7

EPZ Infrastructure

7.1 Introduction

Industrial estates (IEs) and export processing zones (EPZs) can reduce the capital and operating costs of exporting enterprises by providing developed physical facilities and efficient infrastructure facilities. This chapter reviews EPZ development in Mauritius and examines the cost competitiveness of the EPZ infrastructure (particularly raw land and building costs, electricity and telephone charges, water and freight rates) in a comparative perspective.

7.2 A Brief Review of EPZ Development

Mauritius is probably the first African country to have launched an EPZ programme.[57] Although its EPZ programme formally dates back to the 1970 Export Processing Zone Act, the first industrial estate at Plaine Lauzun was initiated by the government in 1968. As Table 7.1 shows, the Mauritius EPZ programme began around the same time as those in Taiwan and Malaysia and pre-dates those of many other Asian countries including Indonesia, Thailand, Sri Lanka and

Table 7.2 **Private and Public Industrial Estates (IEs) in Mauritius, 1995**

IE	Total no of enterprises	Total no of employees
PUBLIC IEs:	105	31,500
Coromandel (DBM)	60	10,000
Plaine Lauzun (DBM)	35	8,000
Vacoas – Phoenix (DBM)	10	2,500
16 MEDIA IEs	35	11,000
PRIVATE IEs:	340	57,500
Floreal Group IE	1	11,000
Summit Textile IE	1	14,000
Bonair Group IE	1	4,800
Afasia Group IE	1	2,800
16 Other Private IE	336	24,900
GRAND TOTALS	**480**	**80,500**

Source: MEDIA Data base, August 1996. Data refer to 1995 December.

Table 7.1 **International EPZs and EPZ Areas Within Industrial Estates**

Country	Programme Start Date	No. of Private Zones	No. of Public Zones	Total Direct Employment	Annual Exports (US$ millions)
Mauritius	1970	20	19	80,500	902
Indonesia	1985	8	1	n/a	1,200
Malaysia	1971	2	13	230,000	2,000
Thailand	1981	7	8	70,000	550
Taiwan	1966	0	3	300,000	13,000
Sri Lanka	1978	0	3	86,539	3,845(b)
India	1965	0 (a)	7	n/a	700
Bangladesh	1983	0	2	17,728	128

Note: Mauritius data as of September 1996 (export and employment data for 1995). Sri Lanka data is as of July 1995. Indonesia for 1992; Bangladesh for 1993; all other figures for mid -1994.

(a) private zones are recently allowed. (b): cumulative.

Sources: MEDIA, Aug 1996; the Services Group, Inc., Washington DC, and official sources.

Bangladesh. One feature of the Mauritian EPZ programme is that enterprises are not typically located in large, geographically specific export processing zones, but scattered through the island in small industrial estates or individual industrial sites. In effect, the whole country serves as an export processing zone. Another feature is the mixture of public and private provision of industrial estates since the early 1970s. By the end of 1995, there were 19 public and 20 private industrial estates.

There are three types of industrial estates: those run by Mauritius Export Development and Investment Authority (MEDIA), those run by the Development Bank of Mauritius (DBM) and those run by the private sector. The DBM and the private sector built only 6 industrial estates during 1968-1978. Following a period of inactivity in 1979-1983, there was an acceleration in industrial estate construction driven by an increase in inward investment in Mauritius. From the mid-1980s, MEDIA (rather than the DBM) was empowered to build additional industrial estates and large local private firms (such as Floreal and Bonair) were also encouraged to follow suit. However, little attempt has been made to rationalise the ownership pattern under a unified management structure. Three of the larger industrial estates built by the DBM in the past have remain under its management. Today, the DBM has about 110,000 m^2 of factory space compared to about 100,000 m^2 for MEDIA.

MEDIA has been actively developing the EPZ infrastructure in the 1990s, particularly for specific industrial and service activities. As discussed in Chapter 4, it set up an Informatics Park in 1994, in which about 15 firms, employing 225 people, had begun operations by mid 1996. It also plans to set up a pharmaceutical village, an exhibition park and an industrial park for light industrial activities.[58]

Table 7.2 shows the number of enterprises and employment in public and private industrial estates. At present, the private industrial estates account for a larger number of enterprises and employment than the public industrial estates. The single largest industrial estate (in terms of number of enterprises), Coromandel, contains 60 enterprises and employs 10,000 persons. This is much smaller than those in Asian countries such as Indonesia, Malaysia and Sri[59]

7.3 The Cost Competitiveness of EPZ Infrastructure

This section examines three key aspects of the cost competitiveness of EPZ infrastructure in Mauritius compared with our Asian comparator countries: raw land purchase and building rental costs; utilities charges (electricity, water and telecommunications); and air and sea freight rates.

First, raw land purchase costs and building rental costs. Table 7.3 shows the purchase price of raw industrial land (i.e. without utilities and transport connections) and the rental costs for single floor concrete factory shells.[60] Unfortunately, reliable data on the sales price of serviced industrial land (i.e. land improved with utilities and transport connections) and building construction costs were not available for Mauritius.[61]

Table 7.3 **Comparative Industrial Estate/EPZ Land and Building Costs, Latest**

Country	Raw Industrial Land Purchase Price (US$/m²)	SFB Rental Rate (US$/m²/year)
Mauritius	12-36	2.5-3.5
Indonesia	5-100	1.20
Malaysia	8-60	2.20-4.30
Thailand	49-80	n/a
Taiwan	40-200	4.00-6.00
India[62]	n/a	n/a
Sri Lanka	5-35	n/a
Bangladesh	n/a	2.50

Source: For Mauritius from MEDIA and for the other countries from The Services Group, Inc., Washington DC. Mauritius data is for mid-1996 while the other data is as of mid-1994. SFBs refer to one story, concrete block factory shells. Raw land is unimproved land. Industrial infrastructure costs are for locations within industrial estates.

Table 7.4 **Comparative Utilities Services Costs**

Country	Off Peak Electricity Rate for Industry (US$/kWh)	Water Rate for Industry (US$/m³)	Telecom Rate (US$/minute for call to USA)
Mauritius	0.08-0.16	0.44	1.73
Indonesia	0.044-0.076	0.92-1.21	2.21
Malaysia	0.027-0.062	0.46-0.69	1.92
Thailand	0.004-0.12	0.20-0.44	2.40
Taiwan	0.08	0.40	1.59
India	0.059-066	n/a	2.09
Sri Lanka	0.043-0.063	0.39-0.50	2.42
Bangladesh	0.69	0.32	n/a

Source: Mauritius: Government of Mauritius (1996b); Pakistan: BOI, Pakistan; Sri Lanka: BOI; Other Countries: World Bank (1994 c). The data for Mauritius related to mid-1996 and those for the other countries for 1994-95.

Between 1988 and 1996, the cost of raw industrial land in Mauritius increased *six times* from 2-4 US$/m² to between US$ 12-36 US$/m². The cost of raw land purchase price in Mauritius is significantly lower than in the Asian NIEs but somewhat above South Asian economies like Sri Lanka. Although no data are available, impressionistic evidence suggests that raw land purchase prices in large South Asian economies like India and Bangladesh are lower than in Mauritius. On MEDIA-run industrial estates, buildings are provided on three year lease terms, which are renewable. The rental rates in Mauritius vary between 2.5-3.5 US$/m² (rents are increased by 6 per cent per year regardless of the rate of inflation).[63] Mauritian building rental rates are higher than in Indonesia, Malaysia and Bangladesh, but lower than in Taiwan.

Second, *utilities services costs*. Table 7.4 gives relative off-peak electricity rates for industry, water rates for industry and telephone call rates to the USA. The Central Electricity Board is the sole provider of electricity in Mauritius. The bulk of this (80 per cent) comes from thermal power (based on imported oil) and the remainder from hydroelectricity or bio gas. Of the 34 sample firms in the enterprise survey undertaken for the mission, 53 per cent said that fluctuating electricity supplies had a negative effect on competitiveness. In part, the perceived seriousness of the problem was a function on the location of the enterprise. Enterprises located further away from Port Louis complained more about problems of unreliable electricity supplies than firms located closer to the capital. With the exception of Bangladesh, Mauritian electricity rates (0.08-0.16 US$/kWh) are much higher than in Asian countries (table 7.4).[64]

The Central Water Authority is responsible for providing and maintaining industrial water supplies and sewage systems. It is also responsible for environmental standards, monitoring and impact assessment in regard to industrial water supplies. The Central Water Authority is quite strict about enforcing standards regarding industrial effluents. About 36 per cent of the sample enterprises in our survey said that inadequacies in water and sewage systems hindered their competitiveness. One large textile affiliate said that there were large disparities in the water and sewage systems in public and private industrial estates (IE), but it was not specific about which IE was better. The water rate in Mauritius is lower than in Indonesia and Malaysia, but higher than in Taiwan, Sri Lanka, Bangladesh and Thailand.

By the standards of the Asian NIEs and South Asia, Mauritius has a large number of telephone main lines in operation. UN estimates indicate that in 1994 Mauritius had 117 mainlines per thousand population in operation compared with 147 in Malaysia, 47 in Thailand, 13 in Indonesia, 111 in India, 0 in Sri Lanka and 2 in Bangladesh.[65] Mauritius Telecom, the main provider of basic telephone and fax connections

Table 7.5 **Sea and Air Freight Rates for Garments, Latest (a)**

Country	Air Freight Rates (US$/kg to USA)	Sea Freight Rates (US$20' to East Coast USA)
Mauritius	4.80	2,000-2,600
Malaysia	6.94	2,500
Thailand	6.11-6.55	2,500
Taiwan	10.91	2,000
India	5.09	2,000
Sri Lanka	6.67	1,910
Bangladesh	5.00	n/a

Note: (a) inclusive of port and insurance charges, mid 1994.
Source: MEDIA; Lall, Rao and Wignaraja (1996).

in the island, seems to be quite an efficient service provider. For instance, foreign investors reported that it takes only two weeks to get a telephone line connected and that international direct dialling works well throughout the island. Moreover, international call charges in Mauritius are relatively competitive – the cost per minute for a call to the USA is US$ 1.73, 15-30 per cent cheaper than the call rates in Thailand, Indonesia, Sri Lanka and India. Interestingly, Taiwan is significantly cheaper than Mauritius in this regard. However, one notable problem relates to high charges for telephone installation, rental and security deposits for foreign industrial enterprises. In 1996, the total charge amounted to about US$ 450 (made up of a telephone installation charge of about US$ 70 for each exchange line as well as a US$ 300 security deposit and an annual rental charge of about US$ 80). This is nearly double that of Sri Lanka and two thirds of that of Malaysia.

Third, *sea and air freight rates*. Mauritius has a single international port which handles about 60 per cent of the value of exports while the remainder is air freighted from the sole international airport.[66] The country is in the process of modernising and expanding the port in order to enable it to handle transhipment. Given the small size of the island, these facilities are probably sufficient to handle the volume of international trade. In 1996, there were about 7-8 international air lines and shipping lines from about 19 different countries servicing the country's cargo trade. The country has a national air line, but lacks a shipping line. Mauritius' distance from markets and suppliers of raw materials means that it requires a cheap and efficient overseas transportation system. As we noted in Chapter 3, however, *the most significant obstacle to competitiveness in Mauritius mentioned by the export enterprises was infrequent sailings and high freight costs*. About 76 per cent of the sample enterprises considered this to be a serious problem (47 per cent said that it was very negative and 29 per cent said that it was moderately negative). The lack of a national shipping line dedicated to serving major markets at regular intervals is viewed as a major problem by industrial enterprises. For instance, firms argue that shipping lines, which connect South Africa to Europe, frequently do not pick up cargo at Mauritius if only a few containers are involved. This can cause cancellation by foreign buyers and significant delays to small export orders. Transport bottlenecks also hinder the ability of Mauritius to deal with business based on quick response times.

What do the comparative cost data show? Table 7.5 provides information on sea and air freight rates for garment exports to the USA for Mauritius and several Asian countries. Garments were selected because they constitute the country's major manufactured export.[67]

The Mauritian air freight rates (4.80 US$/kg to the USA) are the lowest of the sample countries. However, air freight rate figures for Mauritius provided by MEDIA indicate a much larger range for garments, from 3.7-11.0 US$/kg, indicating that some negotiation takes place, which adds a premium to the published rates depending on the availability of air cargo space. Export enterprises argue that this may be due to the fact that Air Mauritius is somewhat protected against foreign competition with regard to its air cargo business.68 Nevertheless, no information was available to the mission on the details of such protection. Our data also indicate that sea freight rates for Mauritius are slightly more

expensive than some Asian countries. Like air cargo, sea freight charges seem to vary, depending on the number of containers and the strength of the loyalty arrangement between the agent and the shipper.

Thus, in recent years, there has been an improvement in physical infrastructure, particularly in the areas of port and telecommunications. However, more remains to be done. The existing problems include: infrequent sailings/ high sea and air freight costs; high rental costs for factory space in EPZs, high rates for telephone installation in EPZs, fluctuations in electricity supply and high electricity charges.

We recommend the following measures to improve the country's infrastructure: (1) Undertake a feasibility study for establishing a national shipping line. In addition, liberalise the entry of low cost air cargo operators to compete with Air Mauritius and expand the cargo capability of Air Mauritius. (2) Carry out an assessment of rents in public and private industrial estates and link increases in rents to changes in the retail price index. (3) Liberalise the entry of overseas telephone providers. (4) Develop a low interest loan scheme for enterprises to purchase voltage stabilisers and power factor correctors. Establish a consultancy unit within CEB to install such equipment and help consultancy firms to undertake energy audits at competitive rates.