 2012-May 2013.

(b) Wages

In 1988, the International Labour Organization conducted an EPZ study of South Asia that compared wage rates inside and outside EPZs (Madhavi and Vijayalakshmi, 2001). The study found that wage rates were higher among workers employed within EPZs compared with those that were employed in factories outside.

This finding corresponded with what was said by many manufacturers operating inside EPZs in Sri Lanka. In fact, the interviews with managers and directors of companies operating within the Katunayake, Biyagama, Horana and Seethawaka EPZs revealed that the average wage paid to workers employed within their respective companies were higher than their counterparts outside the zones. The mean wage quoted by the managers and directors ranged between SL Rs. 12,000 and SL Rs14,000 per month.

Surveys conducted among employees working in firms operating within the Katunayake and Biyagama EPZs confirmed these estimates. According to the employees, the mean wage among low-skilled workers across five different companies was calculated to be SL Rs 13,726 per month.

Nonetheless, this value is not substantially different from the mean monthly wage of employees working in factories across the entire manufacturing sector in Sri Lanka. According to the Department of Census and Statistics, the mean wage of workers in the manufacturing sector is SL Rs 13,099 per month, approximately a 5 per cent difference.

The survey findings painted a similar picture. The mean wage of low-skilled workers across four different companies operating outside EPZs was calculated to be SL Rs 15,006 per month. Furthermore, the difference between these two samples was found to be statistically insignificant.¹¹ Figure 8 shows the distribution of wages among workers in EPZs and non-EPZs.

Figure 8. Monthly salary range among workers (EPZs vs. non-EPZs)



Source: Surveys conducted among employees during November 2012-May 2013.

(c) Health-care benefits and other services

Workers may also receive certain benefits. According to surveys conducted among manufacturers in several EPZs in Sri Lanka, some employees are eligible for health insurance and life insurance, but this is primarily for workers above a certain level of seniority.¹² Some companies offer their employees an annual bonus,¹³ while some production facilities feature free on-site medical facilities.¹⁴ For employees at the managerial level, health-care benefits may also be provided for their dependents and/or family members.¹⁵ At those firms not offering health-care benefits to all employees, Workman's

¹¹ Level of significance is 5 per cent.

¹² Interviews with MAS Intimates (Pvt.) Ltd. and Orit Apparels Lanka (Pvt.) Ltd.

¹³ Interview with GreenKeepers (Pte.) Ltd.

¹⁴ Interview with Tropical Findings (Pvt.) Ltd.

¹⁵ Interview with Merbok MDF Lanka (Pvt.) Ltd. and Interview with Ocean Lanka (Pvt.) Ltd.

Compensation is provided, wherein payment is made to an employee as compensation for an injury sustained during their employment at their workplace.

The surveys that were conducted among low-level, unskilled employees revealed that only the bare minimum of benefits were provided to these workers. When asked whether they received any benefits apart from wages, they reported the provision only of Employees' Provident Fund (EPF) and Employees' Trust Fund (ETF) benefits. The former is a social security scheme and the latter is a trust fund (to which only the employer makes a contribution); both are required by the Government of Sri Lanka for all private sector employees. It should be noted that all employees surveyed reported receiving EPF and ETF benefits.

(d) Indirect employment generation

Among the most common types of economic benefits derived from establishing an EPZ is the generation of indirect employment. This was noted by almost all the interviewed respondents, who reported that EPZs offer the advantage of creating economic opportunities in the areas surrounding the zone.¹⁶

Hostels, restaurants, and other business ventures have arisen around EPZs in order to cater to the employees that work in these zones. Many of these workers originally come from towns and villages that are located far away from the zone in which they work. These services are provided by entrepreneurs who start up businesses around the zones, contributing to what is termed tertiary employment.¹⁷

Secondary employment is generated through services that are offered directly to the companies operating within these zones. These services are provided by firms such as freight forwarders and logistics providers, which offer transportation, delivery and shipping services to the manufacturers as well as recruitment agencies that supply the manufacturing firms with human capital.¹⁸

(e) Training programmes

One perceived benefit of EPZs, apart from employment generation, is the use of training programmes to improve the skills of employees. Among the respondents interviewed during

¹⁶ Interviews with manufacturers operating within the Katunayake, Biyagama, Horana and Seethawaka EPZs.

¹⁷ Interview with Tropical Findings (Pvt.) Ltd.

¹⁸ Interview with Tropical Findings (Pvt.) Ltd.

the survey conducted with manufacturers at EPZs,¹⁹ most reported some type of training programme offered to their workers. However, this was mostly limited to on-the-job training to enable employees to operate the machinery used in production lines and on factory floors, conducted prior to beginning any work. In most cases, this training lasted 2-6 weeks, depending on the company and the type of work to be conducted. Most of these training programmes are directly related to their respective occupations and are thus essential for the employees. Specific programmes outside their direct working areas – such as English language classes or management training – were seldom reported by employees.

On the other hand, some firms operating outside EPZs offered their employees classes in English and computer training, particularly the larger firms that could afford to do so. Some employees working in firms outside EPZs also reported being sponsored by their respective companies to enlist in university courses and complete external degrees. Others mentioned skills development programmes being offered every three months.

(f) Labour standards

Despite the high turnover within EPZs, BOI has set out strict labour standards for firms operating within EPZs. Workers are categorized into four groups:²⁰

- (a) Trainees – those undergoing training for a period of not less than six months/156 working days are classified as trainees;
- (b) Unskilled – work that does not involve any training is classified as un-skilled;
- (c) Semi-skilled – on successful completion of a training period of six months, a worker is classified as semi-skilled;
- (d) Skilled – a worker with the requisite skills for the job is classified as a skilled worker.

The minimum age of employment is 18 years and the normal age of retirement is 55 years. However, both of these conditions have caveats. Individuals under the age of 18 but who are at least 16 years of age are permitted to be employed on condition that they do not work for more than 50 hours of overtime in any given month, and that they cannot be employed between 10 p.m. and 6 a.m. With regard to the age of retirement, an extension beyond 55 years of age may be granted at the discretion of the management of the firm. Table 3 gives a brief overview of other labour standards for BOI enterprises.

Table 3. Legal provisions for workers in BOI enterprises

¹⁹ Interviews conducted with manufacturers operating within the Katunayake EPZ, Biyagama EPZ, Horana EPZ, and Seethawaka EPZ.

²⁰ *Labour Standards*, undated, Board of Investment of Sri Lanka, accessed 1 October 2012. Available at [http://www.investsrilanka.com/pdf/labour_sandards.pdf].

Working hours

- Nine hours daily (Mon-Fri) inclusive of a one-hour break (one-shift operation) and eight hours daily (Mon-Fri) inclusive of a 30-minute break (multi-shift operation);
- Employees working on Sundays will be paid 1.5 times their daily wage rate;
- No restrictions on night-time work for men;
- Women are permitted to work in a night shift, given that certain conditions are met, including: written consent from the employee; 1.5 times the daily wage must be paid; a maximum of 10 days night-work in a given month; and the compulsory presence of female during the shift.

Wages

- Wages must be paid in accordance with rates determined by BOI;
- All wages must be paid on a monthly basis – wages cannot be paid on a daily rate, piece rate or on a contract basis;
- Wages must be paid within 10 days of expiration of the wage period;
- Upon termination of services, an employee's salary must be paid within two working days of termination.

Overtime pay

- Every hour of overtime work shall be remunerated with 1.5 times the normal hourly rate of that employee;
- Female workers shall not be employed on overtime work in excess of 60 hours per month;
- Employees below 18 years of age shall not be employed on overtime work in excess of 50 hours per month.

Leave

- Workers in their first year of employment will be granted leave on a pro-rata basis;
- Workers employed for more than a year will be granted 14 days of paid leave per year;
- Office employees will be granted one day of casual leave for every two months' of service during their first year and seven days of annual casual leave henceforth;
- Seven days of casual paid leave.

Maternity leave

- A female employee will be granted 6-12 weeks of paid leave after delivery (depending on the number of children she already has);
- This paid leave will be in addition to any other leave granted to her;

Holidays

- Employees working on public holidays will be paid two times their daily wage rate; those not working on those days will be paid regular wages;
- Full moon *Poya* days are considered as holidays; employees working on such days will receive an extra half day's wage.

Source: *Labour Standards*, undated, BOI. Available at www.investsri Lanka.com/pdf/labour_standards.pdf (accessed 1 October 2012).

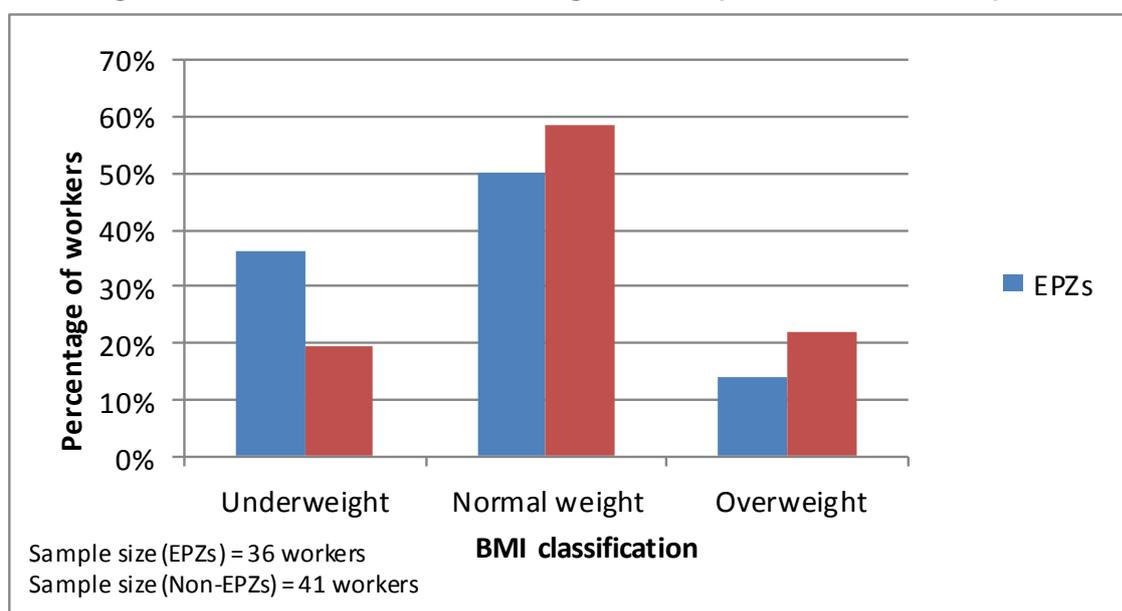
(f) *Measurements of health among workers*

Several questions were asked during the surveys regarding workers' levels of health. One set of questions was related to nutrition levels. Height and weight were used to calculate the Body Mass Index (BMI) of the workers, and this figure was subsequently used to determine

whether an individual was underweight or not.²¹ Figure 9 shows the distribution of BMI among workers in both samples. A total of 36 per cent of workers surveyed in EPZs were underweight. This is higher than the figure for the overall situation in the country, in which 29.4 per cent of the population is considered underweight (World Bank, 2008).

A more substantial difference emerges when examining the survey results of workers employed in firms operating within EPZs and those in firms operating outside. It was found that the proportion of underweight workers in EPZs were significantly higher statistically (17 per cent difference) than those in non-EPZs.²²

Figure 9. Distribution of BMI among workers (EPZs vs. non-EPZs)



Source: Surveys conducted among employees at firms in EPZs during November 2012-May 2013.

The Dabindu Collective, a non-governmental organization that documents work conditions among employees of the Katunayake and Biyagama EPZs, carried out similar research in 1997. In their survey, the authors found that 55 per cent of workers were underweight. In both research studies, a significant portion of workers were reported to be below the recommended weight.

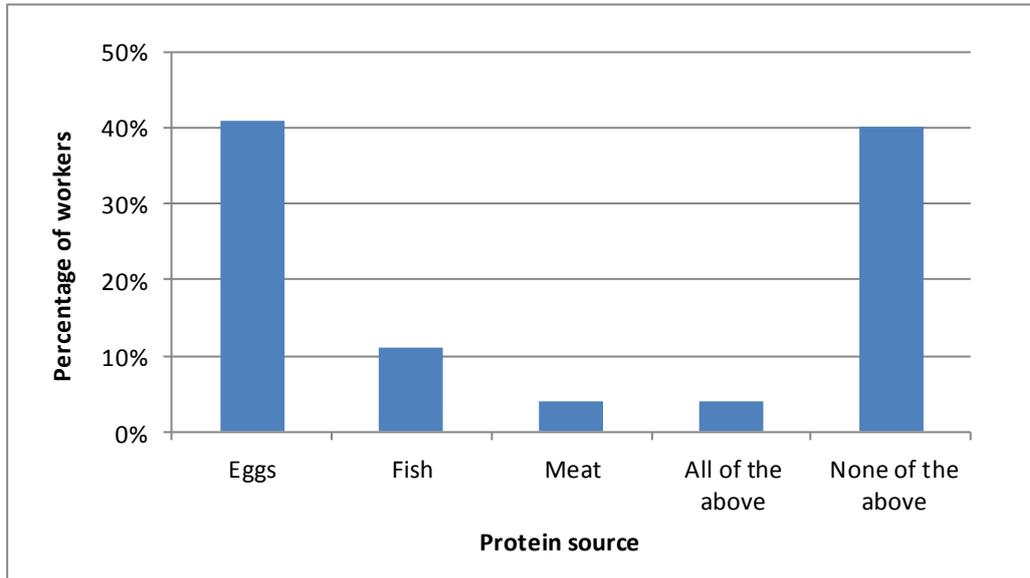
The idea that some workers were undernourished was supported by research conducted by the Dabindu Collective research reported that 40 per cent of workers did not consume eggs, fish or meat because it may have been prohibitively expensive; most employees were

²¹ BMI categorization was conducted using the following website: National Heart, Lung, and Blood Institute, US Department of Health and Human Services, *Calculate Your Body Mass Index*, available at www.nhlbi.nih.gov/guidelines/obesity/BMI/bmicalc.htm.

²² Level of significance is 5%.

vegetarians because they had no other choice (Devanarayana, 1997). The Dabindu Collective's findings are shown in figure 10.

Figure 10. Protein intake among workers in EPZs, 1997

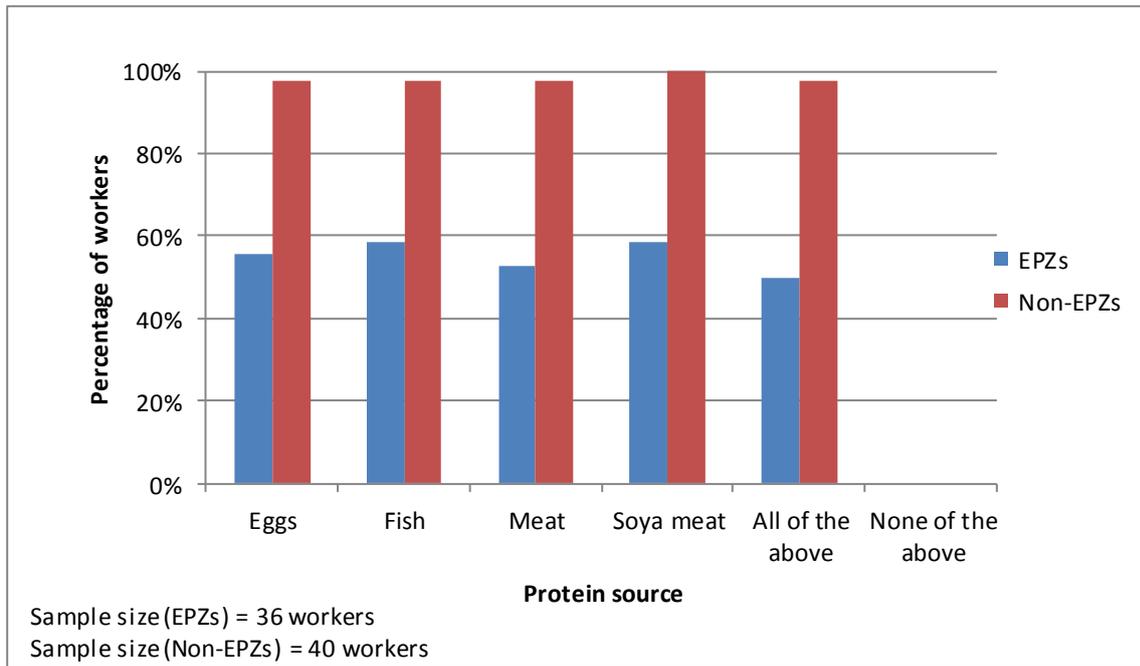


Source: Devanarayana, 1997.
Note: Sample size not reported.

However, these findings are not supported by the primary research undertaken for the current study. In the surveys carried out for this study, a rather different scenario emerged with regard to the intake of protein. Fifty per cent of individuals surveyed in EPZs reported that they consumed all of the following: eggs, fish, meat, and soya meat.²³ Furthermore, all of the respondents reported they consumed at least one of the items. Keeping in mind that 16 years have elapsed since the Dabindu Collective report was published, it may be that animal-derived protein (such as eggs, fish, and meat) has become more affordable and more accessible over time. Reasons for greater affordability and accessibility would need to be examined in-depth through further research; however, this was not within the scope of this study. Figure 11 shows the more recent findings of protein intake among workers.

²³ A form of textured soy protein common in Sri Lanka.

Figure 11. Protein intake among workers (EPZs vs. non-EPZs), 2012



Source: Surveys conducted among employees during November 2012-May 2013.

Nonetheless, when comparing the survey findings of employees working in EPZs to those working outside EPZs there is a stark contrast, as shown in figure 11. The incidence of protein intake for workers surveyed in firms operating outside EPZs was much higher than that for workers employed in EPZs. Between 98 per cent and 100 per cent of workers employed outside EPZs consumed eggs, fish, meat and soya meat, while less than 60 per cent of workers surveyed within EPZs consumed any of the aforementioned food items. The differences between the two samples are statistically significant for each of the food items²⁴ and may explain the dissimilarity with regard to the proportion of underweight workers within the two groups.

(g) Benefits and drawbacks of working in EPZs

The current survey presents a mixture of apparent benefits and possible drawbacks of working in an EPZ as perceived by the employees. A common benefit reported by many employees was the availability of employment opportunities offered by firms in EPZs, which in turn leads to other positive outcomes such as the ability to increase spending on health and education for their entire family. The securing of a permanent job as well as receiving EPF and ETF were also identified as positive factors.

Some respondents mentioned certain disadvantages of being employed in an EPZ, including the high cost of living in areas surrounding Colombo, particularly with regard to food,

²⁴ Level of significance is 1 per cent.

transport, lodging, and high electricity and utility costs. The need to be away from home and family was identified as another drawback.

Overall, the impact of EPZs on poverty reduction remains somewhat unclear. On the one hand, it can be argued that significant employment generation, particularly for low-skilled workers and female workers, offered by EPZs has played a role in alleviating poverty for those employed in the zones. However, when comparing the duration of employment, health conditions and dietary patterns for workers employed in manufacturing firms outside EPZs, there were some significant findings indicating more favourable conditions existed outside these zones. It thus appears that despite the EPZs' impressive generation of employment opportunities, the impact has not been adequate in going beyond employment generation and addressing other issues related to poverty, including health and welfare.

4.2. Impact of EPZs on trade facilitation

Based on interviews conducted with export-oriented firms in EPZs and supplemented by previously conducted, but recent, research, the zones were found to have made an important contribution to trade facilitation. There are five key ways in which EPZs have made this impact: (a) through tax incentives and duty removals; (b) creating backward and forward linkages within the EPZs; (c) simplification of customs procedures, both for imports and for exports, by requiring fewer documents and fewer steps in the stages of processing; (d) shortening the time taken in activities related to importing and exporting by sea; and (e) shortening the time taken in activities related to importing and exporting by air.

Before moving on to the findings, however, it is important to provide some background on BOI, as it is the institution that most closely deals with the administration of EPZs in Sri Lanka.

(a) Overview of BOI

The most important and most relevant law applicable to foreign investment in the country is the Greater Colombo Economic Commission (GCEC) Law No. 4 of 1978 and Amendments introduced in 1980, 1983 and 1992 and Regulations made under the Act (Peiris and Ranaraja, 2001). The GCEC was established in 1978 in order to generate development in the outer edge of Colombo and to promote and regulate the country's first EPZ. In 1992, GCEC was transformed into BOI and given the authority to promote investment throughout the country. It offers a wide range of investment incentives and offers the same incentives to both local and foreign investors (Peiris and Ranaraja, 2001). BOI is tasked with acting as the

central facilitation point for investors, both domestic and foreign. Table 4 shows the key functions of the organization.

Table 4. Key functions of BOI

Department	Function
Promotion	<ul style="list-style-type: none"> • Is the point of first contact for investors • Provides information and data to the potential investor • Assists in preparation of application
Appraisal	<ul style="list-style-type: none"> • Evaluation and approval of projects with the concurrence of line Ministries, if necessary • Issues Letter of Approval • Attends to visas for expatriate personnel and other fiscal and financial matters that arise once the project is operational
Investor Services	<ul style="list-style-type: none"> • Assists the investor in handling all procedures involved in the import of construction material and equipment and in the installation of communication facilities • Continued assistance is rendered in customs procedures for raw material imports and export of the final product
Engineering	<ul style="list-style-type: none"> • Grants site approvals • Provides basic infrastructure requirements of EPZs under BOI • Facilitates the provision of support services including water, power, telecommunication, waste water treatment, access roads, etc. • Approves factory building plans • Monitors progress during the construction phase • Issues Certificate of Conformity (COC) • Makes recommendations on equipment and building materials to be imported by BOI enterprises on duty-free basis • Advises investors on industrial safety aspects during the operational phase
Environment	<ul style="list-style-type: none"> • Conducts environment assessment of projects • Assessing suitability of sites jointly with the engineering department • Provides guidance and assistance in implementing environmental safeguards • Issues Environmental Protection Licence (EPL) • Liaises with Central Environment Agency where necessary
Project Implementation	<ul style="list-style-type: none"> • Responsible for coordinating infrastructure requirements of BOI • Approves projects outside zones • Acts as troubleshooting centre to companies receiving approval • Positions investors with other government departments when necessary • Maintains a land bank which investors can access
Monitoring	<ul style="list-style-type: none"> • Ensures implementation of projects is in conformity with terms and conditions stipulated in the Agreement • Issues reporting guidelines to enterprises, and requests them to submit quarterly and annual financial statements and employment statistics
Industrial Relations	<ul style="list-style-type: none"> • Advises and assists investors on matters relating to labour relations and assists in the recruitment of staff at all levels if requested
Legal	<ul style="list-style-type: none"> • Responsible for checking memorandum and articles of the company and joint venture • Drafts the agreements – main and supplementary • Advises investors on general legal issues

Source: Peiris and Ranaraja, 2001.

(b) Incentives for firms operating under BOI

The two provisions under which investors can obtain BOI-approved status, together with certain benefits, are (Peiris and Ranaraja, 2001):

(i) Investments approved under Section 17 of the BOI Act

BOI holds the power to grant special concessions to investors meeting specific requirements designed to meet strategic economic objectives. The agreement between BOI and the investor is the mechanism through which the laws associated with BOI regulations may be modified, exempted or waived, and include laws related to Inland Revenue, Customs, exchange control and import control. In addition, those firms that fulfill specific criteria are eligible for even more incentives that would help promote BOI strategy, with regard to a diversification of exports towards more advanced technology and greater value addition as well as more investments in large-scale projects including infrastructure.

(ii) Investments approved under Section 16 of the BOI Act

Those companies that do not qualify for concessions under Section 17 of the BOI Act may seek general incentives under Section 16 of the Act, which applies to firms operating under the “normal laws” of the country. These laws include those that are related to the Inland Revenue Act, Turnover Tax Act, Excise (Special Provisions) Act and the Customs Ordinance.

A key incentive for foreign investors is that there are no restrictions on the repatriation of income. The Government of Sri Lanka has removed restrictions on foreign exchange to enable foreign investors to send dividends and royalty payments back to their home country. Foreign investors are also permitted to open both Sri Lankan rupee accounts and foreign currency accounts with commercial banks in the country.

Foreign investors are also permitted to fully own and operate firms in certain industries. These include exports, tourism, infrastructure, services, electronics, agriculture, dairy and livestock development. However, certain sectors remain restricted to only Sri Lankan nationals, including money lending, pawn-broking, and selected types of educational institutions. Nonetheless, for certain other industries, such as banking, insurance, energy, and power supply, foreign investors may engage in joint-venture partnerships with Sri Lankan firms.

The incentives that BOI offers investors can be classified into two key categories, namely, general incentives for specific categories of industry and services, and special incentives for

firms which satisfy certain criteria. Incentives for both categories are listed below (Peiris and Ranaraja, 2001).

- (a) General incentives for specific categories of industry and services:
 - (i) Incentives for industries and services using advanced technology that include
 - a five-year tax holiday on profits; tax-free dividends if paid out of exempt profits; and no import duty or turnover tax on machinery and equipment;
 - (ii) Incentives for direct and indirect exporters, which essentially include tax exemption or payment of concessional tax at 15 per cent: companies that operate and maintain facilities for the storage of specified goods brought into the island for re-export; offshore companies that earn profits and income through the use of Sri Lankan registered ships in international operations; firms in agriculture and fisheries sectors are entitled to a five year tax holiday; and companies that export gems and jewellery
- (b) Special incentives for firms that satisfy certain eligibility criteria (aimed at diversifying exports by adopting modern technology and increasing value-addition as well as more investments in large-scale projects including infrastructure):
 - (i) A 5-20 year full tax holiday;
 - (ii) Concessionary tax (at 15 per cent);
 - (iii) Import duty exemption on project-related goods;
 - (iv) Exemption from turnover tax on sales;
 - (v) Exchange control exemption;
 - (vi) Concessionary tax on income for expatriates (at 15 per cent).

(c) *Backward and forward linkages within EPZs*

A survey of export- and import-oriented firms confirmed that there were certain benefits offered by operating within EPZs.²⁵ However, these benefits are not uniform throughout all EPZs surveyed, and often depend on the size of the zone. The Biyagama EPZ, for example, reportedly offers significant backward and forward linkages, particularly in the garment manufacturing industry. The Biyagama EPZ is the second-largest EPZ in Sri Lanka and houses a firm that manufactures machinery for clothing, a firm that processes nylon and

²⁵ Interviews conducted with manufacturers operating within the Katunayake, Biyagama, Horana and Seethawaka EPZs.

polyester thread and a plant that manufactures labels for garments. In terms of forward linkages, there is as a plant specializing in the processing of chemicals used for denim washing, a firm that provides packaging materials, and even a company that specializes in collecting and processing waste material to be recycled. Table 5 gives a more detailed list of the backward and forward linkages available to garment manufacturers in the Biyagama EPZ.

Table 5. Backward and forward linkages in Biyagama EPZ (garment manufacturing industry)

Company	Product/services offered
Ardmel Manufacturing Pvt. Ltd.	Machinery for garment manufacturing
Han Sung Koala Thread Pvt. Ltd.	Nylon and polyester thread
Stretchline Pvt. Ltd.	Knitted and woven elastic and covered yarn
Noyon Lanka Pvt. Ltd.	Lace fabric and covered yarn
Prym Intimates Lanka Pvt. Ltd.	Hooks and eyes, shoulder straps, underwires
Silueta Pvt. Ltd.	Molded bra cups and lace fabric
T&S Buttons Lanka Pvt. Ltd.	Polyester buttons
Ocean Lanka Pvt. Ltd.	Knitted fabrics
Avery Dennison Lanka Pvt. Ltd.	Labels for clothing
MAS Active Pvt. Ltd.	Knitted bodywear and sportswear
MAS Intimates Pvt. Ltd.	Intimate wear and lingerie
Rainwear Pvt. Ltd.	Outer garments and leisure wear
Global Clothing Pvt. Ltd.	Garments
Saga Intimates Pvt. Ltd.	Ready-made garments
Multichemi Exports Pvt. Ltd.	Chemicals used for washing/dyeing denim
Dynawash Ltd.	Garment washing plant
Cosmos Packaging Pvt. Ltd.	Packaging materials
GreenKeepers Pte. Ltd.	Collecting and processing of waste material to be recycled

Sources: Board of Investment of Sri Lanka, 2012; and interviews conducted among manufacturers in the Biyagama EPZ.

(d) Simplification of customs procedures

Interview respondents also stated that operating within EPZs simplified customs procedures by requiring fewer steps and fewer documents when processing consignments. For example, one respondent representing a manufacturing firm in the Katunayake EPZ stated that customs inspection was simplified because delegated government officials visit the zone to conduct such inspections.

However, for smaller EPZs, it is not necessarily the case that customs procedures have been simplified. According to one respondent, the Horana EPZ does not have all the necessary facilities for processing customs documents and, therefore, it is necessary for company representatives to travel to Colombo to process these documents. The respondent

added that the reason is that the zone is not as developed as larger zones, such as the Katunayake and Biyagama EPZs, and does not offer the same conveniences.

However, as tables 6 and 7 show, the number of processes required in BOI-supported firms (such as those in EPZs) versus those outside BOI supported zones differ. For example, for BOI enterprises, certain procedures are not required for importing goods, such as obtaining an import licence, and transporting cargo to the importer's location is possible before customs inspection; in contrast, transporting cargo outside to firms operating outside EPZs is only possible after inspection has been carried out.

Table 6. Customs for imports (BOI vs. non-BOI)

Activity	Non-BOI	BOI
Line Ministry approval	Required	Required
Import licence	Required	Not required
Payment terms	Limited to L/C, D/A, DP, or Advance (T/T, bank draft)	None-payment also by offshore third party
Advanced payment limits	US\$ 10,000	No limit
No-foreign-exchange-basis imports	Maximum of US\$ 1,000 and no commercial quantities	No limit
Original documents	Received through bank	Received directly from shipper
Delivery order	Obtained from shipping agent	Obtained from shipping agent
Import declaration	Customs declaration submitted to Customs (Long Room)	Customs declaration submitted to BOI service centre in Colombo or EPZs
Payment of duties and taxes	Bank of Ceylon near Long Room	Bank of Ceylon counter at BOI location
Determination of examination level	By Customs	By customs
CBCU registration – sea cargo only	Not required	Required
Payment of SLPA charges	SLPA centre at port	SLPA counter at BOI office or at port
Collect gate pass from SLPA	Delivery documents to SLPA	Delivery documents taken to SLPA
Cargo pickup	From port	From port
Cargo examination	Examination by Customs	Examination by Customs at Verification Unit, EPZs or consignee location
Transport cargo to importer location	Only after examination – if required	Possible before examination

Source: Taneja and others , 2011.

Furthermore, the number of documents required for customs procedures within EPZs is less noticeable than outside EPZs. For example, firms outside EPZs require additional import declaration documents such as exchange documents, a value declaration form and licences, among others.

Table 7. Customs documentation for imports (BOI vs. non-BOI)

Activity	Non-BOI company	BOI company
Line ministry approval	Recommendation letter	Recommendation letter
Import licence	Import Permit	None
Payment	Limited to L/C, DA, or Advance (T/T, bank draft)	None
Import declaration documents	<ul style="list-style-type: none"> • Customs declaration – six copies • Commercial Invoice – two copies • Certified Bill of Lading • Delivery order • Exchange documents • Value declaration form • Packing list • Supporting documents (licences, TRC approvals, literature) • Panel examination form – if applicable 	<ul style="list-style-type: none"> • Customs declaration – six copies • Commercial Invoice – four copies • Bill of Lading • Delivery order • Packing list
Payment of duties and taxes	Assessment Notice – three copies	Assessment Notice – three copies
CBCU registration – sea cargo	Not required	Photocopies of declaration and invoice
Payment of SLPA charges	<ul style="list-style-type: none"> • Customs declaration – 1 copy • Commercial invoice • Certified copy of BL • Delivery order 	<ul style="list-style-type: none"> • Customs declaration – 1 copy • Commercial invoice • Certified copy of BL • Delivery order
Collect gate pass from SLPA	Deliver set of documents to SLPA canal row	Deliver set of documents to SLPA
Cargo pickup	Gate pass	Gate pass
Cargo examination	Declaration documents; Customs retains warrant and statistical copies	Examination by BOI/Customs at Customs Verification Unit, EPZs or consignee location

Source: Taneja and others, 2011.

(e) Minimizing time taken for importing and exporting by sea

Simplifying such procedures cuts down on processing times in many cases. Table 8 indicates the respective amount of time taken for certain activities involved in importing by sea. The processing period for several different stages is substantially less in BOI-supported firms (such as those operating within EPZs) compared with other firms. The stage beginning with the submission of the Customs Declaration Form (CUSDEC), for example, takes approximately four hours for firms operating within EPZs but can last up to 10 hours for other firms. This is most likely because there are more procedures involved for the latter when importing by sea, including the verification of certain documents by the Superintendent of Customs and the matching of CUSDEC with other documents.

Table 8. Time taken for activities involved in importing by sea (BOI vs. non-BOI)

Non-BOI		BOI	
Activity	Time taken	Activity	Time taken
Containers discharged/DO obtained			
<ul style="list-style-type: none"> • Submission of CUSDEC • Key in • Assessment notice generated • Superintendent of Customs (SC) in charge of appointing/appraising • SC verifies custom house agent, bank payment, accounting update • Matching CUSDEC and Assessment Notice 	Between 4 ½ and 10 hours	<ul style="list-style-type: none"> • Submission of CUSDEC • Key in • Assessment notice generated • BOI charges • Import approval by BOI officer 	4 hours
		CBCU: SL customs registration/approval	30 minutes
Port:			
<ul style="list-style-type: none"> • SLPA charges • Customs pass obtained at documents centre 	Between 1½ and 2 hours	<ul style="list-style-type: none"> • SLPA charges • Customs pass obtained at documents centre 	Between 1½ and 2 hours
Container moved to cargo examination centre (customs)	3 hours	Container moved from port for BOI inspection	1 hour
Cargo examined at cargo examination centre	3 hours	Cargo inspected at BOI cargo verification terminal	2 hours
Move to consignee's premises			

Source: Taneja and others, 2011.

Similarly, activities involved in exporting by sea for BOI-supported firms takes less time for certain stages compared with non-BOI firms. The first stage for non-BOI firms can take up to five hours, whereas for BOI firms it is only 3.5 hours. Once again, more procedures are involved for non-BOI firms, including the verification of documents by the Superintendent of Customs and matching of CUSDEC with other documents. Table 9 provides an overview of the time taken for procedures involved with exporting by sea for BOI firms and non-BOI firms.

Table 9. Time taken for activities involved in exporting by sea (BOI vs. non-BOI)

Non-BOI		BOI	
Activity	Time taken	Activity	Time taken
Containers stuffed/ready			
<ul style="list-style-type: none"> • Submission of CUSDEC • Key in • Assessment Notice generated • Superintendent of Customs (SC) appointing/appraising • SC verifies custom house agent, bank payment, accounting update • Matching CUSDEC and Assessment Notice 	Between 3½ and 5 hours	<ul style="list-style-type: none"> • Submission of CUSDEC • Key in • Assessment Notice generated • BOI charges • Export approval by BOI officer 	3½ hours
<ul style="list-style-type: none"> • Inspection of container 	2-3 hours	<ul style="list-style-type: none"> • Inspection of container 	2 hours
Entry to port gate			
Customs, Navy, SLPA inspection	30 minutes	Customs, Navy, SLPA inspection	30 minutes
Move to port stack	Thirty minutes - 1 hour	Move to port stack Move to port stack	30 minutes-1 hour
SLPA charges	1 hour	SLPA charges	One hour
Boat note passing: SLPA and Customs	2 hours	Boat note passing: SLPA and Customs	Two hours
Load container and vessel sailing	From 4 hours to 4 days	Load container and vessel sailing	From 4 hours to 4 days

Source: Taneja and others, 2011.

(f) Minimizing time taken for importing and exporting by air

The difference in the time taken by BOI companies and non-BOI companies to process imports and exports by air is not as significant as above. However, there is still a noticeable difference in some cases, such as the examination of cargo for imports arriving by air. BOI-supported firms take, on average, one hour for this process, whereas non-BOI firms may take twice as long. This is due to the fact that facilities are provided by some EPZs where importing firms can process their cargo within the zone. Table 10 sets out the time taken to process goods imported by air for BOI and non-BOI enterprises.

Table 10. Time taken for activities involved in importing by air (BOI vs. non-BOI)

Non-BOI		BOI	
Activity	Time taken	Activity	Time taken
Container discharged at Katunayake Airport			
<ul style="list-style-type: none"> • Submission of CUSDEC • Key-in • Assessment notice generated • Superintendent of customs (SC) in charge of appointing/appraising • SC verifies customs house agent, bank payment, accounting update • Matching CUSDEC and Assessment Notice • Screening (DDC/ADC) 	Between 3½ and 4 hours	<ul style="list-style-type: none"> • Submission of CUSDEC • Key-in • Assessment Notice generated • BOI charges • Import approval by BOI officer 	3½ hours
Cargo examination	2 hours	BOI verification /inspection at EPZ or warehouse at cargo village	1 hour
Pay warehouse charges	30 minutes-1 hour	Pay warehouse charges	30 minutes-1 hour
Delivery of cargo			

Source: Taneja and others, 2011.

In a similar manner, the time taken to process exports by air does not differ significantly when comparing BOI companies with non-BOI companies. The security check by the Air Force, for example, takes between 30 minutes and one hour for both cases, and the X-ray scanning and final customs inspection each take one hour. The other stages differ by 30 minutes at most, except for the preliminary examination of cargo, which takes an additional hour for non-BOI firms.

Table 11. Time taken for activities involved in exporting by air (BOI vs. non-BOI)

Non-BOI		BOI	
Activity	Time taken	Activity	Time taken
Container stuffed/ready			
<ul style="list-style-type: none"> • Submission of CUSDEC • Key-in • Assessment Notice generated • Superintendent of customs (SC) in charge of appointing/appraising • SC verifies custom house agent, bank payment, accounting update • Matching CUSDEC and Assessment Notice 	3½ hours	<ul style="list-style-type: none"> • Submission of CUSDEC • Key-in • Assessment Notice generated • BOI charges • Export approval by BOI officer 	3 hours
Panel appointing/examination of cargo	2 hours	BOI verification/inspection at EPZ	1 hour
Security check by Sri Lanka Air Force before entering cargo village	30 minutes-1 hour	Security check by Sri Lanka Air Force before entering cargo village	30 minutes-1 hour
Handing over goods to airline	1 hour	Handing over goods to airline	30 minutes
<ul style="list-style-type: none"> • X-ray scanning of loose cargo • Palletization • Final inspection by Customs before loading 	1 hour	<ul style="list-style-type: none"> • X-ray scanning of loose cargo • Palletization • Final inspection by Customs before loading 	1 hour

Source: Taneja and others, 2011.

Conclusion

This study focuses on analysing the impacts that EPZs have on poverty reduction due to their trade facilitating provisions. Using surveys conducted among employees working in firms operating within EPZs as well as outside these zones, in addition to depth-interviews among managers and directors of manufacturing firms, the study revealed some interesting findings.

While there are clear economic benefits of EPZs with regard to poverty reduction, these zones also have some detrimental impacts. EPZs are an important employment generator, providing jobs to more than 127,000 working individuals, as of 2012. These firms also draw employment from rural areas, both in the immediate areas surrounding the zones and from areas further away. Furthermore, they provide vital employment opportunities for women, as most of the zones employ a majority of female workers. They also create indirect employment by providing the opportunity for entrepreneurs to set up restaurants and hostels that cater to the employees in these zones.

However, there is also a less positive side to these zones. The research indicates that proper nutritional intake is poor among many employees within EPZs. This may not be a direct result of the actions of the administration within the firms in these zones, but it is clear that more needs to be done to improve awareness of proper nutrition and diet, particularly because many of the employees are uneducated and lack sufficient knowledge about such issues.

With regard to trade facilitation, it is clear that EPZs offer some important advantages. Through simplification of customs procedures that reduce the number of steps and documents needed when processing imports and exports, thereby cutting down on the amount of time taken to process these goods, EPZs have had a significant impact on facilitating trade. This is particularly the case with goods being delivered by sea.

Furthermore, operating within an EPZ allows firms to take advantage of backward and forward linkages available in the zone. Manufacturers in the garment industry, for example, can source from suppliers of yarn and thread processing plants within the same EPZ and further down the supply chain, and they can link up with washing plants that create finishes for articles of clothing, also within the EPZs. These are opportunities that are rarely available for companies that operate outside these zones.

The research conducted in this study, however, is not exhaustive, and there is ample room for further analysis. One area to explore is an in-depth examination of the indirect employment that is generated across Sri Lanka by EPZs. Interviews could be conducted among business operators in various sectors of the economy, including logistics providers, restaurant operators and managers of hostels, to gauge the economic benefits that come from being situated close to an EPZ.

A more quantitative approach to analysing the impact of these zones on poverty reduction and trade facilitation could be taken through the use of computable general equilibrium (CGE) modelling. This would employ a social accounting matrix and relevant software to analyse the effect that EPZs have on rural households, using a sequence of systematic shocks on various sectors of the economy in order to evaluate the impact on poverty reduction in the country. The model could also test the effect of EPZs on trade facilitation by analysing the degree to which imports and exports experience the impacts resulting from various shocks on the economy. This approach would enable a more systematic quantification to be made of the impact that EPZs have on poverty reduction and trade facilitation.

Annex 1

Questionnaire survey conducted among workers employed in EPZs

1. Name:
2. Age:
3. Occupation:
4. Height:
5. Weight:
6. How many years have you been working here?
7. What is your salary?
8. How much do you spend on the following:
 - a. Food.....
 - b. Accommodation/housing.....
 - c. Travel.....
 - d. Clothes.....
 - e. Phone.....
 - f. Others (please specify).....
9. What is your level of education?
10. Have you received any type of vocational training for the work that you do?
11. Have you ever received any type of vocational training?
12. What are the different training programmes available to you in this company?
13. Do you receive any benefits besides wages (i.e., health-care benefits, life insurance, medical insurance, EPF, ETF)?
14. What are your major sources of protein? (Multiple response)
 - a. Eggs
 - b. Fish
 - c. Meat
 - d. Soya meat
 - e. All of the above
 - f. None of the above
15. What were your major sources of protein before you joined the EPZ? (Multiple response)
 - a. Eggs

- b. Fish
- c. Meat
- d. Soya meat
- e. All of the above
- f. None of the above

16. Why did you choose to work in an EPZ?

a. What are the main benefits of working in an EPZ?

b. What are the main costs/drawbacks of working in this EPZ?

17. How far do you travel to come to work?

18. Do you have any physical ailments? (Multiple response)

- a. Aching limbs
- b. Back pain
- c. Chest pains
- d. Irritation of the eyes
- e. Poor hearing
- f. Others (please specify)

Annex 2

Questionnaire survey conducted among managers and directors at manufacturing firms in EPZs

A. Basic information

1. Name of firm
2. Date of establishment
3. Where is your production facility located?
4. Exporting since (year)
5. No. of employees
 - (a) Sri Lankan
 - (b) Foreign
6. Ownership
 - (a) Fully owned by Sri Lankans
 - (b) Joint venture with foreigners
 - (c) Fully owned by foreigners
7. What are the main products/services you offer?

B. Poverty reduction measures

1. What is the wage scale used for workers here? Could you give a rough breakdown of the number of employees earning each salary range?
2. What are the different employment categories? What is the gender ratio for each category?

Employment category	Males	Females
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3. What are the training and educational programmes offered to employees?
4. Are such programmes offered to employees in all categories? If not, to which categories?
5. In your view, have these training/educational programmes been beneficial both to the organization and individuals?
 - (a) Organization – in terms of productivity, volume of production etc.
 - (b) Employees –in terms of improving their skill levels etc.
6. What are the health-care benefits offered to these employees? Are these offered to all categories?
7. Are there any other benefits offered to the employees or their dependents?

8. Has the establishment of EPZs in rural areas that promote infrastructure and industrial upgrading enhanced economic opportunities for the poor, in terms of:
 - (a) Employment generation
 - (b) Access to high quality services etc.

C. Trade facilitation measures

9. What are the different stages of the export manufacturing process?
10. Have there been any trade facilitation measures that have improved the export manufacturing process?
11. What are some methods that you are aware of that are used to streamline administration of the EPZ in order to improve trade facilitation?
12. Have you seen an increase in your volume of exports and imports after becoming part of an EPZ?
13. What are the main obstacles holding your company back from increasing its exports/imports (are they related to trade restrictions, lengthy customs procedures, bureaucratic red tape)?
14. In your view, have EPZs been instrumental in improving the business (and trading) environment in the country?
15. If there has been any infrastructure development that has accompanied the establishment of the EPZ, and has this helped in contributing to a faster and smoother trading process?

Annex 3

Survey methodology²⁶

Using equation (1), the authors tested whether the observed proportion p_1 based on a random sample of size n_1 is significantly different from the observed proportion p_2 based on an independent sample of size n_2 .

$$z = \frac{p_1 - p_2}{\sqrt{\frac{p_1(1-p_1)}{n_1} + \frac{p_2(1-p_2)}{n_2}}} \quad (1)$$

The authors also evaluated whether there is a statistically significant difference between the mean (averages) of the two groups. For example, the mean salary of workers in firms operating within EPZs was compared with the mean salary of workers in firms operating outside EPZs. The level of significance employed in this test was a 5 per cent level of significance unless otherwise specified.

Using equation (2), the authors tested whether the observed mean x_1 based on a random sample of size n_1 is significantly different from the observed mean x_2 based on an independent sample of size n_2 . To perform this test, the authors first calculated the standard deviations s_1 and s_2 .

$$z = \frac{x_1 - x_2}{\sqrt{\frac{(s_1)^2}{n_1} + \frac{(s_2)^2}{n_2}}} \quad (2)$$

²⁶ All statistical calculations were conducted using *The Analytical Group Inc., Significance Test Calculator* software.

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