

**An Economic Evaluation of Special Economic Zones:
A Study on Cochin Special Economic Zone in Kerala**

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By

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COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY
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***An Economic Evaluation of Special Economic Zones:
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Ph.D. Thesis under the Faculty of Social Science

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Certificate

This is to certify that the thesis titled '**An Economic Evaluation of Special Economic Zones: A Study on Cochin Special Economic Zone in Kerala**' is a record of *bona fide* research work carried out by Mr. Vinod K.U under my supervision and guidance. This is an original piece of research and has not formed the basis for award of any degree, diploma, associateship, fellowship or other similar title of any other University or Board and is worth submitting for the award of Doctor of Philosophy under the Faculty of Social Sciences of Cochin University of Science and Technology. I also certify that all the relevant corrections and modifications as suggested by the audience during the pre-synopsis seminar and recommended by the Doctoral committee of the candidate have been incorporated in the thesis.

Meerabai M

Declaration

I hereby declare that the dissertation titled '**An Economic Evaluation of Special Economic Zones: A Study on Cochin Special Economic Zone in Kerala**' is a record of the bona fide research work done by me and that it has not previously formed the basis for the award of any degree, associateship, fellowship or any other title of recognition.

Place: Kochi

Date: 17-11-2017

Vinod K.U

But you, O LORD, are a shield around me;

You are my glory, the lifter of my head.

Psalms 3:3

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Abbreviations

AC	Approval Committee
ATC	Agreement on Textile and Clothing
AUFZ	Arab Union of Free Zones
BEPZA	Bangladesh export Processing Authority
BOA	Board of Approvals
CITU	Centre of Indian Trade Union
CSEZ	Cochin Special Economic Zone
DC	Development Commissioner
DDT	Dividend Distribution Tax
DTA	Domestic Tariff Area
EPZ	Export Processing Zone
FDI	Foreign Direct Investment
FEZ	Free Export Zones
FP	Free Ports
FSEZ	Falta Special Economic Zone
GCEC	Greater Colombo Economic Commission
GDP	Gross Domestic Product
ILO	International Labour Organization
INTUC	Indian National Trade Union Congress
IP	Industrial Parks
IT/ITES	Information Technology/ Information Technology Enabled Services
KASEZ	Kandla Special Economic Zone
MAT	Minimum Alternative Tax
MFA	Multi Fiber Agreement
MNC	Multinational Corporation
MSEZ	Madras Special Economic Zone
NMIZ	National Manufacturing Investment Zone

NSEZ	Noida Special Economic Zone
RCAI	Revealed Comparative Analysis Index
SEEPZ SEZ	Santacruz Electronics Export Processing Zone Special Economic Zone
SEZ	Special Economic Zone
SWIFT	Society for Worldwide Interbank Financial Telecommunication
UNIDO	United Nations Industrial Development Organization
VAT	Value Added Tax
VSEZ	Vishakhapatnam Special Economic Zone

- 1.1 *Background of the Study*
- 1.2 *Definition of Special Economic Zone*
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- 1.7 *Cochin Special Economic Zone*
- 1.8 *Statement of the Problem*
- 1.9 *Objectives of the Study*
- 1.10 *Research Methodology*
- 1.11 *Scheme of the Study*

1.1 Background of the Study

India, the largest democracy with massive population holds one of the world's largest middle- class customer markets in the world. Business corporations view India as one of the key markets for their operation and investment. India has flourishing manufacturing and service sectors with abundant skilled and cost-effective labour force. The adoption of new economic policies and opening up of its economy in 1991 enabled the country to face the new opportunities and challenges of the 21st century. In order to reap the benefits of the new global market scenario, India has entered into different trading agreements with various countries. In addition Government of India has

liberalized export/import policies and established tax reforms, providing various incentives. Foreign Trade Policy of India was focused extensively on improving the country's share of global trade. To achieve this objective government has adopted many steps to improve its trade with the rest of the world, the introduction of Special Economic Zone (SEZ) is one vital step towards the same.

China holds the prominent role in the group of countries which have embraced Special Economic Zone concept along with many other nations from Asia, Africa, Latin America and Europe. Special Economic Zone has transformed China into one of the largest infrastructure developers, exporters and Foreign Direct Investment (FDI) holders in the world. During the late 70's China replaced the strategy of economic independence where foreign investment was banned and foreign trade was kept to low levels by new open policy aiming the liberalization of foreign investments and opening up of the trade relations with the rest of the world. Through Special Economic Zone policy China established business relations with foreign investors especially at its coastal cities (Wong, 1987) [1]. China's zone policies have pioneered foreign direct investment flow, acceleration of exports, job creation, up gradation of skills and transfer of technology. The benefits which China reaped from Special Economic Zone experiment can be realized from its current economic strength and world market participation in trade. Other than China, SEZ operations have accelerated the exports of other countries also, 71 percent of Mauritius' total exports were contributed by zones, Mexico's 40 percent and Sri Lanka and Bangladesh's 25 and 17 percent respectively (Aggarwal, 2005) [2].

The proposal to begin Special Economic Zones in India was initiated by Late. Murasoli Maran, Union Minister of Commerce and Industry. During his visit to Southern Province of China in 2000, Mr. Maran was deeply impressed by the Chinese Special Economic Zones experiments, which have attracted an immense amount of FDI, facilitated employment generation and exports. In fact India, is the first country in Asia to establish the Special Economic Zones by setting up its first Export Processing Zone (EPZ) in Kandla, Gujarat in 1965. Subsequently, six other export processing zones were also set up in different regions of the country. Unlike China, Singapore and Taiwan, the Export Processing Zone scheme was not successful in India since Government considered the scheme as a basis to provide incentives to generate an additional amount of export without any policy initiatives towards the scheme.

By 2000, the liberalization, privatization and globalization policies adopted by the Narasimha Rao Government in 1990's have begun to show its impact on Indian economy by accelerating the growth rates. In order to further boost the economic growth that the country was experiencing, Mr. Maran took an initiative to incorporate Special Economic Zones in EXIM Policy of India by replacing the old Export Processing Zone regime to encourage all State Governments to start zones in their respective States. The new scheme had lucrative incentives that were not available in the EPZ scheme. The objective of this policy is to make Special Economic Zones an engine of economic growth via attracting domestic and foreign investment, generating additional employment opportunities and by creating infrastructural development backed by attractive export promotion packages with minimal possible regulations. To strengthen the Special Economic Zone schemes in India, the Government has announced Special Economic Zone Act in 2005. The objective of the Act was to simplify the zone establishing and operational procedures thereby attract more

foreign and domestic investment. Later, Special Economic Zone Rules was also notified in 2006 to further facilitate the setting up of more zones across the country. These policies have enabled private investors or developers to directly apply to set up a Special Economic Zones in any part of the country until then all the zones were owned by Central or State Governments.

The introduction of Special Economic Zone was an effort to confront the poor infrastructure facilities, complex procedures and formalities, rigid labour regime, taxation policies and bureaucratic hassles existed in the country. These structural blockages affected the investment climate negatively by increasing time and cost of production. Since country wise infrastructure development and implementation of structural economic reforms are expensive and time consuming process due to various economic and political reasons, the establishments of industrial enclaves like Special Economic Zones is considered as a vital strategic tool for fueling the process of industrialization. These zones create conducive environment to draw local and foreign investment which would not have otherwise happened. In order to expedite export and other economic activities, zones were designed as areas where entities function under a set of rules, regulations and benefits different from those applicable to rest of the country. Hence SEZs are artificial tiny pockets which is linked more with global economy than domestic economy and thus considered as a significant mechanism for trade promotion, higher foreign exchange earnings, investment promotion, additional employment generation, improving export competitiveness, technology and skill up-gradation, infrastructure development and regional development.

1.2 Definition of Special Economic Zone

Special Economic Zones can be defined as demarcated geographic areas contained within a country's national boundaries where the rules of business are different from those that prevail in the national territory. These differential rules principally deal with investment conditions, international trade and customs, taxation, and the regulatory environment; whereby the zone is given a business environment that is intended to be more liberal from a policy perspective and more effective from an administrative perspective than that of the national territory (Farole, 2011) [3].

United Nations Industrial Development Organizations (UNIDO, 2015) [4] defines Special Economic Zones as the designated estate where trade laws such as tariffs, quotas, and duties differ from the rest of the country. SEZs are also defined as the geographically delimited area, usually physically secured (fenced-in) with single management/administration and eligibility for benefits based upon physical location, which is also benefited with separate customs area and streamlined procedures (FIAS, 2008) [5].

Special Economic Zones are the larger variant of Export Processing Zones. The objectives of Special Economic Zones are much wider than merely improving the export processing operations. Export Processing Zones are industrial estates while SEZs are virtually industrial townships that support infrastructure such as housing, hospitals, roads, education institutions, ports and telecommunication, hotels, leisure and entertainment units, residential industrial commercial complex etc.

The structural features incorporated in the model of Special Economic Zones include (FIAS, 2008; Farole, 2011),

- *Delimited Area-* Special Economic Zones are usually physically secured or fenced in area within the geographical territory of a country which operates under liberal legal framework to generate additional economic activities such as investment, trade and employment.
- *Single Management/Administration-* The management of the zone normally requires a dedicated governance structure with less governmental regulations and formalities which may vary according to the nature of the zone regime. The sole aim of which is to ensure that investors benefit from the provisions in the zone regime.
- *High Quality Infrastructure-* Zones are normally provided with high quality infrastructure than the Domestic Tariff Area (DTA) to support the units and other economic activities within it. Infrastructure facilities include real estate, hospital, water, power, telecommunication and roads.
- *Eligibility for Benefits (Duty-free benefits) -* Zones are benefited from various types of tax exemptions including duty-free import of raw and intermediate materials and capital equipment.
- *Flexible Labour Laws-* To promote hassle-free economic activities, zones are provided with flexible labour laws than the Domestic Tariff Area.

1.3 Objectives of Special Economic Zones

As per the ministry of Commerce and industry, the main objectives of establishing Special Economic Zones in India are (Source: www.sezindia.nic.in) [6]:

- Generation of additional economic activity
- Promotion of exports of goods and services
- Promotion of foreign exchange earnings through strengthening non-traditional exports.
- Promotion of investment from domestic and foreign sources
- Transfer of foreign technology
- Creation of employment opportunities
- Development of infrastructure facilities
- Acquiring and upgrading labour and management skills

In a wider perspective, Special Economic Zones are tools allowing a nation to improve and diversify its exports, serves as a pressure valve to eliminate unemployment and acts as a medium for regional development. Zones can be established by Central/ State government or private sector which can be domestic, international or joint venture. The SEZ concept includes import/export duty exemptions, better customs and administrative procedures, income tax holidays, liberal labour laws and generous foreign exchange policies meant to improve economic competitiveness and reduce operation cost. The key objectives of the Indian SEZ are highlighted through simplified procedures for development, operation, and maintenance of the SEZs, and also for establishing firms in the zones and managing business in SEZs.

Earlier the policy matters concerning Special Economic Zones was contained in the Foreign Trade Policy of India and benefits and other facilities to the zone developers and units were implemented through various notifications issued by the Ministry of Commerce and Industry. In order to give a stable policy framework, to make Special Economic Zone an engine of economic growth and to create a hassle-free environment to establish and operate Special

Economic Zones in the country, a Central Act for Special Economic Zone was enacted in 2005. Hence activities of SEZ are controlled by the provision of the SEZ Act 2005 and the rules issued under viz. SEZ rules 2006.

The prominent features of Indian Special Economic Scheme are (Source: www.sezindia.nic.in):

- A designated duty-free region, treated as foreign territory only for trade operations and duties and tariffs
- Permitted to conduct manufacturing and service activities
- No license required for imports
- Domestic sales are subject to full customs duty and import policy in force
- Units have to be positive foreign exchange earner in three years after establishment
- Single window clearance
- Full freedom of subcontracting
- Free from routine examinations by the customs authorities on export/import
- Strategic location and market access
- Financial Incentives

1.4 Incentives and Facilities offered to SEZs

Different types of incentives and facilities are provided for Special Economic Zones to attract investment especially Foreign Direct Investment. The major incentives offered in SEZ Act 2005 are (Source: www.sezindia.nic.in):

- 100 per cent Income Tax exemption on export income for Special Economic Zone units for first 5 years, 50 per cent for the next 5 years and 50 per cent of the ploughed back export profit for the next 5 years.

- Duty-free import or procurement of goods for development and operations of Special Economic Zone units.
- Exemption from Central Sales Tax
- Exemption from Service Tax
- Exemption from State Sales tax and other levies as imposed by the respective State governments.
- External commercial borrowing by Special Economic Zone units up to US\$500 Million in a year without any maturity restriction through banking channels.
- Exemption of Minimum Alternate Tax under Section 115JB of the Income Tax Act
- No License is required for Imports
- Exempted from payment of Stamp duty and registration fee on license of plots
- Exempted from Dividend Distribution Tax
- SEZ are allowed to Setup Off Shore Banking units
- Units are exempted from Central Excise Duty on goods bought from Domestic Tariff Area.

1.5 Administrative Set up for Special Economic Zones

SEZ Act provides three tier administrative set up for the functioning of Special Economic Zones in India (SEZ Act, 2005) [7].

- *Board of Approval*: The apex body headed by the secretary of the Department of Commerce and Industry and two joint secretaries nominated by the central Government. The Board has the duty to promote and ensure the orderly development of Special Economic Zones in the country. The power and functions of the Board include

granting of approval or rejecting of a proposal or modifying proposals for the establishment of Special Economic Zones.

- *The Approval Committee:* Approval Committees are at zonal level managing the approval of units in the SEZs and other issues related to the operation. The Approval Committee regulates the matters such as approve the procurement of goods from the Domestic Tariff area for carrying out the operations of zone, approves the service providers to carry out authorized operations of the zone, monitor the utilization of goods and services in the zone.
- *Development Commissioner (DC):* is the overall in charge of the Special Economic Zone and exercise administrative control and supervision over all the officers and units in the Zone, appointed by the Central Government. DC directs the entrepreneurs to set up units and ensures effective export promotion from the zones. Development Commissioner ensures proper coordination between Central and State government departments and monitors the performance of developers and the units in the zone.

Special Economic Zone may be set up for manufacturing of goods and services or providing services or both and can be multi-product or sector specific. The procedures to set up SEZs are being simplified by Single Window Clearance System. First, the developer intended to set up Special Economic Zone identifies the category of zone. Then he submits the copies of the application along with the project report to the Chief Secretary of the State. The State government has to forward the application within 45 days from the receipt of application to the Board of Approval along with its commitment to provide

facilities and incentives such as State Tax and duty exemptions. The Board of Approval verifies the proposal and recommendations from the State Government, on acceptance of the proposal the permission will be issued to the applicant. The applicant can also directly submit the proposal in Form A, directly to the Board of approvals but the applicant has to obtain the concurrence of the State within six months from the date of approval. There are three stages of approval for setting up Special Economic Zones (SEZ Act, 2005):

- **Principal Approval:** It is given when the land to establish the Special Economic Zone has not yet been secured while all other criteria for setting up of Special Economic Zone are fulfilled.
- **Formal Approval:** If the Developer has the right (freehold/lease) over the land and all other necessary procedures are complete, all proposals to setting up Special Economic Zone are considered for formal approval by the Board of Approvals. The lease period should be minimum 20 years if the land is leased.
- **Notification:** The final Approval to set up a Special Economic Zone is known as notification after which the developmental procedures of the zone and setting up of units can be initiated.

Table-1.1 : List of Special Economic Zone Approvals in India

Item	Number
Number of Formal Approvals	416
Number of Notified SEZs	331
Number of In Principal Approvals	33
Operational SEZs	206
Units Approved in SEZs	4,319

Source: <http://www.sezindia.nic.in> as on March 2017

There are four types of Special Economic Zones in India such as Multi Product Zones, Sector Specific Zones, Gems and Jewelry, Bio-Tech, Information Technology/ Information Technology Enabled Services (IT/ITES) zones and Free Trade Warehouse Zones (FTWZ), the SEZ Rules provide different minimum land requirements for different types of zones. Special Economic Zone means an area of land delimited which is treated as a foreign territory for various economic activities. As per the SEZ Rules, a SEZ has to be built on at least 1,000 hectares of land. But the requirement of the area has been reduced to 200 hectares for zones proposed to set up in the north east region. To permit optimum usage of land by existing SEZs in other parts of the country, an amendment is made in the SEZ Rules in 2013 which permits the setting up of Multiproduct SEZs with a minimum land area of 500 hectares instead of 1,000 hectares. The minimum land required to set up a Sector Specific SEZ is 100 hectares but the north east region is allowed to set up Sector Specific Zones with 50 Hectares of land.

The minimum land requirement criteria for Gem and Jewelry, Electronic Hardware, Bio-Technology and IT/ITES are 10 hectares while the minimum built-up area is at least 50,000 square meters for Gem and Jewelry and 1,00,000 square meters of built-up processing area for Electronic hardware, Bio-Technology and IT/ITES sectors respectively. Later the amendment in SEZ Rules 2013 has dispensed the minimum land requirement criteria of 10 Hectares for IT/ITES SEZs with no minimum land requirements but they will have to conform to the minimum built-up area requirements as before. Furthermore, the amendment provides the minimum built-up requirement of 1,00,000 square meter only to major cities viz Mumbai, Chennai, Hyderabad, Delhi, Kolkata, Pune and Bangalore, for the other cities 50,000 square meter standard will be applicable.

To set up a Special Economic Zone as Free Trade and Warehousing Zones, a minimum land of 40 hectares and built up area of 1,00,000 square meters are required. Free Trade and Warehousing Zone can also be set up as part of any other multi-product SEZ with no restriction on minimum land requirement subject to the condition that the area of Free Trade and Warehousing Zone shall not exceed 20 per cent of the processing area. In order to promote agro- based products in Special Economic Zones the SEZ Rule amendment 2013, introduced new sector ‘Agro Based Food Processing’ with the minimum land requirement of 10 hectares.

The Processing Area is intended for setting up units for manufacturing of goods and services, which includes the area provided for trading or warehousing facilities and standard design factories or area provided for other infrastructure facilities such as port and related activities, roads, rail road, effluent treatment plant, power plant etc. The area designated for parking, safety and security and administrative usages for the smooth functioning of the zone is also considered as processing area. The Special Economic Zones can have residential, business and recreation facilities along with social infrastructures like education, health care and cultural facilities to support the smooth operation of the zone. It is known as Non-Processing Areas. These activities occurring in the non-processing area is also eligible for tax and duty exemptions for the initial establishment of the infrastructure facilities. The land area which falls within the zone has to be delimited especially the processing area should be fully fenced by boundary wall or wire mesh fencing with a minimum height of two meters and forty centimeters and all the gates should be guarded by the security personnel.

As per the SEZ Act 2005, the Special Economic Zone can be set up individually or jointly by the Central Government, State Government or any

person. Such a person or body or authority is known as Developer/Co-Developer of the zone. A Co-Developer is the one who intended to provide any infrastructure facility in the identified area in the zone. Co-Developer can be the person who wants to undertake authorized operations in the zone, and can apply for approval as Co-Developer to the Board of Approvals.

The statutory functioning of the SEZ is monitored by the Development Commissioner who is in charge of resolution of any problems faced by the Developer/Co-Developer or units. The State Governments also possess a very important role in the establishment and flawless operation of the Special Economic Zone. Before recommending a proposal to Ministry of Commerce and Industry, the State Government must ensure that they are capable to provide basic infrastructure and other amenities. Also in addition to the Central regulations on Special Economic Zones, most of the State Governments have enacted their own Special Economic Zone Act or Policy. The rationale behind the enactment of State Special Economic Zone Act or Policy is to provide an unambiguous legal framework for the development of zones in respective States at par with the Central SEZ Act/ Policy and to deliver a mechanism to resolve matters related to labour, land acquisition issues, environmental issues etc. at the State level. All the zone units shall abide by the local laws, rules and regulations on industrial and labour relations.

1.6 Indian Special Economic Zones

The history of Indian Free Zone began with the establishment of Asia's first Export Processing Zone (EPZ) in Kandla, Gujarat in 1965 followed by Santa Cruz Export Processing Zone in Mumbai in 1973 subsequently five other zones were created in different parts of the country. All these zones were created as 'manufacturing based zones' and owned and managed by the Central

Government. The Government of India adopted Export Processing Zone policy as a part of its export promotion programme in order to increase its foreign exchange earnings and promote import substitution regime. Later in 2000 & 2003, all these zones were converted into Special Economic Zones as new SEZ Scheme was introduced.

1.7 Cochin Special Economic Zone

The Cochin Special Economic Zone (CSEZ), a multi-product zone, was established through a resolution dated 24.09.1983 issued by the Department of Commerce, Government of India. The zone is one of the seven government-owned zones. The process of acquisition of land started in 1984 and the zone became operational in 1986 with export commencing in November 1986. The government of India converted the Cochin Export Processing zones into a Special Economic zone on November 1, 2000, along with Kandla and Santacruz zones.

Cochin Special Economic Zone (CSEZ) located in Kakkand with a land area of 103 acres, it has 116 developed plots in varying sizes. CSEZ considered as one of the best Government-owned zones in India having the best infrastructure. It owns a 25MVA 110/11kv substation and, is the only SEZ in India distributing power within the zone. CSEZ has an integrated water management system, incinerator to treat biodegradable waste. CSEZ is the only green and plastic free zone in the country. CSEZ has round the clock on-site customs clearance, it also provides internet and telephone connection through optical fiber cable and owns telephone exchange with the capacity of 1,000 line telephone exchange respectively to all units. The zone also provides videoconferencing studio, Foreign Post Office, Offshore Banking Unit etc. (Source: www.csez.com) [8].

The Exports of the zone have grown over the last 30 years since the inception of the zone from Rs. 94 lakhs in 1986-87 to Rs. 32,579 crores in 2012-13 and Rs. 4,461 crores in 2013-14. As of 2015, there are 116 operational units in the zone. The units in the zone manufacture a wide range of products in various sectors like software, electronics, textiles, engineering, gem and jewelry, ceramic and food and agro products. CSEZ is one of largest employment destinations of the state, providing employment to 10,494, of which 31 percent are women.

1.8 Statement of the Problem

In the globalized era, countries cannot remain isolated from rest of the world. In order to compete in the globalized market, Government of India has liberalized export policies and introduced tax reforms through various incentives. The introduction of Special Economic Zone is considered to be one of the significant mechanisms to improve India's participation in world trade. SEZs play an important role in the host country to find potential buyers in the world market and to earn foreign exchange earnings. Zones are also believed to create ample environment for foreign direct investment, promotion of export, creation of infrastructure, transfer of technology and generations of additional employment.

Export plays a vital role in the development of any country and foreign trade policies are formulated in such a way to boost its exports. For example, the adoption of outward-oriented and import- substitution policy by the Government of India, since the 1980's has improved the export performance of the country. Further, the economic reforms in the 1990's with the focus on liberalization and globalization have created an export-friendly environment. The Special Economic Zones are created to boost the export and foreign exchange earnings

in the new globalized market scenario. Normally the entire production from the zones are intended for exports only and zones are provided with well-developed infrastructure facilities, tax benefits and liberal labour regulations and other hassle-free operational environments to achieve this objective.

The state of Kerala, which had been exhibiting outward orientation from early times of recorded history, has experienced the Special Economic Zone concept from the mid-1980's and has witnessed various policy implications to enhance the performance of zones especially to accelerate export and generation of additional employment. All the units in the Cochin Special Economic Zones enjoy duty-free environment for higher export performance. CSEZ Units are free to import without the license or specific approval and also without paying any duty on capital goods for implementation of their project in the zone, from the domestic sources. For the smooth operations of the zone, the Development Commissioner is assigned with the powers of Labour Commission and Pollution Control. All these liberalized policies are intended to make Cochin Special Economic Zone an Export Hub of the State. CSEZ being the beneficiary of all these privileges and incentives, it is significant to explore whether the zone generates export volumes as expected. Hence the present study tries to analyze the export performance of Cochin Special Economic Zone.

Many empirical studies on the direct employment effects of SEZ, argues that zones have played an important role in creating additional employment opportunities in many countries. International Labour Organization (ILO, 1998) [9] explains that Special Economic Zones have assisted to create additional employment opportunities in many developing countries. Many of the most successful SEZs in terms of employment creation were established in Asia. From its inception, Cochin Special Economic Zone has assisted the State to

provide employment opportunities to a large number of people. The Zone operated as a catalyst to reduce the high unemployment problem that Kerala has experienced during the last three decades. It has been known as one of the largest employment providers in the State during the same period. The employment opportunities to female workers are one of the major characteristics of SEZ employment. This study tries to examine the direct employment generation effects and its composition in Cochin Special Economic Zone.

Under the liberalized SEZ Scheme, governments offer a number of incentives to attain cost-effective production methods, to compete in the world market. Studies concluded that on the race to find conducive markets across the globe with competitive prices for their products, zones have compromised on the labour welfare and working conditions existing within zones. SEZ Rule 2006, delegate the powers of Labour Commission to the Development Commissioner of the zone thereby limiting the inspections of the government authorities into the zones. It is argued that better working conditions and high standards of living for employees have to be ensured in the zones than creating mere employment opportunities (Aggarwal, 2007) [10]. Studies also reported that working conditions of many zones were found to be poor and labour exploitation in various degrees prevailing among them. Discrimination on women workers, lack of social security benefits, a high proportion of contract workers and hire and fire policy were also reported in many Indian zones. Although, the SEZ regime permits liberal labour regime, the SEZ policies of Kerala State Specifies that the SEZs in the State will not be exempted from most of the Labour Laws which protect the interest of the working class. So this study also examines the impact of liberalized labour regime under SEZ scheme, has by any means diminished the quality of the working conditions that are existing in Cochin Special Economic Zone.

Inadequate infrastructure facilities are one of the major constraints which hinder the economic development in many countries. There are practical difficulties involved in improving the infrastructure quality across the nation. To confront this issue to a certain extent, the Government of India initiated Special Economic Zone programmes in different parts of the country by providing high-quality infrastructure facilities in zones for generating additional economic activities. Special Economic Zones normally possess better infrastructure environment compared to the Domestic Tariff Area (DTA). Through this study, an attempt has been made to evaluate the quality of the infrastructure provided by the Cochin Special Economic Zone.

1.9 Objectives of the Study

The major objectives of the study are;

1. To analyze the export performance of Cochin Special Economic Zone
2. To evaluate the direct employment generation of Cochin Special Economic Zone and the working conditions existing in the zone
3. To study the quality of infrastructure provided by the Cochin Special Economic Zone

1.10 Research Methodology

The present study is Kerala Specific, Cochin Special Economic Zone, the first and the major Special Economic Zone in Kerala is selected. The Zone units are categorized as eight major sectors such as Food and Agro, Electronics Hardware, Engineering, Information Technology/Information Technology Enabled Services (IT/ITES), Textile and Garments, Gem and Jewelry, Plastic and Rubber, and Miscellaneous. Since the products and nature of the job in Plastic and Rubber, and Miscellaneous sectors are identical, the researcher has

combined these sectors for the study. Trading Sector also exists in CSEZ but it is primarily a non-producing sector, units are registered only to avail the benefits and subsidies offered under SEZ Act. The units under trading sector were very few in number and the export volumes were also found meager and inconsistent in the reports provided by the CSEZ authorities. Hence this sector is excluded from the study.

1.10.1 Analysis of Export Performance of the Zone

Secondary data regarding the export performance of all the seven central government zones were collected from the Annual Progress Reports (APR) published by the zone authorities. The researcher also used the source of Right to Information Act to avail sector-wise export, import and employment data from all the south Indian zones since the data available in zone websites and Ministry of Commerce and Industry were having discrepancies. Sector-wise comparison of export and import performance of SEZs has conducted using this data. To protect the privacy of the zone units, authorities never reveal the individual unit data. SEZ Scheme is introduced in 2000 and data from 2000 to 2014 is collected for the study. Data regarding the Indian exports and its compositions were collected from Ministry of Commerce and Industry, Economic Review and Reserve Bank of India EXIM reports.

To analyze the export performance of SEZs, various statistical measures were used in the study. Revealed comparative advantage index is used to analyze export competitiveness to identify the sectors in which the zones have a comparative advantage. Net Export Index is used to explain the net export to total trade ratio to evaluate a zone's trade performance, which accounts for the possibility of exporting and importing within a particular sector. To analyze the export performance of SEZs, various statistical tools such as percentage, annual

growth rate, compound annual growth rate (CAGR), mean value, standard deviation, net foreign exchange earnings etc. were also used in the study.

1.10.2 Analysis of Direct Employment and Working Conditions

To study the direct employment generation of the zones, secondary data was collected through various zone progress reports, SEZ websites and sourced through Right to Information Act. The composition of male and female employment in different sectors was collected from Cochin Special Economic Zone authorities. Data from Annual Survey of Industries was used to collect the employment structure at national and state level.

To analyze the working conditions existing in the CSEZ, Primary Survey was conducted among the CSEZ workers. There were 116 operational units in CSEZ during 2014 and survey was conducted in 2015. Units from different sectors for the survey were randomly selected as there were no reports available regarding the number of workers employed in each unit. Stratified random sampling method was used to conduct the primary survey. A structured questionnaire was used to collect information from the sample population. Workers with at least one year of experience in CSEZ were only approached to collect data. Five per cent employees from each sector were selected as the sample population, comprising of 533 samples. It was not allowed to meet the workers at the workplace for research purpose hence the data collection was conducted at their place of stay.

Table 1.2 : Selection of Samples from Various Sectors

Sector	Total Workers	Sample Size
Agro & Food	610	33
Electronics Hardware	2602	133
Engineering	874	42
IT and ITES	4923	244
Miscellaneous	902	53
Textile And Garments	505	28
Gem and Jewelry	78	0
Total	10494	533

Source: Calculated by the researcher from the data collected from CSEZ DC Office

Proportions of male and female samples were maintained as per the composition of the total CSEZ workforce. The researcher tried to include maximum number operating units from different sectors during the data collection. Researcher divided the whole sectors into ‘Traditional Industrial Units’ and ‘Modern Industrial Units’ according to the nature of outputs and job in these units. IT/ITES, Electronics Hardware and Engineering sectors constitute the Modern Industrial Units and Food and Agro, Textile and Garments and Miscellaneous constitutes Traditional Industrial Units. Gem and Jewelry sector was excluded in the primary survey since there were only 78 employees in the sector during the study period, 5 per cent of it is only less than four workers. Workers’ responses towards working conditions were collected through various labour aspects such as wages, overtime payment, job satisfaction, trade union activities and social security. Point scale method was used to express responses of the workers towards each aspect. Average Scores and Combined Average Scores were calculated on the basis of the responses to evaluate the working conditions in the zone. Statistical tools like correlation, percentage, annual

growth rate, chi-square and labour output ratio etc. were used to represent the data.

1.10.3 Study on the Quality of Infrastructure Facilities

To study the quality of the infrastructure provided by the Cochin Special Economic Zone, direct interview method was used. During the pilot discussions with the CSEZ unit directors it was reported that most of the units in CSEZ were operating more than 10 years and the Tax Holidays were over for their units. And it was not the tax benefits but the facilities provided by the zone make them do business within CSEZ. Twenty per cent of the CSEZ units were selected from different sectors for the interview. Unit Managers/ Directors were interviewed using interview schedules. Units with at least 10 years of experience in CSEZ were approached for data collection. Different Scales of satisfaction level against various types of infrastructure facilities such as basic infrastructure, banking, recreational, social, safety and administration facilities were collected.

1.11 Scheme of the Study

This study has been divided into 8 chapters. The first chapter gives an introduction of the SEZ concept and definition, brief description of incentives and administrative mechanism of Special Economic Zones in India. Later, Statement of the problem, objectives of the study and the methodology parts were also discussed in the chapter.

The second chapter is the review of literature, where a detailed survey of available literature on the subject is given. Mainly the international perspective of SEZ, Indian experiences of SEZs, export and employment promotion efforts of SEZs was discussed. The labour issues in SEZs and studies on zone infrastructure quality were also reviewed in this chapter.

The third chapter traces the history of the evolution of Special Economic Zones, narrates different types of zones, theoretical approaches to the SEZ and the International experience of different regions in relation with SEZs.

The fourth chapter presents the Indian Experience of Special Economic Zones, The History of SEZ in India, regions and sector-wise distribution of SEZs, phases of SEZ development in India, SEZ Act 2005 and profile of various SEZs in India were discussed.

The fifth chapter evaluates the export performance of Cochin Special Economic Zone. The contribution of CSEZ exports were compared with all India SEZ exports and the comparison of export performance of central government owned SEZs were conducted. The growth rates of sector-wise exports of CSEZ calculated and the Revealed Comparative Index, the Net Export Index and Net Foreign Exchange Earnings analysis of CSEZ is conducted in relation with selected other SEZs in the country.

The sixth chapter analyzes the direct employment generation of CSEZ and the working conditions that exist within the zone. This chapter covers the comparison of employment trends of CSEZ with other Central government SEZs in India, sector wise employment trends and female work participation in CSEZ. The working conditions in CSEZ were evaluated using primary data in relation with various factors were also presented in this chapter.

The seventh chapter discusses the quality of infrastructure provided by CSEZ. Basic, social, and recreational Infrastructure facilities were evaluated along with the administrative support and facilities of CSEZ.

The eighth chapter which is the concluding chapter of the study highlights the findings and policy implications.

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REVIEW OF LITERATURE

- 2.1 *Special Economic Zones-An International Perspective*
- 2.2 *Special Economic Zones- An Indian Perspective*
- 2.3 *Special Economic Zones and Indian Exports*
- 2.4 *Employment in Indian Special Economic Zones*
- 2.5 *Special Economic Zones and Infrastructure Facilities*

Various studies conducted in the field of Special Economic Zone were surveyed in this chapter to explore the significance of Free Zones in the modern world. Most of the studies postulate that the zones are considered as a vital mechanism to attain economic development, especially in the developing countries. A review of the empirical evidence on the SEZs on both international and Indian scenario illustrate SEZ as a catalyst for export promotion, employment generation, and Infrastructure quality improvements and these are explored in this chapter. It has to be noted that, many studies have criticized the concept of SEZ as it compromises on the labour standards and working conditions.

2.1 Special Economic Zones-An International Perspective

According to Madani (1999) [11] conventional Export Processing Zone (EPZ) is fenced-in industrial estates specializing in manufacturing exports. Contemporary ones have more flexible rules, they provide free-trade and liberal regulatory environment for the firms associated. Primarily the study expresses

various views on the role of Free Zones in a country and considers zones as a vital part to implement macroeconomic policy reforms for the further development of the economy. Secondly, the study observes zones as ‘Safety Value’ to earn its foreign exchange earnings for host countries and thereby reducing the unemployment and underemployment. Thirdly, it suggests zones as laboratories to experiment with the market economy where host country can implement export promotion activities. The study also considers zones as a source of technology transfer and human capital development.

The major characteristics of Zone development by various regions of the world are reported by FIAS (2008). It explains that the American zones are basically created to support export promotion and trade whereas countries in the Caribbean and Central Africa has allowed private zones to fight unemployment problems. It further narrates Asia and Pacific region at the forefront of the zone development and the majority of the zones in the East and South Asia are still established, maintained and managed by the government authorities. The zone output in the Asian region has grown from low skilled textile and apparel products to higher value-added services and sophisticated products. Many of the Western European countries had Free Zones since centuries while they were restricted to manufacturing activities, allowing only packing/ repacking and warehousing activities due to European Union regulations.

The study conducted by Kreye; et. al, (1987) [12] on Export Processing Zones concluded that an increase in the number of zones has endorsed structural changes in global economic development during 1970’s especially in developing countries. The production activity in the zones was mostly non-complex in nature and limited to packing, textile, electronic equipment, food products and toys etc. which acted as an employment opportunity, especially to young women

in developing countries. Cling and Letilly (2001) [13] investigates the effectiveness of the Free Zones as an instrument for development in the developing economies. The readiness to promote international trade by developing countries was considered as the major reason behind the large-scale establishment of Free Zones in these countries. The study also examines the necessary conditions for successful operation of the zones and reports that impact of globalization and new international trade agreements has widened the scope of Free Zones. Through empirical evidence, the study concludes that zones prove to be beneficial in the development of third world countries.

Armas (2002) [14] attempts to provide a review on Mexican Free Zones as Free Zones were found successful in its primary aim to alleviate unemployment and considerably assisted Mexico in recovering from the devastating impact of the economic crisis in 1995. Zones also served as a source of modernization, skill development, and technology up gradation of the industrial structure of Mexico. Johansson (1994) [15] also explains Free Zones have benefited Mexican women workers with the job opportunity and made them more disciplined to perform assembly type jobs.

Wang and Bradbury (1986) [16] examine the role of Special Economic Zones in China's Progress and Modernization. Study focus on the performance of the Shenzhen Special Economic Zone where the Chinese government attempted to promote exports, foreign investments and technological developments through zone operations. The operation of this zone made a tremendous impact on the economic development of the region by creating enormous employment opportunities and infrastructure development. The policy of the government to initiate joint ventures between international investors and local firms catalyzed in infusing new technology into Chinese economy. The

study admires the government's efforts for the successful implementation of the zones through policy implications which eventually resulted in accelerating exports, creating additional employment, attracting investment, improving the quality of the infrastructure and regional development.

Ge (1999) [17] explains that the technological learning and new production method adoptions facilitate economic development in developing countries which can be carried out through Special Economic Zones. Multinational activities tend to generate technological advancement and skill up-gradation in the production mechanism. The study observes that zones can be served as an effective policy mean in attaining greater economic growth.

The study conducted by Sunoh (1993) [18] on Export Processing Zones (EPZ) in the Republic of Korea analyzes the economic impact of the Korean Zones and proves that EPZs played a crucial role in promoting exports and industrial development and thereby fostering regional development in different parts of the country during the initial years of the economic growth. Athukorala (1997) [19] pointed out the job creation and regional development effects of Special Economic Zones in Bangladesh. The study concludes that SEZs have successfully contributed to promoting the entry of young women workers into the labour force in Bangladesh hence leading to poverty alleviation and regional development

A study on the United States Free Zone programme, by Bolle and Williams (2013) [20] discusses background of US Foreign-Trade Zone (FTZ) programme, in The United States of America. The study also evaluates the effectiveness of FTZs as a tool for economic development and in the promotion of employment. If properly implemented zones can facilitate cooperative

international production for a considerable share of world supply chain. Walter and Diamond (1997) [21] evaluates the performance of Tax-Free Zones around the world, special consideration is given to the Free Trade Zones in the United States. The study analyzes the performance and impact of the Free Trade Zones around the world and concludes that FTZs are the vital tool for economic development and enrichment of industrial competitiveness through attracting foreign investment. Zones also help governments to improve and diversify their foreign trade while maintaining protective barriers.

FIAS (2008) discusses the major objectives, definition, development trends and patterns, recent changes and rationale for Special Economic Zone development in an international perspective. The assessments made by the study postulated that even though the employment generation effects of zones are negligible globally, among developing countries zones acted as a platform for entry-level jobs and helped them to fight the vital problem of unemployment and poverty. SEZs also contributed a significant share of manufactured exports from many countries and accompanied them to attract Foreign Direct Investment. The study further explains that the zones acted as a channel for technology transfer and skill formation among developing countries. But it also reports poor labour standards and working conditions, lack of unionization and government inspections existed in many zones. And further explains that the policies and enforcement of International Labour Organization have made a positive impact on improving the labour policies and practices within the zone.

A preview of EPZs operating in Asia countries was given by Amirahmadi and Wu (1995) [22]. The study focuses on the attractions and incentives of EPZs in these countries. The employment generation, exports and the FDI of these zones are analyzed and assumed that the role of EPZs in

promoting exports is impressive. Further, emphasizes to simplify the zone rules and regulations and allowing more incentives to the firms operating within the zones, which will improve foreign trade of the host country. The study concludes that SEZs can positively equip the local workforce with more skills to compete in the globalized economy.

The need to review the existing Export Processing Zone system is narrated by Kusago and Tzannatos (1998) [23], point important issues to be resolved in the EPZs regime as, incentive schemes, foreign ownership, technology transfer, types of ownership and working conditions, and note that rectifying this issues would improve the quality of the operations of EPZs. Studies conducted by Grandos (2003) [24] points out SEZs helped the countries to follow growth models focusing on export promotion instead of import substitution. But the study doubts zone's contribution towards the regional development of developing countries in the context of integration of countries into the global economies.

Hossain and Ali (2015) [25] on their research on Export Processing Zones in Bangladesh, mentioned vividly on the history of Special Economic Zones, factors affecting the performance of zones, land price, supply of manpower and environment. The study notes, providing high skilled work opportunity within the zones helps the local economy to retain the workforce from leaving the country for better employment opportunities. The study also reveals that the core idea behind establishing Export processing zones in Bangladesh was a paradigm shift to accelerate the progress of industrialization and economic development of the country. The research concludes with the suggestion that the growing unemployment problem faced by Bangladesh due to low literacy rate can be confronted by the introduction of SEZs.

Wong and Chu (1984) [26] conducts a study about Export Processing Zones in Asian countries; the emphasis is made on discussing the objectives and features of EPZs. The adoption of export-led growth policy through establishing EPZs in the Asian region and the major differences between zones operates in the market economies and in socialist countries were the main discussions in the study. The performance of Asian EPZs in terms of achieving foreign investment, foreign exchange earnings, employment generation, export promotion, transfer of technology, infrastructure development, backward and forward domestic linkages and regional development were evaluated. The study concludes that common problems encountered by the Asian EPZs as inadequate infrastructure provisions, exploitation of native labour force, cultural and social problems due to a high number of female workers, inefficient government mechanism to administrate the zones properly, poor standards of management and competition among themselves due to similar products and markets.

A brief history of Special Economic Zones across the world and various policy debates on SEZs were given by Farole (2011) on study on Special Economic Zones in Africa. Many African nations struggle in migrating to the global value chain system in order to supply the goods and services demanded by the global customers, and recognize Special Economic Zone as a platform for African economic development. The reason for an increase in zones in African region is due to the recognition of governments, that SEZs mechanism can be considered as a platform for export accelerations, FDI Inflow, the creation of employment opportunities and to integrate the host country to the global business scenario. The study reveals, although African nations initiated zone scheme keeping in mind the above-said objectives, most of the Zones in the region have generally underperformed except few in Mauritius, Kenya, and Madagascar. Further, the study addresses the question, how SEZs can make an

important contribution to export generation, job creation and to provide sustainable growth in African low- income countries. The study concludes, against the static economic outcome of zones (short-term goals considering SEZ in achieving investment, employment, and exports), most African zones did not fulfil their potential and evaluated them as underperforming compared with their Asian and Latin American counterparts. On dynamic economic outcomes (comprising technology transfer, integration with the domestic economy and structural changes) none of the zones in African region displayed indications that SEZs played a vital role in catalyzing wider reforms.

A research on the development aspects of the African Special Economic Zones was also conducted by Jauch (2002) [27], focusing on the economic problems of the South African Special Economic Zones. Many countries irrespective of their region were not successful in achieving the establishing objectives of SEZs. And Jauch condemns the South African Government for the deterioration of the working conditions of cheap and unskilled workers in zones since the government has suspended the national labour laws in zones to attract foreign and domestic investors. South African SEZs produce low-quality products, displayed low productivity and were incompetent because of its unskilled workforce. Finally the study comes out with the argument that the Special Economic Zone programme had threatened the labour standards and the working conditions in South Africa.

Center for Development and Enterprise (CDE) (2012) [28] discusses the South African experience of Special Economic Zones. The Paper reveals that SEZs in South Africa has not met the objectives as expected. Investment levels were very low, the numbers of permanent jobs were insufficient and many of the business units in the zones have stopped operations in between. The conference

postulated the reason for the low performance of the SEZs as lack of special incentive programme for zone units, lack of comprehensive legal framework, the absence of inter-departmental coordination etc. The study also proposes to establish new Special Economic Zones in private sector since all the Free Zones in South Africa are owned, financed, managed and promoted by the government. In order to overcome the shortfalls in the existing SEZ regime, study suggests restructuring the SEZ strategy in such a way that enables the zones internationally competitive. Rolfe, et. al, (2004) [29] discusses the tax-free and incentive programs of Kenyan Export Processing Zones. Study propose that the zones have the potential to help the country in its long-term development by opening new investment arena in Kenya.

The study conducted by Curtis, et. al, (2006) [30] compares the performance of Chinese Special Economic Zone as a medium to promote regional-export-oriented economic growth with Russia, Mexico, and Dominican Republic zones. Study insists on the need for a strong government mechanism to implement immaculate SEZ regime. The paper also admits that SEZ scheme is favorable in countries with large population growth and creates export-led growth opportunities. Zashev (2008) [31] analyzes the current state and development potential of Special Economic Zones in Russia, the objective of the paper was to review the current state of Saint Petersburg SEZ from the perspectives of the companies operating in the zone. The study concludes with the criticism on the policy-making and administrative mechanism of Russian SEZ scheme based on empirical evidence and listed out policy recommendations which may assist in increasing the economic benefits Special Economic Zones.

Warr (1989) [32] analyzes that Export Processing Zones are Industrial clusters where manufacturing for exports occurs under free trade conditions. The paper evaluates the benefits and costs of EPZs in Indonesia, Republic of Korea, Philippines, and Malaysia. The study establishes that developing countries can attain economic objectives of capital inflow, foreign exchange earnings and transfer of technology through setting up of zones backed by proper administrative and policy supports.

Aggarwal (2005) evaluates the performance of Export Processing Zones in India, Sri Lanka and Bangladesh by comparing the performance of zones in these countries. The paper has given the EPZ governance policies and the number of employment generated by the EPZs in these countries. Features like, administrative setup, incentive schemes, infrastructure facilities, governance was examined among these countries to find out which country provides the best operational and administrative facilities for the smooth functioning of the EPZ regime. To evaluate the economic performance, variables like employment generation, investment, and sector-wise exports of various zones were analyzed. The overall export performance of Bangladesh and Sri Lanka is better when compared to India. The study concludes that the comparative advantage enjoyed by the unit operating within the zones tend to attract more business and investment thereby driving ahead of the economic development of the country.

Shah and Rivera (2007) [33] evaluate the Export Processing Zones in the oil, gas and chemical industries in the Trinidad and Tobago and its impacts on environmental performance. The relationship between increasing number of Export Processing Zones and the degradation of the environment were analysis in the study and establish that the operations of the EPZs have created both positive and negative environmental impacts in the country. Jenkins, et.

al,(1998) [34] in his study about the Central American Free Zones, evaluates the employment generation effects of Free Zones. He conducts a study on Free Zones in operation for at least five years in Central America, categorizing the zones as low, medium and high levels according to their sizes. The conclusion of the study was that median level zones generated more employment compared to other two categories.

In his research on Special Economic Zone, progress, emerging challenges and future opportunities Farloe and Gokhan (2011) [35] discusses the capacity of Special Economic Zones to attract foreign investment and create job opportunities in Bangladesh. The study notes that zones should remain more competitive by upgrading production capabilities and attract investment in the high value-added production process. Study concludes that it is not the well-structured SEZ scheme or fully built infrastructure facilities that decide the levels of foreign direct investment and creation of jobs but the major factors like significance of the SEZ programmes in the specific context which they are introduced, the quality and efficiency of its design, management, and implementation of policies determine the success and failure of the zones.

Neveling (2015) [36] analyzes the global imperial formation of Free Zones from 200 BC to 2015 AD, where the author considers the Free Zone mechanism as a part of the global capitalist system. During the 1970s it was a common belief that emergence of the Free Zones was a new pattern of imperialism by the western forces and zones were portrayed as citadels facilitating the exploitation of the third world countries through Multi-National Corporations (MNC) of the western world. Many newly emerged nations in the 1950s have put their emphasis on import substitution policies to accelerate industrialization process. Imperialism had turned many countries into mere

suppliers of raw materials for manufacturing industries located in the wealthy western countries. The study also notes that even in recent times the wealthiest countries in the western world is trying to maintain their control over the developing countries through the free entry option and liberal labour rules that exist in the zone regime.

Even though the Free Zones of the present world are much different than the Free Zones in the past, they serve an almost same purpose, states Haywood (2000) [37]. Modern world Special Economic Zones have grown into increasingly complex and involved into a large variety of economic affairs. Globalization has facilitated international trade and accelerated the expansion of Special Economic Zones worldwide. SEZ are a precious policy and tool which can smoothly function with a given legal framework of international economic and social relations. Haywood finds that SEZs have moved from low- skilled labour intensive operations to skill and technology intensive mode of production, which includes Research and Development centers, Information Technology (IT) parks and Logistics Centers. The study comments, if provided with appropriate regulations, zones can help countries to attract investment and generate additional economic activities which will ultimately lead to regional development in the host country in long run.

Shimi (2008) [38] evaluated the Performance of Special Economic Zones in the United Arab Emirates where the paper listed out the existing major free zones in the country and its major characteristics. The study demands for enactment of investment laws aimed to attract foreign direct investment to the country and opening up certain areas of business horizontally across the country under the SEZ regime, as many of the firm operating in the country are leaving due to disadvantages in operation compared with the neighboring countries.

Paper advocates for ‘cluster based zoning model’ in the country, allowing full integration within the industry value chain to facilitate synergy benefits.

Pakdeenurit (2014) [39] presented an in a detailed assessment of Special Economic Zones around the world in the study ‘Special Economic Zones: Fact, Roles, and Opportunities of Investment’. The study notes that zones can be briefed as an instrument to enhance the prosperity of the country. The Study also presents the insights of three leading countries in forefront of zone operations, United States as the Pioneer of SEZ, Chinese SEZ Shenzhen as the most successful zone in the modern time and India as the largest zone operating country in the world. The study concludes that from the middle of the 20th century, the developing countries had used SEZ policies to facilitate the crucial developmental strategies like increasing employment opportunities, enhancing foreign exchange and promotion of exports.

Rondinelli (1987) [40] reviews the performance of Asian EPZs as a medium for economic growth and employment generation. Even though the setting up of EPZ have attracted foreign investment, generated employment and provided foreign exchange earnings to the host countries, zones still have disadvantages on various areas. The study assumes EPZ are extremely difficult to establish and operate successfully in developing countries, also its stimulative effects on local and regional economies tend to be weak. Although some EPZs in developing countries have generated macro-level economic benefits, they have created a lot of detrimental effects on local economies. EPZs created social and economic problems for regions and increased inter-regional disparities. Problems like high construction and maintenance cost of zones, plenty of low-wage workers, large number of unskilled female workers, massive migration issues and transfer of less managerial skills were also found in EPZs. The study

further suggests policy implications for zone authorities, governments, and investors, to be cautious in planning and managing EPZs to reduce their potential threat of adverse effects on local economies.

All the above reviews presented different opinion of scholars about Special Economic Zones, although a few of the studies argued that the establishment of SEZs has made a negative impact on labour welfare, environmental degradation and deterioration of working conditions, majority of the scholars accepted that SEZ can be seen as a catalyst for economic development by attracting foreign direct investments, creating employment opportunities and improving the foreign exchange reserves of the host countries. SEZs will act as an engine of growth if the necessary infrastructure facilities and the social and economic environment are provided. The possibility of attaining higher value chain production process and transfer of technology can also be achieved through SEZs operations. Studies also portrayed the need for well-organized government policies to establish and manage hassle-free zone operations with special emphasis on environmental protections. The major issues pointed in these literature is about the exploitation of the workers on various grounds and need for comprehensive legal frame work to support the Special Economic Zone regime in order to attain establishing objectives was advocated by these studies.

2.2 Special Economic Zones- An Indian Perspective

India has progressively opened its economy to utilize the opportunities that globalized economy offers in order to improve its foreign investment and international trade. Realizing the need for these economic aspects and inspired from the success stories of other Asian countries, Government of India has enacted the Special Economic Zone Policy right from the beginning of the

twenty-first century, precisely in April 2000. The major establishing objectives of SEZ were to generate additional economic activities by accelerating exports, creating supplementary employment opportunities and confront the infrastructural fallacies that the country has faced.

Aggarwal (2010) [41] aims to analyze the economic impact of Special Economic Zones in the Indian context. The study evidently eliminates the conceptual confusion about SEZs in India by evaluating the SEZ Act and SEZ Rules which provided the umbrella legal framework for the setting up of zones in India. SEZs were generating adequate investment and employment along with playing a significant role in bringing more economic development to the economy from a resource- led to a skill and technology led economy, from unorganized sector to organized sector, from a low- value added mode of production to high- value-added mode of production and low- productive sectors to high- productive sectors at national and regional levels. The study suggests the zone regime should be carried out in a way to enhance and utilize the local investors which will result in the development of a large amount of social infrastructure resulting in the creation of industrial clusters and facilitate city formations.

A macro study of the major operating zones in India was conducted by Shah (2009) [42] to review the investment, trade and employment performance of Special Economic Zones in India. Study appraises the total volume of exports, investment and employment opportunities created by SEZs in India. SEZs can be considered as an engine of growth since satisfactory levels of export, employment and investment are generated through SEZ in India. The study also narrates the different aspects of Indian SEZs like benefits, advantages, incentives, zone establishment process, land acquisition procedures

and the issues associated with it etc. And suggests to strengthen the SEZ policies and administration to boost confidence among the investor community.

Rahooof and Arul (2016) [43] detail the performance of Special Economic Zones in India in the post-SEZ Act period. SEZ scheme was introduced to increase in international trade by issuing attractive fiscal packages in central and state government levels and claims that SEZ has made Indian economy compatible with the global economy. The study also tries to assess the performance of SEZ in India and its impact on employment, investment, and export. In addition, recent government initiatives such as privileges, exemptions and policy initiatives to improve the quality of the zone performance were also addressed. The study recognizes that the export performance of zones has improved after the enactment of the SEZ Act 2005, but in recent years the zone exports are showing a minor growth due to the withdrawal of exemption on Minimum Alternative Tax (MAT) and Dividend Distribution Tax (DDT). And the current policies of the Government to withdraw few benefits and incentives available to SEZs have reduced the attractiveness of the scheme and thereby extracting investors from zones. With regard to the employment generation, newly notified SEZs had played an important role in creating employment opportunities in India which indicates that zones established after SEZ Act have made a substantial contribution in overall employment generation in India. Hence study concludes that the scope of the SEZ scheme in India has widened, that it has facilitated export, investment, employment and regional development. SEZ Act has made a well-defined platform for both foreign and domestic investors to do business in a hassle-free environment which will ultimately lead to regional development.

As a part of Reserve Bank of India's study programme, Lakshmanan (2009) [44] studies the evolution of Special Economic Zones and the issues associated with the Indian perspective. The study observes that the enactment of SEZ Act 2005 and the implementation of SEZ Rules in 2006 have induced enormous interest among the entrepreneurs for setting up SEZs across the country. Although the establishments of zones after the introduction of SEZ Act and Rules have made positive impacts on the economic realm of the country, this study argues that large-scale land acquisition especially agricultural land and farmer displacements have invited criticism from various sectors. The study concludes with the opinion that SEZs can be viewed as new developmental enclaves with forward and backward linkages which can improve the manufacturing facilities, productivity, and competitiveness to generate additional volumes of exports and employment opportunities in India

Bajpai (2000) [45] list out ten main areas of reforms in India which made the first decade of the 21st century, a decade of development. The research paper suggests for broad programmes of economic and social actions which highly demanded adoption of new methods and legislative improvements in areas of public policy. One area of development listed in the study is export development through the establishment of Special Economic Zones in India. It was suggested that the Central Government should promote export through the setting up of more Export Processing Zones and a hassle-free business environment should be maintained to achieve its establishing objectives. Steps such as the abolition of product reservation to small-scale industry, promotion of Information Technology, the abolition of tax and tariffs which are anti-export biased, the removal of administrative bottlenecks in attracting foreign investment etc. were proposed in the study to attain these objectives. With empirical evidence, the study argues that India could have achieved higher

economic growth through Special Economic Zones like China if we had a proper export-oriented policy strategies. Inadequate logistical links with ports, insufficient infrastructure facilities at the zone vicinity, inefficient government mechanism towards welcoming foreign investment, vague incentive packages and lack of interest from government departments are considered to be the stumbling blocks in the overall development of SEZs in India. The study concludes with suggestions for government initiatives and need for restructuring policy framework for the smooth functioning of the zones.

PHD Chamber (2015) [46] analyzes the evolution of Special Economic Zones in India; the study notices SEZ units and developers faced many challenges and problems with respect to procedural complications, burdensome land acquisition procedures, higher tax rates etc. A survey is conducted by the study to understand the efficiency of the operating zones from SEZs unit's perspective which covers the overall efficiency, need for necessary modification in the existing SEZ policies and the other issues related to units and developers. The study finds that SEZ units and developers have become doubtful about the benefits, incentives and other economic advantages. And reports that operating in domestic tariff area is more beneficial when compared with functioning within zones due to the withdrawal of exemption for Minimum Alternative Tax (MAT) and Dividend Distribution Tax (DDT). The signing of more Free Trade Agreements by the Government of India in recent times has enabled the Indian industries; especially in the export sector permitting to import duty-free imports for production is also reported as a disadvantage for SEZ units. Hence most of the Zone developers and units reported the insignificance of export benefits for the Special Economic Zones in India.

Chandrachud (2013) [47] notes briefly about the history and establishing objectives of Special Economic Zones in the Indian context, salient features of the Special Economic Zone Act 2005, and how it facilitated the economic development in the country. Study details the state-wise and sector-wise break up SEZs in India and reports Andhra Pradesh, Uttar Pradesh, Karnataka, and Gujarat has the highest number of notified SEZs and Sectors like IT/ITES, Biotechnology, petrochemical, Textiles and garments and Gem and jewelry which have significant share in the zone regime. The study concludes that SEZs can be considered as a vital mechanism to attain economic development through its various economic tools like Export, Employment, and Investment.

Kundra (2000) [48] in his study on the performance of the Indian Export Zones in comparison with the Chinese approach observes that the Indian SEZ concept was inspired by the Chinese model of zone development. The study discusses two basic questions such as what is so special about Chinese Special Economic Zones and why Indian Export Processing Zones did not perform like Chinese zones. The study tried to answer these questions through policies on foreign direct investment by India and China. The research paper suggests that India should set up large sized economic zones with the wider scope of activities following the Chinese pattern. The study suggests establishing such zones in suitable locations with necessary infrastructure facilities and hassle-free operational environment.

An introductory article on Indian SEZs by Dohrmann (2008) [49] describes the salient features of zones in India. The paper primarily deals with the various steps involved in establishing an SEZ in India. The next part of the article discussed the legal framework of SEZ in India and reported that since the Government of India wanted to promote its investor-friendly policy, the SEZ

rule was enacted to provide a comprehensive channel to satisfy the requirements of all investors, operators, external suppliers, and workers in the system. Further, the study critically evaluates the scenario where farmers experienced the dispossession of their land and attempts of political parties to exploit the plight of farmers for their political advantages. The case study of controversies occurred at Nandigram in West Bengal due to the dispossession of agricultural land and the consequences of the incident are evaluated too. It condemns the policymakers for such controversies and postulated the need for policy implications for not repeating such incidents.

India introduced SEZ programme to boost economic growth through outward-looking approach. The study conducted by Rajan (2006) [50] tried to evaluate, whether the concept of Special Economic Zones are good for the country or not. The export performances of the Indian zones were evaluated in the study as the share of zone exports in total exports of the country. Further, the foreign direct investment and employment generation created by zones were also analyzed in the study. Even after the implementation of the SEZ schemes and provisions of incentives and other tax-free facilities, the SEZ scheme in India is found to be a failure during the five years after its implementation.

FICCI (2002) [51] analyzes the growth driving potential of SEZs in India, in its theme paper presented at international convention on Special Economic Zone. FICCI discussed the economic rationale and international experience of SEZs by analyzing its background in selected countries. The study examined the role of international organizations like World Bank, United Nations Industrial Development Organization (UNIDO), International Labour Organization (ILO), United Nations Conference on Trade and Development (UNCTAD) and World Export Processing Zone Association (WEPZA) in

promoting the concept of Free Zones around the world. Studies by these institutions on cost-benefit analysis, advantages of zones and suggestions for better labour policies have greatly contributed in legitimizing the concept of SEZs. Indian Zone policy and its characteristics are discussed in the concluding part of the paper. The study established the need for reduction in the cost of infrastructure creation, relaxed labour laws and special order riding laws at central and state level as necessary for the successful implementation of SEZ regime in India.

A macro-level review of zones in selected cities was conducted by Bhikshu (2010) [52] in his study on ‘SEZ in India, expanding counters’. Bhikshu observes that SEZs are the way forward for export-led companies planning to expand their business to India. The study evaluates the impact of the recession in 2008 on the SEZ performances and concluded those only protective states, suitable locations, the right format of zones and capable developers survived the recession. States like Karnataka, Gujarat, Maharashtra, Andhra Pradesh and Tamil Nadu have promoted the zone regime than other states. The study also focuses on the sector-wise performance of the zones and reported that along with IT/ITES sectors, other multi-product zones with pharmaceutical, electronics, and engineering goods has to be promoted. Cities like Bengaluru, Delhi, Hyderabad, and Pune should be active with IT/ITES sector to satisfy the occupational demand from surrounding regions. While Coastal Cities like Mumbai and Chennai, with zone locations away from city centers, should promote manufacturing units for export promotions.

Depending on the development strategy of the host country and their economic relations with other countries, the role of zones has widely varied. Morris (2007) [53] observes that zone strategies have also varied depending on

the trade policies, especially when the host country is not industrialized. The study argues that India was not able to make the most out of SEZ programme initially since the macroeconomic policies were biased against exports. It also tries to understand the role and evolution of SEZ in different countries in relation to their trade policies which helped the study to suggest that Indian trade policies should be favorable to improve export in order to gain much from the zone regime. Dhawan (2011) [54] analyzes the role of SEZ in improving the investment, employment and export conditions in India. With empirical analysis, study postulates that these economic objectives were achieved to a certain extent. Paper suggests policy implications like provision for more labour flexibility, reduction of sector caps and to promote SEZ in key sectors to boost investment environment in the country.

The effectiveness of Special Economic Zone over Export Processing Zone structure after the implementation of SEZ Scheme in 2000 is compared by Tantri (2010) [55]. The study divides the performance evaluation into EPZ scheme before 2000 and SEZs scheme after the implementation of SEZ policies in 2000. Hence establishes that during SEZ period exports have increased considerably and a positive balance of trade was maintained compared to the EPZ period. It concludes with empirical evidence that the SEZs are growing considerably in India after 2005 onwards and the economic contributions of them are also found positive majorly due to the incentives and liberal policies listed in the SEZ Act. .

The key reasons responsible for the development of Special Economic Zones in India is evaluated by Singala (2011) [56] where he tries to assess the benefits of different monetary and non-monetary exemptions provided under the SEZ scheme. Based on previous researches, the study emphasizes the need for

promoting SEZ for the acceleration of exports, investment, and for the creation additional employment opportunities. The levels of regional development, social concerns associated with the zone development and land acquisition issues related to it are also assessed in the study. The power generation and distribution issues, and the lack of coordination between and Central/State government official were found to be the major issues associated with the operation of SEZ in India. It supports the need to protect the agricultural land from acquisition for SEZ operations in order to support the farmers.

The role of Special Economic Zones in the development of Indian industrial sector is assessed by Khan and Varshney (2012) [57], the study has given a brief account of the reasons behind the establishments of SEZs in India. The tangible and intangible benefits of zones in India are measured and argue that these two benefits are capable to fuel the process of economic development of India. Further the study postulates, developmental efforts of zones were carried out through foreign investments, technology upgrading and skill transfer from investing countries. Outdated methods and technologies in production process were found to be the major obstacle associated with the economic growth of developing countries. The study concludes that if the policy framework and the administrative mechanisms were properly reviewed, the zones can enhance the economic development of the country.

The theoretical aspects of Special Economic Zones in India were analyzed by Balasubramaniam (2013) [58], the study briefly discusses the trajectory of zone development in India followed by different policy and legislative measures formulated for the smooth operations of zones in India. The paper notes on the need for adequate policy support and lucrative incentive programmes to zone developers in order to boost their confidence. Further,

observes that the SEZs assisted the Indian economy to boost its exports and employment generation. But also denounces the liberal labour laws which permitted the zones units to hire and fire the workforce as per their requirements, criticizes unfavorable working conditions and issues related to women workers in the zone units. The fiscal revenue laws, tax loss debates, and ambiguous land acquisition policies also needed to be reviewed for the proper functioning of the SEZ in the Indian context.

Sanchal foundation (2008) [59] examines the actual performance of selected SEZs in India against their objectives, in the light of the argument that Chinese zones have manipulated their report on FDI and Exports. Foundation conducts this study to obtain factual data about selected samples of zones to draw the conclusion based on these reports. The study was conducted among Falta, Jaipur, Vishakhapatnam, Kandla and Manesar zones. The basic objectives of the study were to compare the achievements of the operational SEZs against their establishing objectives, in terms of private investment, regional development, export benefits, additional employment opportunities, revenue generation effects, infrastructural improvements and environmental management. The study notes that the older SEZs established by the Government of India has generated a significant amount of investment both at domestic and foreign levels, than the private zones. The number of units in the Central government SEZs was found higher than the private/State-owned SEZs. The export volumes and employment generation of the Central Government zones found much greater than other SEZs. Study denounces the fact that there were no reports from any of the zones regarding the job protection or social security measure provided to the employees.

Mukherji (2008) [60] describes the evolution of Indian Special Economic Zones in his research entitled ‘SEZs in India, Recent Developments and Future Prospects’, it describes the SEZs as industrial townships with commercial units, which enjoys the tax benefits and other incentives for the export-oriented production of goods and services. The motive behind the implementation of SEZs in India is considered as the attempt made by the Indian Government to inspire the domestic and international investors towards export-oriented activities. The tax concessions and other incentives provided to the zone developers under SEZ Act have played a vital role in attracting foreign investment in areas such as hardware, apparels, leather products and electronics which would have been normally gone to other Asian countries in the absence of these benefits. The study also concludes that single window clearance system has cleared numerous regulatory bottlenecks in the investment process.

Various studies on Indian Special Economic Zones have been reviewed above, most of the studies undoubtedly agreed Special Economic Zones can be used as an engine of growth in an Indian perspective. Following the Chinese model of zone development has satisfactorily benefited the Indian economy. Zones regime has helped the nation to achieve economic development through various elements. Export has remarkably increased after the implementation of SEZ regime; investments from both foreign and domestic sectors have also mobilized to satisfactory levels. Studies noted that although zones were successful in providing ample employment opportunities, the quality of work has been compromised in many zones. Infrastructure quality is also improved under the zone regime leading to regional economic and social development.

Many studies also postulated suggestions to improve the SEZ policies to attain its establishing objectives and the Government of India has made SEZ Rule amendments in 2013 to include many of these suggestions. The liberalized labour rules, lack of job security and deteriorated working conditions in SEZs stand as a threat to the working class of India. Regional disparities in the establishments of zones is another issue to be noted because a balanced regional development cannot be achieved under such scenario. Acquisition of farmland is another major issue associated with zone operations in India. Many studies have severely condemned the attempts of the governments to grab farmland from farmers without adequate compensation packages and suggested for policy restructuring on various matters concerning the SEZ operations in India. Considering all these cost and benefits associated with the zone operations in India, the concept is recommended in with adequate modifications. An attempt from the government is also required to provide more facilities and incentives to the SEZ units to continue their operations under SEZ regime.

2.3 Special Economic Zones and Indian Exports

Promotion of export is considered as one of the major objectives behind the setting up of Special Economic Zones and India has been experiencing export acceleration through Free Zones since 1965 when India established the first Free Zone in Kandla, Gujarat. The objectives of SEZs were not clearly defined in India till 1980's, and the primary condition in allowing zone units was expected as value-added components of exports. But the report of 'Comptroller and Auditor General of India' in 1989 described that zone are meant for developing export-oriented industries, to promote foreign trade and foreign exchange earnings, generate additional employment opportunities and to create an environment conducive for production of goods and services for exports. The SEZ Act and SEZ Rule also emphasized the export promoter role

of SEZ in India. There has been a steady growth of exports from SEZ in India after 2005, implies that the export promotion efforts of the Government through SEZ operation were successful.

The import substitution strategy of countries in the post-war period occupied the center stage of economic thinking, which eventually led to economic development through export promotions. Later in 1960's inward-looking policies became insignificant and slowly embraced selective import liberalization. In this context, many Asian countries like China and Sri Lanka have opened up their economies in the late 70's, followed by India embracing the liberalization measures and comprehensive economic reforms in 1991. During the transition from the closed economy to open economy, a number of measures have been taken to promote exports in order to achieve its objectives of attracting foreign investment and acceleration of international trade. Establishment of Export processing zones was one of the key measures taken by the government to achieve these objectives. SEZs also served as a mechanism to generate the initial push in economies towards their transition to outward oriented business focus. The success free zones to achieve their establishing objectives varied depending on the policy framework, administrative mechanism and economic environment in the country.

The export growth of SEZ in India was very limited till the 2000s. The enactment of SEZ Scheme 2000 and SEZ rules 2005, provided special incentives and other benefits to zone developers which have generated considerable progress in zone establishments and improving Indian exports. Aggarwal (2004) [61] studies the export performance of Free Zones in India in its initial phase. The study covers the export performance of eight SEZs in India. Wherein gross exports, gross exports per unit of employment, net exports and

value addition of exports indicators were used to analyze the export performance of zones. Further it observes that the gross SEZ exports registered a remarkable growth rate during the period 1966-2002. To analyze the export performance in relative terms the study has compared the share of zone exports in the total manufactured exports of India and finds that share of zone exports in total exports and manufactured exports increased from 0.7% and 0.14% in 1973 to 4.3 % and 5.6% respectively in 2001. Hence zone export has increased at a faster rate than manufactured exports. Although gross exports, foreign exchange earnings, and employment increased considerably in absolute terms, their growth rate declined significantly. The study also testifies that growth in exports per unit of employment has also declined to represent deterioration in the zone export performance. This study also discusses the role of zones in promoting the non-traditional sectors in the country and established that mainly sectors such as gem and jewelry and electronics has dominated in the zones. The study concludes that if reports of various committees established to improve export performance of the zones were efficiently executed, the performance of the zones could have been improved. The committees suggested recommendations on incentive packages, development of infrastructure and quality improvements in SEZ governance.

Dave (2012) [62] focuses on the growth and contribution of Special Economic Zones on Indian exports and evaluates the performance of various zones in India. The study observes that SEZs are exporting wide varieties of products and services such as agricultural and food products, electronics, engineering goods, chemical / allied products, textiles/garments, gem/jewelry, plastic/rubber products, information technology services, banking and other financial services. The study suggests policy implications on diversification of zone sectors to widen the directions of exports to various countries. It also finds

an encouraging growth of export from SEZs from 9.5 percent in 2002 to 52.3 percent in 2006, the total share of SEZs in national exports are also increased from 4.2 percent to 4.8 over the same period. The study concludes that development of more zones in various parts of the country will result in remarkable improvements in the export sector.

Millath and Thowseaf (2016) [63] analyze the export performance of Special Economic Zones and its economic contributions, this study notes that although SEZ operations in India is extended to 15 states, only a few states are actively promoting zone operations. It reports that since 2006, zones exhibited increment in the export value until 2013. The export performance in value terms was remarkable until 2010 and after that, the performance was steadily linear. Overall, the contribution percent of zone's exports with respect to India's total exports has been improving every year. The state-wise export from SEZs was evaluated too. Gujarat is contributing 46.5 per cent of the zone's total export values followed by Tamil Nadu, Maharashtra, and Karnataka. The study notes that various states are underperforming in their zone operations and promotions, and suggests State governments to actively promote zone operations to overcome its regional economic disparities.

Kundra (2000) evaluates that although the Indian EXIM policy was export-friendly, lack of adequate infrastructure facilities and ineffective operational blockages hindered the economy to reap the full benefits of EPZ scheme. The study notes that Indian EPZ policies were inspired by the success stories of Chinese EPZs which have had a vital role in promoting China's economic development by promoting exports, attracting investment and creating job opportunities. The study conducts a comparative analysis of the performance of Export Processing Zones in India and China. The performance of the Indian

EPZs was not as expected until the liberalizations but the SEZ policy regime has strengthened the performance of the zones in India to generate higher volumes of export but not as expected. Later the study also tries to assess the major reasons for the underperformance of Indian Export Processing Zones, especially on exports. Unlike the Chinese, Indian zone policy failed to provide a comprehensive package to facilitate the full utilization of Export Processing Zones. The study also suggests to assign more powers to the state governments with regards to the zone operations and benefits and incentives provided to the zones should be directly linked to the exports.

Shah (2009) claims the government of India has visualized Special Economic Zones as the impending source for boosting Indian exports. This study evaluates the export performance of Export Oriented Units (EOU) and Special Economic Zones in India from 1992-93 to 2005-06. The study notes exports from SEZs have grown considerably over the period of study. SEZs exports in value term have made 50 fold rise over the period 1992 to 2007. While the export value of Export Oriented Units has made 16 fold rise in export values over the same period and argues that Special Economic Zones created a better export promoting environment than the Export Oriented Units. It also notes a major increase in the value of exports from Special Economic Zones since the enactment of SEZ Act 2005 which was evident from the fact that value of exports from SEZs has increased by 56 per cent from 2005 to 2007 and 93 per cent from 2007 to 2008. The study also postulates that although the value of exports from zones has increased remarkably, it only constituted less than 6 per cent of total exports of India in value terms. The study recommends for sufficient infrastructure development and adequate investments to generate a real boost to Indian exports from SEZs in the future.

Studies observe although there has been an improvement in volume and qualities of traditional sector SEZ Exports, the efforts to boost the non-traditional sectors were limited. Researchers like Farole (2011), Haywood (2000) observes the role of zones to catalyst modern sectors like Information Technology, banking, and services. Boyenge (2007) [64] views Singapore Special Export Zones are classic examples on attracting investment into modern sectors such as financial, service and software sectors. Mukherjee (2015) [65] argues countries like Peoples Republic of China, Philippians, United Arab Emirates (UAE) are concentrating on free zones for Service and IT sectors. The study discusses that Indian economic growth during the 2000's has been driven by the service, tourism, and information technology sector and India have a positive trade balance in service sector against the manufacturing sector. The study also notes the significant volumes of foreign investments in the service sector and argues, it is reasonable to establish more zones in the service sector to enhance export and employment opportunities in India. Aggarwal (2004) discusses that service sector plays an important role in the empowerment of manufacturing sectors and in establishing global value chains. Hence there should be policy restructuring to promote the non-traditional exports through SEZ operations from the country too.

Although the performance of export in absolute terms from Special Economic Zones is promising, it cannot be taken as the single indicator to assess the performance of SEZs, due to two reasons, argues Tantri (2014) [66]. The first reason is the increase in the value of SEZs exports can be due to the significant increase in the world prices for products and services, which can tend to show a substantial increase in the export values in real terms. Secondly, if the increase in the export value is accompanied by an equal increase in imports value then in practically Special Economic Zones might not actually provide a

substantial increase in net foreign exchange earnings (NFEE). The study provides empirical evidence to support this argument by providing earlier study details of the researcher on seven conventional SEZs in India and argues that there is little hope to rely on the absolute increase in exports as a yardstick of zone performance. The study suggests the increment in the exports values from Special Economic Zones could have been due to the shift of production from Domestic Tariff Area to the Zones since the later provides enormous incentives and benefits to export-oriented production activities. Hence the study advocates edifying the capacity of the SEZ policy to promote a well-diversified and strong industrial base. The diversified export products mean the diversified export markets which have the potential to curb the impacts of international volatility. The study further analyzes the sector-wise distribution of formally approved zones and proved IT/ITES and electronics industry units have received maximum approvals in India, and argue this could be due to the reallocation of investment from Domestic Tariff Area to Special Economic Zones. This points out that although the SEZ policy was enacted to promote the industrial base of the country and to diversify its product basket, the government, however, failed to uphold its establishing objectives of diversified exports.

Tamilselvi (2015) [67] notes the export performance of zones and reports that there has been an incredible growth of exports in 2009 with 121 per cent growth rate. Even after 2009 export growth rate was increasing but at a slower rate. Further, the study discusses that share of zone exports in Indian exports was 4 per cent in 2004 and increased to 26 per cent in 2009. The study recommends that government should streamline the SEZ policies and administrative mechanism to address the operational difficulties faced by SEZs. And if properly implemented SEZs can play an important role to facilitate exports, investment, and employment in India.

Indian Brand Equity Foundation (2013) [68] conducts the study on the role of Special Economic Zones in the Indian Manufacturing Industry. It notes that 30 percent of the operational SEZs were related to manufacturing goods which significantly dominated in Indian exports from SEZs. The study reports that various manufacturing sectors in Special Economic Zones such as hardware, apparel, leather, shoes, textile and garments, jute, ceramic, rubber and plastic would have headed to other Asian destinations in the absence of SEZs. Further, the study assesses the role of SEZ in facilitating exports. The exports from SEZs increased to a compound annual growth rate of 59 percent during the period 2006-2012 and the annual growth rate in 2012 was 15 per cent out of which 61.7 per cent was contributed from manufacturing sectors. And 92.4 per cent of the exports from central government Special Economic Zones were constituted from the manufacturing sector during 2011.

The above reviewed literature, focused on the export performance of the Indian Special Economic Zones, has given different perspectives on SEZ exports. Although exports did not show up as expected, most of the studies unanimously argued that the Special Economic Zone programmes introduced in the mid-sixties have generated extra volumes of exports from India. To further accelerate the exports from the Indian zones government implemented Special Economic Zone Policy in 2000 followed by SEZ Act and SEZ Rules in 2005 and 2006 respectively. Empirical evidence from above studies shows that exports from Indian zones have considerably increased after the enactment of these policy frameworks. Many researchers also pointed out that exports from manufacturing sector have grown remarkably and a major portion of the zone exports was contributed from manufacturing sectors and emphasized on the establishments of more sector-based manufacturing zones in India. Meanwhile few studies pointed out the need to promote service sector in SEZs since it is

more futuristic. They note that the services like banking, information technology, and other associated services, business process outsourcing, and other financial services has to be encouraged in the zone operations. Finally, studies suggest for policy recommendations for a comprehensive restructuring of Special Economic Zone policies since many monetary and non-monetary benefits available to the SEZ units are extended to the firms working in the domestic tariff area. In the light of these arguments, this study tries to evaluate the export performance and the sectoral concentration of exports from CSEZ as there were not many existing studies on the export performance of Cochin Special Economic Zones.

2.4 Employment in Indian Special Economic Zones

The Government of India established first Free Zone in 1965, and then onwards zones were considered as an instrument to extend employment opportunities in the country. In 1980's may more zones were founded by government in various parts of the country keeping in mind the objective of generation of employment opportunities along with other objectives. The enactment of SEZ Act in 2005 has created a sudden burst in the number of Special Economic Zones in India. Over the few decades, employment in zones has leaped from few thousands to millions in India. No doubt, setting up of zones will generate additional employment opportunities but many studies put forth apprehensions about the working conditions, labour standards and employee welfare issues associated with the zone regime.

Arunachalam (2008) [69] narrates that the introduction of Special Economic Zones would result in the generation of three million jobs in few years. Study discusses that zones in the country provide thousands of people with their livelihood, and evaluates the case of Kandla Special Economic Zone

when it became operational, it had only 70 employees but now over one lakh people work in more than 900 units. As the number of zones increases many lakhs of employment opportunities are expected. Also, there will be more economic activities as a result of the ripple effects of these job opportunities. The study explains the efficiency of job creation by providing case studies of Nokia and Flextronics Electronics Hardware SEZ in Tamil Nadu which provides employment opportunities to thousands of people and majority of them are women. Hyderabad Gem SEZ employed more than 1250 girls majority of them are from landless families, cases of Apache SEZ, Brandix SEZ were analyzed and expected to provide 12.5 lakh employment opportunities etc. Hence the study suggested establishments of SEZs would promote the development of labor-intensive manufacturing and service sectors in the country. The promises of the cheap workforce and hassle-free business environment under SEZ regime would tend the developers to employ extensive contract workers with flexible hiring and firing policies in order to avoid costs like maternity and other social security benefits.

Reddy, et. al, (2010) [70] in his study about employment generation efforts of SEZs in South India, explains the intra-regional and intra-state distribution of employment in different sectors of the zones. Out of the employment generated by the zones on the national basis, IT/ITES generated a considerable portion of employment of 46 per cent, followed by multi-product zones and service sector zones with 28 per cent and 22 per cent respectively. The study notes that the pharmaceutical and biotechnology zones have generated only less than 5 per cent of employment. But in case of southern India, about 62 per cent of the employment is contributed by IT/ITES sector followed by multi products and another category of zones. The research also discusses the intrastate employment generated by the zones and found that

IT/ITES zones have contributed the majority of zone employments in Kerala, Karnataka and Tamil Nadu followed by multi-product zones. The pharmaceutical and biotech zones in the southern region have generated 25 per cent of the total employment generated by pharmaceutical and biotech zones in the country. Multi-product SEZs in the southern region have generated only 9 per cent of the total multi-product zones employment in India. Out of the total employment generated by zones in India, 41 percent of employment is generated from southern states and across the states in the southern region, Tamil Nadu stands first with 20 per cent followed by Karnataka and Andhra Pradesh. The study concludes by providing observation as employment generated by southern zone is highly technical and service oriented. As a result, these zones have provided employment opportunities only to highly educated and skilled employees. Hence the semi-skilled and unskilled local workers were displaced due to the establishments of zones as they were not employed in the zones. In order to generate employment opportunities to these workforces study recommended to the central government to establish manufacturing type of SEZs

Sharma (2009) [71] notices that many of the Special Economic Zones established in India after the SEZ act 2005 were associated with IT/ITES activities. Although IT/ITES zones dominate in sectoral composition, they occupy small share in the area under SEZs. But IT/ITES zones are found to generate greater volumes of employment as compared to other sectors. And such zone are found mostly in cities like Delhi, Hyderabad and Pune which are close to urban centers hence mostly providing employment opportunities to urban educated peoples.

Aggarwal (2007) discusses the impact of Special Economic Zones on employment, human development and poverty reduction in India. The study tries to identify three channels through which SEZs address these issues. The channels formulated in the study were employment generations, skill formation, and technology upgradation and it was evaluated how these channels are impacted through zone operations. The study was carried out using primary survey on developers and employees of three selected zones such as Noida SEZ, SEEPZ SEZ, and Madras SEZ. These were the leading zones on account of employment generation and export promotion during the period of the study. The study also focused on the degree of women empowerment through establishments of Special Economic Zones. Paper examines the sectoral and economic composition of zone activities in India and finds that labour intensive, skill intensive and technology-intensive firms exist in India, and further explains employment generation, skill formation and technology upgradation which are equally important in the Indian scenario. The study also analyzes that the role of SEZ in human development and technology upgradation and reports that these efforts are found to be limited. Finally, the study point out the potentials of Special Economic Zones is not fully utilized in India mainly due to the limited achievement of zones in attracting investment and promotion of exports.

ILO (2003) [72] analyzes the employment and social policy with respect to Special Economic Zones, and reports that the export-led industrialization was highly female intensive. Empirical evidence proved that no developing country has ever increased manufacturing exports without being female intensive. ILO argues that zones have created a significant platform for young women to have formal employment opportunities at better economic environment than traditional agricultural and domestic sectors. A surprising fact being unveiled in this study is that women constitute the majority of the workforce in most of the

existing zones, reaching up to 90 per cent in some zones. But a cause of alarm is recorded that as the nature of the zones evolve to higher technologies, the gender profile is bound to change favoring the male workforce. The study concludes with the policy implications such as strong labour-management relations which is a necessity for the success of Special Economic Zones. Strong and independent workers' associations have a major role to play in establishing workplace relations, helpful in improving working conditions, competitiveness, and labour productivity.

Although the generation of employment is an important objective of SEZ establishments, critical assessments need to be done as on what type of job opportunities are created, the nature and quality of the jobs and the labour practices in SEZs. Many studies have discussed about the labour exploitations in Special Economic Zones, Murayama and Yokota (2009) [73] analyze the existence of labour exploitations in SEZs comparing zones in India, Bangladesh, and Korea. The study finds that wage rates and working conditions in Indian zones are equal or better than domestic tariff area. The study also establishes the existence of malpractices such as the existence of a large number of unrecorded workers on company payrolls, unavailability of health insurance or provident funds, hiring and firing practices etc. compulsory overtime is found in many zones due to high production targets. It further comments that the attempts to organize the workers were discouraged by the unit managers and zone authorities. The responsibility for workplace dispute resolution within each zones are vested with the development commissioner. This arrangement tends to function unfavorably against workers interest. The study strongly suggests further relaxation in labour laws will be severely detrimental to workers who are already in a disadvantageous position.

Rama (2001) [74] discussed the impact of globalization on workers in developing countries and viewed SEZ as powerful engines of employment generation. The paper reports the contribution of zones in employment creation is outstanding in many countries such as Mauritius, China, Dominican Republic and many Asian countries. But the jobs in zones are not good as the protected jobs in public sector due to flexible labour laws, minimal governmental inspections, the absence of minimum wage acts and opposition to unionization. So these jobs are less secure as formal jobs existing outside the zone. With regard to the working conditions and wages, it varies significantly depending on the size, nationality, type of production, labour market conditions and zone governing policies. Majority of jobs provided by zones are held by women in Caribbean Islands, Philippines, and China with lower dexterity levels.

Madani (1999) reports the reasons to employ more women in zones are said to be more focused and diligent. Since there is tendency for young women to get married and leave jobs after few years, they tend not to join trade unions. Lastly, women are expected to pay less than men for the same jobs. Madani also argued that despite their lower pay, women are the unintended beneficiaries from the formation of free zones. Narang (2015) [75] evaluated the role of Special Economic Zones on women empowerment in India. He notes that unlike the experiences of many other countries, the proportion of women workers in total zone employment was never been considerably large in India. The proportion of women workers in zones were more than 70 percent in many of the developing countries but it was only less than 50 percent in India. The proportion of female worker in central government SEZs and state government/private zones were 36 per cent and 35 per cent respectively in 2008. Among the central government SEZs, the highest proportion of women workers was in Madras Special Economic Zone with 56 per cent. In state government/private

SEZs, the highest proportion of women workers was found in Mahindra City SEZ, which is a textile and garment sector specific zone. In accordance with the nature of industrial units and production activities, there are variations in the proportion of women employment in zones, the proportion would be higher in sectors like garments, electronics, and IT/ITES sectors. The study suggests that government to restructure the SEZ policy to promote the development of large employment generating zones.

To analytically evaluate the legal regime concerning labour in Special Economic Zones in India Singh (2012) [76] discusses the formal status of law associated with zones and found that there existed little difference between legal regime concerning labour within and outside zones. But upon a closer observation, the study found the regime of labour management in zones was oriented towards the non-implementation of existing laws. The study supports the argument that labour laws are poorly implemented in zones since the Indian SEZ policies are structured to promote the non-implementation of laws. The study strongly suggests that SEZs labour policies should be formulated in a way that both developer and producer interests are adequately balanced, laws should allow SEZ developers to be more flexible backed by social security provisions and labour right protection legislatures.

Many studies argued that Special Economic Zones in India have triggered immense controversies as they have been virtually exempted from labour legislation which resulted in the violation of human rights. These controversies have hindered their successful execution posing serious ambiguities about zones future prospects. Studies made by Patkar (2009) [77], Special Exploiting Zones, Mitra (2007) [78], SEZs Race Horses or White Elephants, Bose (2007) [79], Neoliberal Enclosures in India, Menon (2010) [80]

as SEZs: Boon or Disaster, have severely criticized the Indian Special Economic Zones on their labour rights violations, poor working conditions and many other grounds.

Gupta (2009) [81] argued that Special Economic Zones commonly represents the interests of entrepreneurs, private investors, land developers and policymakers who stood with the government's initiative of liberalizing international trade through the establishment of SEZs. The study critically evaluates the labour policies of SEZ regime and argues the competitive nature of the Indian industry as likely to be endangered by SEZs as every investor wants to move to SEZs to avail maximum advantages at minimum cost, leaving out small and medium entrepreneurs as most vulnerable in the market.

Iyer (2008) [82] states, as per section 20 of the SEZ Act, the government can entrust a particular agency to conduct inspections of Special Economic Zone units to ensure compliance with labour laws. The periodic inspections of the units that are supposed to be made by Factory Inspector under the Factories Act and Employees State Act will now be conducted by the particular agency which has no binding force under the Factories Act; hence no penal action can be taken against the units for violation of labour rights, industrial accidents or occupational hazards. The study criticized the efforts of multinational corporations to exercise their collective bargaining power to pressure national governments to implement business-friendly environment by liberal labour policies.

Halim (2009) [83] aims to highlight the impact of Special Economic Zones on the livelihood of common people. The study analyzes the efficiency of SEZs to address the issue of unemployment in the Asian region and found zones

are significantly contributing to the employment generation in this region. But the quality and sustainability of job opportunities provided by the zones were critically evaluated in the study. The study doubts how far, zone jobs would contribute to reducing the unemployment level. The main attraction of the foreign investors in countries like India is the availability of cheap labour. Hence the jobs created in zones are sector specific, low skilled and seasonal in nature. Women constitute the majority of the cheap labour force in zones and they are normally unskilled or semi-skilled, employed mostly in labor-intensive industries like clothing, footwear, and electronic component assembly. Halim describes the health standards of workers as very poor and that safety regulations are not properly followed. The study also criticizes the occurrence of labour rights violations, restriction of trade union activities, the absence of minimum wages, pathetic working conditions and labour exploitations of workers in zones, especially among women workers.

Above reviews empirically analyzed the capacity of Special Economic Zones in generating employment opportunities in India and acknowledged it as a device to solve India's severe unemployment problems. But the issues associated with the employment generation in zones such as the hire and fire policy, liberal labour legislation, poor working conditions were the primary ones that have to be rectified under zone regime. Many critics argued that zones are exploiting the working class through poor working conditions, the absence of trade union, lack of job security and low skilled jobs. These studies strongly demanded policy restructuring to protect the welfare of the working class. There has been not been many studies on the direct employment generated by SEZs, the sectoral composition of the employment in Kerala, the working conditions and employment benefits provided to the zone workers. In the light of the above reviews, this research is an attempt to evaluate the direct employment effects of

Cochin Special Economic Zone and the major thrust is given to the level of women employment and working conditions existing in CSEZ.

2.5 Special Economic Zones and Infrastructure Facilities

Special Economic Zones ensure better business environment by providing major advantages over the domestic tariff area in terms of infrastructure facilities and hassle-free governance. Many studies observed that absence of adequate infrastructure facilities was the major hindrance to economic development in developing countries and this issue can be resolved through the establishment of Special Economic Zones. The zones normally provide with better facilities and business environment to foreign investors, which will create spillover effect to the rest of the economy in long run. Since countrywide infrastructure development requires massive investment and time, the creation of enclaves like SEZs, with high-quality infrastructure is considered as a strategy to boost economic activities in developing countries. Previous studies on the infrastructure aspects of Special Economic Zones are limited, especially in Indian context. The available literature are reviewed to understand the quality of infrastructure and other provisions under the SEZ scheme.

Aggarwal (2004) studies the micro aspects of investment climate offered by the zones like the quality of governance and physical and financial infrastructure. The study covers the infrastructure facilities of eight operational zones in India, through discussions about the facilities and provisions of zones with managers and entrepreneurs. Regarding the subsidies, zones have provided subsidized land and rent on buildings, but utilities such as electricity, telecommunication, and water are provided at a normal rate. Further, the study observes that infrastructure within the zones are generally superior to that available outside the zone and only Cochin and Madras zones were found to

have water purifiers and effluent treatment plant. Unit managers have complained about the facilities such as the poor roads within and outside the zones, poor street light, security, inadequate waste disposal facilities, scarcity of water, poor banking facilities and poor communication facilities etc. Study further note that the financial infrastructure and social utilities provided by the zones are also not convincing either. Regarding the quality of the governance, study reports, over 40 per cent of the respondents stated that accessibility to SEZ incentives was difficult and had long delays in bureaucratic decision makings. The post establishment services were also not found to be good in the study. Hence Aggarwal suggests government must focus on creating conducive environment by rapidly developing modern and world-class infrastructure within zones.

The quality of the infrastructure and the governance is evaluated by Nideesh (2013) [84], for exploring various contributing factors towards the performance of the Special Economic Zone, the study attempts to evaluate the effectiveness of various incentive schemes and facilities offered by zone. The study states that quality of the infrastructure facilities provided by the zones are one of the major factors determining the regional development of the zone vicinity.

Malar (2009) [85] examines the availability of necessary infrastructure facilities for hassle-free operation of Madras Special Economic Zone, through collecting primary data from unit managers. The questions like satisfaction level on infrastructure facilities provided by the zone and the allocation of Standard Design Factories were addressed in the study. The paper concludes that Madras SEZ is offering built up factory spaces to exporters for low cost and majority of the respondents were satisfied with the facilities and incentives provided by the

zones. The study put forwarded suggestions to improve warehousing, water management and transportation facilities of the Zones.

The above studies have given varying reports about the quality of the infrastructure facilities provided by the zones. The earlier study made by Aggarwal (2004) argues that there is room for improvements for the facilities offered by zones in India. Improvements to financial and physical infrastructure were highly recommended by Aggarwal. But later studies reported that the quality of the zone infrastructure and other facilities are gradually improving. The zone administrative mechanism is found good in recent times while the quality of many physical infrastructures was still found inadequate. The quality of the infrastructure facilities plays a key role in determining the success of the zones. Hence the present study makes an attempt to study the quality of the infrastructure and other facilities provided by the CSEZ.

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SPECIAL ECONOMIC ZONES - AN INTERNATIONAL PERSPECTIVE

- 3.1 *The Current Status of Special Economic Zones*
- 3.2 *History of Special Economic Zones*
- 3.3 *Major Trends in Zone Development*
- 3.4 *Evolution of Special Economic Zones*
- 3.5 *Types of Free Zones*
- 3.6 *Theoretical Approaches to Special Economic Zones*
- 3.7 *International Experiences of Special Economic Zones*

Over the years, there has been a lot of changes in the zone operations and approaches globally, this shift is evident in establishing objectives to trade patterns of zones. In the light of these changes, this chapter tries to understand the history and evolution of SEZs, various types of SEZs, theoretical approaches to zones, major trends in zone development and the SEZ experiences of different regions of the world.

3.1 The Current Status of Special Economic Zones

Special Economic Zones were originally established to promote international trade and acceleration of additional economic activities. According to FIAS (2008) modern Special Economic Zones, in a generic term incorporates; *geographically delimited area, usually physically fenced-in with single management provided with eligibility for benefits based on physical location within the zone which has separate customs area and exclusive procedures.*

Modern Governments target to diversify and increase the export basket while maintaining protective barriers. SEZs were given more efficient supervision, administration mechanisms and experimental policies to generate additional economic activities. The number of SEZs has rapidly grown in the past 40 years. According to International Labour Organization database, in 1975 the number of SEZs were 79, operating in 25 countries but by 1986 number has increased to 176 Free Zones in 47 countries which have further grown to 3500 zones in 130 countries providing 66 million job opportunities by 2006. In 2015, there were approximately 4,500 Special Economic Zones in 140 countries employing around 68 million people in the world (The Economist, 2015) [86].

Table 3.1 : Global Distribution of Free Zones

Particulars	1975	1986	1997	2002	2006	2015
Number of Countries with EPZs	25	47	93	116	130	140
Number of Zones	79	176	845	3000	3500	4000
Number of employment generated in Zones*	n.a	n.a	22.5	43	66	68

Source: Boynage (2007), The Economist, (2015), *Employment in Millions

Zones were traditionally constructed as isolated enclaves and the access to an exclusive set of incentives and benefit packages were tightly limited, zone locations were limited in remote areas and permitted only manufacturing units to operate. But the zone concept has drastically changed over the period of time; the major change took place in permitting to establish SEZs anywhere in the country rather than restricting to remote areas. This change was primarily due to the failure of many government-owned zones and the growing interest of private zone developers to actively participate in zone operations and establishments. The establishing objective of zones during the early period was considered only

in relation to the trade-restricted economies which have been changed to enlarged role of SEZ in economic development. SEZs were expected to promote exports, generate additional employment opportunities and technology transfer. But in the recent era of globalization and trade liberalization, zones are considered as a vital mechanism to promote multilateral trade and catalyst modernization and massive development of the host economy. The emphasis has shifted to the integration of zones with sophisticated production methods and most advanced administrative mechanism. The integration with the host countries is evident in SEZ policy packages, development approaches, attractive incentive packages and governance structure (FIAS, 2008).

3.2 History of Special Economic Zones

The history of free zones dates back to many hundred years and they were considered as a tool for aggressive commercial power. The evidence of Free Zones can be traced to the ancient Phoenicians times, when the safe passage was the chief guarantee offered to foreign traders visiting Tiro, a pre-medieval city in the Mediterranean belt. Later this idea was adopted by the Romans and Greeks to attain their upper hand in political and economic domination. King Alfred of England introduced the concept of Free Zones during the medieval period. In AD 898, he guaranteed the Archbishop of Canterbury, the right to anchor ships at Queenhithe in London without paying customs duties and royal tax (income tax was known as the royal tax in England during the time). One of the early attempts of establishing Free Zones was said to be in the Steelyard in London city which was a special part of the port in London exclusively reserved for the businessmen from the North German cities. They were allowed to pass through the Steelyard without paying customs duties on exports. During the 13th century, King Alfonso X issued certain commercial privileges to the city of Cadiz, which is also considered as the resemblance of

modern Free Zones during the Past. The Hanseatic League (a group of cities along Baltic Sea), managed a series of monopoly traders along the sea and land routes between 13th and 17th century, were also considered as models of Free Zones. The Gibraltar Export Processing Zone is the oldest among the operating zones in the world which was established in 1705. The modern age Special Economic Zones began at United States of America, establishing its first export processing zone in the 1930s. Spain established first free zone in Barcelona which became operational after the Second World War, the zone was sector specific one for automobile plants. Ireland and Puerto Rico have also established zones in their late 1950's (Hossain and Ali, 2015; FIAS, 2008).

Special Economic Zones have developed significantly after the Second World War. The explosion in the growth of Free Zones occurred in 1970 and continues till today. India established its first Export Processing Zone in Kandla in 1965 which was the first EPZ in Asia, Chinese Taipei in Kaohsiung in 1965, Korea in Masan in 1970 and Philippines in Bataan in 1972 were the other early Export Processing Zones in Asia. African countries like Liberia, Senegal, and Mauritius established EPZs in the 1970s. Latin America and the Caribbean Islands set up Export Processing Zones in the 1960s and 1970s. For example, Colombia established an EPZ in Barranquilla in 1958, Honduras in Puerto Cortés in 1973, El Salvador in San Bartolo in 1973 and Costa Rica in Santa Rosa/El Roble at the beginning of the 1990s.

3.3 Major Trends in Zone Development

Special Economic Zones have progressed significantly since their inception, both in its scope and form. The types of business activity have also progressed and although traditional production of goods such as textiles and clothing is still prevalent and common, many new zones particularly specialize

in sector-specific zones like electronics, gem and jewelry, chemicals, or in service sectors such as Information Technology and Enabled Services (ITES), banking and financial services. Zones physical form has changed from enclave-type zones to the single industry, single-commodity, single-factory or single-company zones. Zone ownership configurations have also altered during the course of time, increasingly, there is private involvement as well as governmental. Along with domestic companies, foreign companies also tend to co-exist in the Special Economic Zone operations in recent times. Another notable feature in zone development is the relaxation of the requirement that all the goods produced must be exported, many new zones allow units to supply goods to the domestic economy upon payments of certain duties. Moreover countries like Sri Lanka and Honduras have granted Special Economic Zone status to the whole country, that, enterprises across the country irrespective of their location can apply for SEZ status. This change was due to the failure of many government-owned zones to achieve its establishing objectives and increasing interest of private investors in zone development. Applications for new zone development are treated as large-scale property developments; it is the responsibility of governments to develop zone designation criteria and enact the transparent process to govern the designation of new zones established by the private developers (FIAS, 2008).

The new paradigm of Special Economic Zones have been helping the host countries to explore dynamic, investment incentive, management driven and serves as an integrated development tool rather than the old static, labour-intensive, incentive driven and exploitive enclaves. Over the years many zones have moved from low-end, labour-intensive production to capital and skill intensive research and development centers. Rather than concentrating on the

fiscal incentives and benefits, the modern zones have engrossed on issuing internationally competitive business environment (Haywood, 2000).

3.4 Evolution of Special Economic Zones

Ancient cities provided special provisions and security to tactical locations like ports to promote their external trade, which is considered as the first form of Free Zones. The concept has grown through many phases over the period, creating major changes in the outlook and objectives. A brief summary of the evolution of the concepts of modern Special Economic Zones is traced in this section.

3.4.1 Trade-Based Ancestry

The history of the Free zones can be traced back to the time when organized societies have engaged in external trade and wherein emerged a need for secured areas at ports or at tactical locations along the trade routes where goods could be stored and exchanged. Later these areas have become free zones as the products stored and distributed from these locations became free of local taxations and other duties. For example, The Islands of Delos in Greece in 166 BC, an island where Rome gave free harbor for Roman citizens and Non-Roman Italians for turning the island a center of Roman operations in Asia Minor and in Greece. The Hanseatic League maintained a series of monopoly along the land and sea routes. During the medieval period, many cities across Europe were privileged with monopolies in trade and exemption from certain taxes and other duties. During European colonial expansion in the mid-1800s, many colonial empires were created and managed under this system (Farole, 2011). The concession territories were also established in Hong Kong, Singapore, and China during this period.

3.4.2 Pioneering Manufacture

Most of the Free Zones in the early period were located close to the ports and facilitated international trade. There were 11 Free Zones in operation by 1900, of these 7 were in Europe and 4 in Asia. It was during the twentieth century, the manufacturing activities initiated under Free Zone operations. Shannon Free Zone in Ireland and the Spanish Free Zones were the first zones to initiate industrial production activities in zones. As a reaction to the Great Depression, Foreign Trade Act was enacted in the United States of America in 1934 to increase its international trade by creating a better business environment, which later facilitated the establishments of a number of Free Trade Zones in the country. Sanctioning the industrial manufacturing activities in Free Trade Zones were considered as a vital step in the zone operations and the introduction of export-oriented industrialization programmes boosted the production activities from Free Zones. Operation Bootstrap in the Commonwealth of Puerto Rico, Mexico's Maquiladora programme and Shannon Free Zone in Ireland were the examples of zone origin during this period (ibid).

3.4.3 Golden Age of Free Trade Zones

By Mid- 1960s, the massive commitments towards industrialization, import substitution and industrial big push strategies adopted, especially by the developing countries have facilitated the establishments of more Free Zones across the globe. India and China established their first free zones in 1965 respectively at Kandla and Kaoshiung. China set up Nantes zone in 1969 and India added Santacruz zone in 1973, South Korea also opened its first Free Zone at Masan in 1971. Many Asian countries such as Indonesia, Philippines, Sri Lanka, Malaysia, Thailand and Singapore developed Zone programmes during this period. Most of these zones have experienced rapid and sustainable growth.

SEZs have assisted the economic development of countries through employment creation, attracting foreign investment and mobilizing domestic investments during this period and labour-intensive manufacturing method was prominent in zones, producing goods such as electronic, textile and garments and rubber products. Latin American countries like Colombia set up Barranquilla zone in 1964, Dominican Republic established La Romana zone in 1965 and El Salvador, Guatemala and Honduras also followed suit in the early 1970s (ibid). Countries in the Middle East and Central Africa also chose to establish Free Trade Zones in the 1960s and expanded the numbers in 1970s, notably in Egypt, Jordan, Syria and Israel.

3.4.4 Rise of Chinese Model

No other Special Economic Zone programmes have ever had as much impact nationally or internationally, as the Chinese Special Economic Zones. The introduction of liberal trade and investment regime in the 1970s in China facilitated the promotion of Special Economic Zones in the coastal areas of the country. The number of zones has increased rapidly during the 1980s and 1990s, spreading from a large number of villages and towns to countries heartland. The Special Economic Zone strategy was successful in China and the country became world's largest exporter of manufactured goods and the leading recipient of foreign direct investment among other emerging economies. Special Economic Zones played a key role in China's economic development, between 1979 and 1995. During this period China received 40 percent of the international FDI received by developing countries. Currently, China has more than 250 zones in different types, sizes and many sectoral concentration zones, such as commercial zones, industrial zones and technological zones etc. China provides a reference for the use of Special Economic Zone as a tool for economic

development and many countries including India were motivated by Chinese model of zone development (ibid).

3.4.5 Entry of Private Developers

Special Economic Zones from the 1950s to 1970s were planned, financed, regulated and administrated by the governments. Also, governments conducted the investments promotions, interacted with investors and managed the construction, maintenance and renting the buildings for zone operations. The 1990s experienced fundamental changes in the zones models, in response to the need to renew unsuccessful free zone programmes in some countries and provide the opportunity for private developers to turn zones into profitable undertakings. The Latin American countries have initiated the development of private zones by developing private industrial parks. The first privately developed Special Economic Zones was La Romana Free Zone in the Dominican Republic. Later, Costa Rica, El Salvador, Honduras, Colombia, Guatemala, and Nicaragua have privatized their existing public zones or allowed private developers to develop new zones. In Asian continent, Philippines, Vietnam, and Thailand were the first to develop the private zones, followed by India, Bangladesh and Pakistan (ibid). Circumstantial evidence tends to support that private zones are more efficient but provides a marginal or negative contribution to the host country's economy. Countries in South America and the Caribbean, shifted to the private zone operations in the 1990s, which is counted as a significant determining factor in the success of zone operations in the region.

3.4.6 Development of Public-Private Partnerships

Since the beginning of the 2000s, promising Public- Private Partnership (PPP) has emerged between the public and private zone operations. The

government provided strategy and policy formulations and guidelines for zone operations. Public funding is necessary for many of the large zone projects especially on land acquisition, construction of internal and external infrastructures. The private developers develop and operate the Special Economic Zone projects like establishing units, providing employment opportunities and generating exports. The Subic Bay project in the Philippines was considered as the first large-scale Special Economic Zone development based on cooperation between public and private parties. Zones developed by Jebel Ali Free Zone Authority (JAFZA) in the United Arab Emirates and Chinese Trade and Economic Cooperation Zones represent the PPP model of Zone development (ibid).

3.5 Types of Free Zones

The Shannon Free Zone in Ireland, established in 1959 is considered as the first ‘modern zone’ after which a vast variety of zone establishments has emerged. ILO reports, nearly 30 terms are used for zones across the world to specify various terminologies interchangeably, as the changes among them are very minute. The term Special Economic Zones cover a wide range of zones, like *Industrial Park, Export Processing Zones, Innovation District, Free Ports, Industrial Free Zones, Enterprise Zones, Free Ports, Duty-free Zones, Bonded Warehouses, Financial Service Zones, Industrial Export Zones* etc. Special Economic Zones are generally, demarcated geographic areas contained within a country’s national boundaries where the rules of business are different from those that prevail in the national territory. These differential rules principally deal with investment conditions, international trade and customs, and taxation; whereby the zone is given a business environment more liberal and effective than that of the national territory. There are other types of zones which do not fall within this definition, the most commonly used terms and their features are discussed below,

3.5.1 Free Trade Zones (FTZ): Also known as Commercial Free Zone and Free Zone (FZ) is a specific class of Special Economic Zone. FTZs are fenced-in, duty- free areas, offering warehousing, storage and distribution facilities for trade promotion, transshipment and re-export operations without the intervention of the customs authorities. Goods and services are subject to the prevailing customs duties only when they are moved to the customers within the host country. FTZ are normally developed around major seaports, international airports and national frontiers areas with a vast variety of advantages for trade. FTZs can be a geographical area where a group of countries have agreed to minimize or eliminate trade barriers. Activities of FTZs are limited to trade-related processes like warehousing, sales and exhibitions and semi-skilled processing operations such as packing and labeling. A leading Example of Free Trade Zone is Colon Free Zone in Panama (Farole, 2011; Zeng, 2011[87] and FIAS, 2008).

3.5.2 Export Processing Zones (EPZ): EPZ is a specific type of Free Zones, made their entry in the late 1950s and early 1960s as a way to accelerate industrialization and industrial related international trade. EPZ are mostly established in developing countries by the governments to boost industrial and commercial exports. The World Bank defines Export Processing Zone as “a clearly delineated industrial estate, which constitutes a free trade enclave in the customs and trade regime of a country and where foreign manufacturing firms producing mainly for export benefit from a certain number of fiscal and financial incentives”. Hence EPZs are industrial estates offering special incentives and packages to facilitate manufacturing and related activities aimed mostly towards the export markets, wherein investments were restricted to foreign capital and activities were restricted to manufacturing. Most of the EPZs are located in developing countries: India, Bangladesh, Indonesia, El

Salvador, Philippines, Malaysia, Madagascar, Pakistan, Honduras, Kenya and Sri Lanka have Export Processing Zone Programmes. (Farole, 2011; FIAS, 2008)

3.5.3 Industrial Parks (IP): (Also known as *Industrial estates* and *Trading Estate*) UNIDO defines industrial parks as “a tract of land developed and subdivided into plots according to a comprehensive plan with provision for roads, transport and public utilities with or without built-up (advance) factories, sometimes with common facilities and sometimes without them, for the use of a group of industrialists.” The objective behind the establishment of IP is industrial development, IPs are mostly located on the outskirts of the city and normally provided with good transportation facilities including rail and road. Example of the Industrial park is the large number of industrial estates situated along river Thames in the Thames Gateway, London (UNIDO, 2015).

3.5.4 Technology Parks (TP): TP is a recent upgradation of Free Zone concept, which is normally focused on the advanced research and development using sophisticated machinery and high skilled workers. TP is “an organization managed by specialized professionals, whose main aim is to increase the wealth of its community by promoting the culture of innovation and the competitiveness of its associated businesses and knowledge-based institutions. To enable these goals to be met, a Technology Parks stimulates and manages the flow of knowledge and technology amongst universities, R&D institutions, companies and markets; it facilitates the creation and growth of innovation-based companies through incubation and spin-off processes; and provides other value-added services together with high-quality space and facilities” (ibid).

3.5.5 Free Ports (FP): FP also known as Bonded Area, is considered as the largest type of all zone varieties as they possess large portions of the territory, in urban and rural areas with good transport facilities like ports, airport, road and rail. FP can be a port or other area with the liberalized dominion of customs. The free port can incorporate entire economic regions, the whole population that lives and work in the territory and all the economic activities that take place there. Free Port is known as Foreign Trade Zone in the United States of America. As per the note above, Hong Kong is the best example for Free Port.

3.5.6 Free Enterprise Zones (FEZ): (Also Known as *Single Factory/ Single Unit free Zone*): Under this variation of the zone, individual enterprises are provided with EPZ status and sanctioned to locate anywhere in the country. Hence FEZ scheme provides incentives and benefits to single enterprises irrespective of their location. Hence factories do not necessarily have to locate within a designated territory to avail the privileges. Mauritius, Madagascar, Mexico and Fiji are providing Single Unit Free Zone scheme to enterprises (Farole, 2011; FIAS, 2008).

3.5.7 Eco-Industrial Parks (EIP): EIP is another variant of the zone in the recent times, that concentrating on the manufacturing and service business. The United States Environmental Protection Agency (USEPA) defines an EIP as “a community of manufacturing and service businesses seeking enhanced environmental and economic performance by collaborating in the management of environmental and reuse issues including energy, water, and materials. By working together the community of businesses seeks a collective benefit that is greater than the sum of the individual benefits each company would realize if it optimized its individual performance only”(UNIDO 2015).

3.5.8 Urban Enterprise Zones (UEZ): it is a geographical area where policies to promote economic development and trade promotions are implemented. UEZ policies normally offer tax holidays and concessions, reduced procedures to attract investment and infrastructure incentives to attract private investment into the zone. This kind of zones is common in the United Kingdom and in the United States of America.

3.5.9 Hybrid Export Processing Zones: In contrast to the traditional Export Processing Zones, Hybrid Export Processing Zones are normally sub-divided into a general zone open to all industries irrespective of export orientation (Non-export activities are also promoted). A separate EPZ area is reserved for export-oriented, EPZ registered undertakings. Many Asian countries like, Thailand and Philippines EPZ areas are within the hybrid zones (Farole, 2011; FIAS, 2008).

Special Economic Zones can also be divided on the basis of their surface area. There are two categories of zones such as (Farole, 2011; FIAS, 2008):

Wide Area Zones: Special Economic Zones that occupy an area more than 1,000 hectares and with a resident population. Most of the Chinese Special Economic Zones fall into this category.

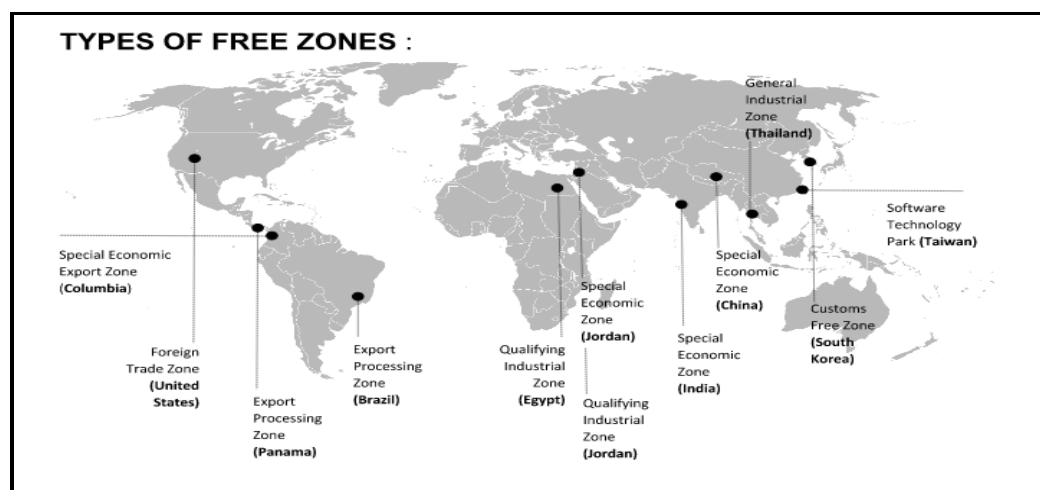
Small Area Zones: These zones normally occupy a surface area smaller than 1,000 hectares and normally fenced-in regions. Developers have to locate within the zone region to avail the benefits and incentives. They have no resident population other than worker dormitories.

In this study, the researcher uses the term Special Economic Zone, Export Processing Zone and Free Zone in a generic way to refer to all zones discussed above. A brief summary of all the different variations of Special Economic Zones is given in the table 3.2.

Table 3.2 : Different Types of Free Zones across the World

Type of Zone	Development Objective	Physical Configuration	Location	Activities	Markets	Examples
Free Trade Zone	Support trade	Size < 50 Hectares	Ports of Entry	Trade Related Activities	Domestic, Re-export	Colon Free Zone, Panama
Traditional EPZ	Export manufacturing	<100 hectares	None	Manufacturing, Other processing	Mostly Export	Kandla Export Processing zone, India
Freeport/SEZ	Integrated Development	>1,000 hectares	None	Multi-use	Domestic and export	Aqaba Special Economic zone, Jordan
Single Factory EPZ	Export manufacturing	Designation for individual enterprise	Country wide	Manufacturing, Other processing	Export market	Mauritius Mexico
Urban Free Zones	Urban revitalization	Size < 50 Hectares	Distressed Urban or rural areas	Multi-use	Domestic	Empowerment zone, Chicago

Source: FIAS, 2008 and World Bank Reports



Source: World Free Zones Organization, (2015)

Figure 3.1 : Types of Free Zones in Different Countries

3.6 Theoretical Approaches to Special Economic Zones

Over the years various theories have supported the establishment of the Special Economic Zones worldwide. The various theoretical approaches to Special Economic Zones are listed below,

3.6.1 Neo- Classical Approach: The Neoclassical or orthodox approach view Special Economic Zones as regions, providing open and free trade strategies established with the objective of promoting trade. The neoclassic approach is based on Hecksher- Ohlin two goods, two factors and two country framework. As per the orthodox approach, promotion of free trade is the best policy for a government to implement and if free trade is not practicable due to political and social reasons at a national level, certain economic welfare can be attained through Special Economic Zone operations. As per the approach, SEZs can negatively impact the trade pattern of the country in long run by creating unfair opposition between domestic and zone units and loosing government revenue. SEZ will remain as production enclaves with minimal contributions to the economy unless the rest of the country is not liberalized. The theory proposes SEZs are fruitful when the country uses it as a platform for the national wide reforms. The role of the zone should be a facilitator in transacting the economy from import substitution to free trade scheme with minimal governmental interferences. Eventually, SEZ will lose its importance as countries introduce countrywide macroeconomic and trade reforms. The recent studies reported a considerable increase in the number of zones across countries that have followed the adoption of trade and economic reforms in the rest of the country. Hence zones are not the engines to promote liberalization but are the results of liberalization (Madani, 1999; Aggarwal, 2010).

3.6.2 Political Economy Approach: This approach to SEZ is constructed on the ‘Public Choice Theory’ by Buchanan and Tullock which discusses on the interest group theories of political science and neoclassical theory. The theory postulates, the government interfering facilitates lobbying by the interest group for rent seeking. The theory demands for minimal governmental activity as the best policy for all countries to liberalize and free trade with minimal government intervention can endorse growth. The main objective of SEZ regime as per political economy approach is to generate rents to entrepreneurs by facilitating land acquisition and providing tax benefits and holidays at the cost of the rest of the population. The argument of minimal government intervention has been criticized as many industrialist nations manipulated rents to develop capitalist class (Aggarwal, 2010).

3.6.3 Heterodox Approach: This school argues for a mix of government and market interactions where the state plays an important role in investment, technology acquisitions, infrastructure development and promotion of policy and other economic reforms. The theory postulates that domestic enterprises are not in a position to compete in the international markets due to the lack of technical, managerial and marketing know-how. In this situation, Special Economic Zones can act as the government-sponsored mechanism to fill the gap. SEZ act as a facilitator of FDI inflow through providing adequate infrastructure facilities, tax incentives, improved administrative mechanism, and skilled labour. Better managerial and technical skills accompanied with the FDI can create spillover on human capital and management skills of the host country. Special Economic Zone thus provides an opportunity for learning, upgrading and transformation through the flow of technology, new knowledge and dexterity (ibid).

3.6.4 Global Value Chain Approach: The development of ‘global value chain’ process is the result of trade liberalization and globalization. Global value chain system proposes ‘slicing’ each process of production according to the availability of required skills and material at a competitive cost in each country through offshore outsourcing rather than the old method of producing the whole product from raw material to the finished product in a country. The efficient integration of domestic firms to the global value chain cannot be confirmed by market forces alone as the global market competition is so intense. Deliberate policy measures have to be implemented to develop a promising investment environment in terms of better infrastructure, reduced regulations, hassle-free market accesses, synchronized process and favorable domestic and international trade practices in order to ensure the access of domestic firms to the global networks. Through establishing a better business environment, Special Economic Zone facilitates the host country’s access to global value chains through offshore outsourcing. Domestic firms in the developing countries can improve their competitiveness and capacities through its access to global value chains. The access to new technologies, capital, skills and markets by domestic firms will eventually create a spillover effect to other local undertakings and eventually facilitate countrywide economic development (ibid).

3.6.5 Agglomeration Economies Approach: The agglomeration approach is focusing on the reallocation of resources for improving productivity and innovation than using resources for growth. The theory of agglomeration is based on; knowledge spillovers, labour-pooling and resource sharing. According to this theory, Special Economic Zone can be viewed as economic clusters of outward-oriented units promoted by the government to exploit the advantages occurring from the global value chains. By bringing together the technology, capital, skills, information, competing companies, academic institutions,

research and development sector and other organizations, these clusters can improve methods of production and facilitate innovations. Factors such as firm structure, strategy and rivalry, demand conditions and supporting industries are determinants of the success of the clusters (ibid).

The effects of improving productivity of these clusters will be high if the interactions between these factors are intense. The outward-oriented market focus of the clusters infuses dynamism to clusters and results in improved productivity and competitiveness. Empirical evidence suggests that geographically concentrated international firms are better than dispersed firms in upgrading technology and managerial skills and extending spillover to the domestic firms. Globalization has increased the demand to establish global cities to utilize resources at local, national and international levels, which will eventually generate economic development. In this context, Special Economic Zones can be a catalyst for economic clustering by bringing together the global companies to specific regions and incite the innovations and improvements in the production process (Aggarwal, 2010).

3.7 International Experiences of Special Economic Zones

The concept of Special Economic Zones has been implemented by various countries all across the globe. The evolution, background and current status of Special Economic Zones in selected countries at different regions of the world are briefly discussed in this section.

3.7.1 African Region

African countries have announced Free Zone programmes in the early 1970s, Liberia, Mauritius and Senegal established SEZs in 1970, 1971 and 1974 respectively and later Djibouti and Togo set up SEZs in 1980s. But most African countries started SEZ operations only in the 1990s or 2000s, as Cameroon, Nigeria, Ghana, Kenya, Malawi, Namibia, Sudan, Uganda and Zimbabwe in 1990s and Gambia, Mali, South Africa and Tanzania in 2000s. Studies report that almost 36 countries in the African region have SEZ programs, and over 80 percent of the programs started within the past two decades. Different countries in Africa have adopted different names for Free Zones as:

- Free Trade Zones – Nigeria and Kenya
- Export Processing Zone- Egypt
- Industrial Development Zones (IDZ)- South Africa
- Multi-Facility Zones- Zambia
- Free Points – Mali
- Single Factory Zone- Ghana
- Free Port- Mauritius

As of April 2015, The African Free Zone Association Secretariat identified 638 Free Zones in 36 countries. Ghana leads with 192 Zones followed by Kenya with 160 zones and Tanzania with 44 zones (World Free Zone Organization, 2015) [88].

3.7.1.1 Features of African Free Zones

Majority of the Free Zones in the African Continent are functioning with multi-activities without many sectorial specifications, which would allow the zones to achieve economies of scale. The workforce in African zones is mostly unskilled with limited opportunities for training and career development. Most zones are single factory zones hence they are small in size compared to zones of other regions. African Special Economic Zones are facing the issue of poor management and lack of policy structure and minimal support from the government. Poor working conditions and hostility towards trade union activities are reported in many of the African Special Economic Zones.

The key attractive aspect of Special Economic Zone is the potential to absorb the large proportion of unemployed labour. The availability of surplus workforce was one of the major reasons for the establishment of zones in the African continent. But the working conditions in these zones are a matter of serious concerns to which the governments have to ensure decent working conditions. With the abundant human and natural resources in the continent along with the high returns on zones investments, a proper SEZ model substantiated with structured policy frameworks will help to utilize the comparative advantages of the host countries and facilitate economic development of the region.

Table: 3.3 : Special Economic Zone Profile in Selected African Countries

Country	Year of Establishment	Total Zones	Zone Type	FDI source	Major Sectors	Markets
Mauritius	1971	20	Free port, Free Zone	South Africa, Singapore, India	Food, Textile, Leather, Logistics	US, Japan, Europe
Nigeria	1991	32	Free Trade Zones	China, USA, EU	Textile, Food	China, South Africa, EU
Ghana	1995	192	Single Factory Zone	UK, USA, India	Textile, Printing, Agro	EU, US
Zimbabwe	1995	7	Export Processing Zone	China, Japan	Textile, Leather, Agro	China, Japan, India
South Africa	2000	10	Hybrid Export Processing Zone	EU, Canada	Aluminum, Automotive	USA, Canada, EU
Togo	1989	18	Export Processing Zone	France, Italy, Lebanon	Agro, Metal Textile	Ethiopia, EU
Kenya	1993	160	Free Trade Zone	US, EU, India	Textile	US, EU
Namibia	1995	41	Export Processing Zone	Germany, China, Japan	Automobile, Textile, Foo	South Africa, USA, EU
Cameroon	1990	1	Export Processing Zone	Spain, France	Agro, Chemical, Leather	EU

Source: Boyenge (2007), WFZO (2015), Vinod (2016) [89] and Data Compiled from different Free Zone Websites

3.7.2 Latin America

Latin American countries have been using Free Zones for over ninety years as an instrument to attract foreign investment and to create additional employment opportunities. The first Free Zone in Latin America was established in Uruguay in 1923, followed by Panama in 1948 and Colombia in 1958. The first phase of installation of Free Zones models took place in the 1960s and 1970s in Brazil, Chile, Dominican Republic and Mexico. And the second phase took place in the 1990s in Costa Rica, Paraguay, Argentina, and Nicaragua. With 102 zones Colombia has the highest number of Free Zones in Latin America followed by Central American countries of Dominican Republic, Nicaragua and Honduras with 55, 49 and 43 zones respectively (World Free Zone Organization, 2015).

Free Zones in Latin America have played a significant role in most of the countries in generating additional employment opportunities. The Dominican Republic with 55 Free Zones leads with the maximum number of employment opportunities generated, specifically 153,300 in 2014. The average number of jobs created in Colombia is 69,000 and in Costa Rica 70,000. Empirical evidence from Latin American countries reports that the creation of jobs does not depend only on the number of zones but also on other factors such as diversification of activities in zones and international and domestic market demands. At the same time, Haiti and Paraguay have the lowest number of employment generation with 7,000 and 2,500 each (ibid).

Chile has the largest number of companies established under Free Zone regime in the region with 2,850 companies. ‘ZonAustral’ and ‘ZOFRI’ zones have generated the maximum volume of trade primarily due to their geographic locations. Uruguay and Colombia follow Chile with 1,560 and 772 companies

operating in their zones. El Salvador, Nicaragua and Paraguay have the lowest number of operating companies in their respective zones with numbers not exceeding 200 (ibid).

Regarding the industrial diversification in Latin American Free Zones, Guatemala, Honduras, Costa Rica, Honduras, El Salvador Dominican Republic and Colombia have high industrial diversification because the companies operating in their free zones have economic activities in more than four different sectors. And Chile, Paraguay Argentina, Ecuador and Paraguay have low industrial diversification.

These zones usually provide attractive incentive packages on duties and taxes to foreign investors operating within. There are three categories of Free Zones in Latin America as follows;

3.7.2.1 Export Free Zones: The establishing objective of these zones is to promote the export oriented business in the continent. There are three different model identified within this segment of free zones.

- *Industrial Diversification:* These zones are used to improve the value addition of goods and services produced. Widening the export basket of the country by producing non-traditional exports goods is the practice followed in these zones. Costa Rica and the Dominican Republic was traditionally concentrating on textile and apparel industry but through creating industrial diversification by setting up Export Free Zones, they have widened their export basket with products like electronics, medical equipment and pharmaceutical.

- *Dependence in “maquilas”*: Maquila is the term used for Free Zones in Latin America, which are generally implemented in the textile and apparel sector in order to take advantage of the Central American Free Trade Agreement. Mexico, El Salvador, Guatemala and Nicaragua have developed this zone.
- *Logistic Services*: This type of services are used exclusively for the distribution of goods and services through ports based zones. Warehousing, packing and assembling activities are carried out in these zones. Panama, Chile and Argentina operates logistics services

3.7.2.2 Mixed Free Zones (MFZ): Free zones developed by Columbia and Uruguay falls under Mixed Free Zone Category. There are three model zones for MFZ as:

- *Permanent*- These zones are specially developed and operated by the governments on geographically delimited areas offering incentives and tax holidays to attract domestic and international investment.
- *Special or Single Company*- These consist of special incentives and benefit packages which are exclusively given for enterprises operating in the geographical area designed and developed by the government and to single companies that fulfill requirements where they are operating.
- *Transitory*: A model of MFZ that are owned by the government authorities to conduct international fairs, exhibitions and seminars to promote international trade in favor of the host countries.

3.7.2.3 Import Substitution Free Zones: Unlike the Export Free Zones, these zones are promoting distribution of foreign goods to the domestic markets. Import Substitution Free Zones tries to reduce the volume of imports to the host country by assembling and making value additions to the foreign goods. These zones are developed in Brazil (ibid).

Table 3.4 : Special Economic Zone Profile in Selected Latin American Countries

Country	Year of Establishment	Total Zones	Zone Type	FDI source	Major Sectors	Markets
Brazil	1965	5	Special Economic Zones, Free Trade zones	Brazil, Portugal, USA	Logistics, Optical product	USA, France Portugal Spain
Chili	1967	14	Free Trade Zones	USA, Germany Canada	Logistics, Garments Energy, Food	Canada US
Mexico	1965	134	Maquiladora	USA, Japan	Garments, Electronics	USA, ASEAN Europe
Colombia	1958	102	Export Processing Zone	Japan, Korea, USA	Textile, Electronics, Automobile, Agro products	US, Regional
Uruguay	1923	9	Free Trade Zones	Japan, Regional, USA	Medical devices, Logistics, Call centers	USA, Brazil, China
Peru	1991	6	Free Trade Zones	Brazil, Chile, Bolivia USA, Japan	Garments, Service. Automobiles	China, Japan, Chile
Argentina	1994	22	Free Trade Zones	Europe, Canada, Mexico	Logistics, Metal Chemical	Brazil, USA Canada

Source: Boyenge (2007), WFZO (2015), Vinod (2016) and Data Compiled from Different free zone Websites

3.7.3 Special Economic Zones in European Union

Free Towns in the middle age, later Free Ports in the new century were the forerunners of the modern Special Economic Zones. The earliest written record of the Free Zone of the middle age is from Spain, when in the 13th century; King Alfonso X declared commercial privileges to the city of Cadiz. In the 17th century, French government sanctioned customs incentives and abolished sales tax in cities like Bayonne, Dunkirk, Marseilles and Lorient. Free Zones in the European Union offering a variety of services and facilities and promote effective economic instruments which assist the host country in the inflow of FDI, increase in employment, improved access to new technologies, skills, knowledge and increase in exports. In addition to the European Union countries, Free Zones also exist in Non- European Union countries, which have not enacted the Union Customs Code that represents the legal basis for the development and operation of SEZ in the union.

The European Commission (EC) defines Free Zone under its customs policy as special areas within the customs territory of the European Union. Products placed in the zones are exempted from customs duties when goods are imported to zone from outside EU territory. VAT and Excise Duties are suspended until the goods are exported from the zone into the EU. In accordance to the European typology there are two types of Free Zones in EU:

Control Type I Free Zone: These zones have boundary fences so that goods placed there will be supervised by customs.

Control Type II Free Zones: In Control Type II Zones, unlike other traditional Free Zones, the goods and products are subject to a declaration in order to avail the benefits and incentives from the arrangement.

The European Union offers several incentives in Free Zones as:

- Companies can warehouse imported goods under the beneficial customs arrangements. Deferral of payment of taxes until these goods are actually used or re-exported can benefit operating unit's cash flow.
- The differential tax regime is offered within the zone, mostly concerning tax incentives related to corporate and personal income tax and Value-Added Tax (VAT).
- Non- tax incentives like, public grants for developing human resources, R&D and promotion of land and building facilities at subsidized rates are also offered.
- The availability of advanced infrastructure facilities in Free Zones mostly locates in, or close to seaports or airports is another advantage for the operating companies for the ease of transshipment.

Free Zones of Serbia and Poland are considered to be the most successful zones of the region. As of 2015, there are 14 Free Zones in Poland with 1,545 companies providing employment to 186,000 employees and the total investment in zones are 20.4 billion euros. Serbia has 13 free zones that cover an area of 800 hectares and host 211 multinational companies with the turnover of 5.5 billion euros in 2014 (ibid).

Table 3.5 : Special Economic Zone Profile in Selected European Countries

Country	Year of Establishment	Total Zones	Zone Type	FDI Source	Major Sectors	Markets
Bulgaria	1986	14	Free Zone	Austria, Greece, UK, Germany, Italy, Hungary	Automotive parts, Business Process, IT, Food & Beverages	EU, US, Russia
Croatia	1976	21	Free Trade Zone	Switzerland, Spain, Ireland, France	Electrical, Electronics & Mechanical Engineering	EU, US
Cyprus	1973	2	Free Zone	Europe, UAE, USA	Wholesaling and agency services in trading	EU
Czech Rep	1980	83	Free Zone	Europe, Canada	Automotive, Banking	Russia, EU
Hungary	1891	12	Free Trade Zone	Russia, Spain, Ireland	Warehousing Automobile	EU
Poland	1986	14	Special Economic Zone	Europe, Korea, USA	Service, Trade, Tourism	EU
Finland	1970	6	Free Economic Zone	Europe, USA	Engineering, Electronics	Russia, Europe
France	1992	91	Free Trade Zone	Europe	Automobile Engineering	EU, ASEAN
Germany	1888	8	Free Zone	Europe, Canada	Automobile	USA, Middle East
Greece	1914	4	Free Zone	Europe, USA	Tourism	USA, Europe
Ireland	1958	2	Free Port/Free Zone	USA, Europe, ASEAN	Engineering, Electronics Finance	Europe
Italy	1719	24	Free Trade Zone	Europe	Finance, Health care, telecom	ASEAN, Middle East, Africa

Source: Boyenge (2007), WFZO (2015), Vinod (2016) and Data Compiled from different free zone Websites

3.7.4 Free Zones in the Middle East

The concept of adopting Special Economic Zone in the Middle East has gained momentum since the 1960s. While Bahrain, Syria, Egypt and Jordan were among the first Arab countries to develop government owned Special Economic Zones. The United Arab Emirates (UAE), especially Dubai has achieved a reputation for international trade long before its first Free Zones established in the 1980s. In 2010, the Arab Union of Free Zones (AUFZ) was created as a non- governmental organization and it is affiliated to the Arab League. AUFZ had members from eight Arab countries like Libya, Jordan, Lebanon, Iraq, Sudan, Syria, Oman and Egypt and acts as a facilitator for promoting SEZs in the Arab world. Also, different types of zones have been used by different Arab countries like Export Processing Zone, Free Trade Zones, Free Ports, Enterprise Zones, Single Factory Zones and Special Economic Zones.

3.7.4.1 Major Zones in the Middle East

United Arab Emirates has established its first Free Zone Jebel Ali Free Zone (JAFZA) in 1985. Later UAE has developed a number of other zones throughout the country to boost its international trade. As of 2016 UAE has 37 Free Zones promoting various businesses. JAFZA is the most important multi-product free zone in UAE which has 7,000 operating companies and providing employment opportunities to 144,000 persons. Dubai Internet City, Dubai Media City, Dubai Airport Free Zone, Dubai Auto Zone, Dubai Academic City, Dubai Logistics City, Dubai Healthcare City and Abu Dhabi airport Free Zone are the other major Free Zones in the country.

Salalah Free Zone in Oman provides office space for rental and business incubators with easy access to seaport and airport, has been established to expand Oman's trade relations with rest of the world. The zone provides the incentive like 100 percent foreign ownership, 20 year tax holiday, no corporate or personal income tax, exemption of customs and excise duties and the issue of Free Trade License. Sohar Special Economic Zone and Al- Mazunah SEZ is the other major Zones in Oman. Qatar Science and Technology Park (QSTP), focusing on energy, Health science and IT, is the only operating Free Zone in Qatar. Qatar plans to launch three additional Free Zones in Hamad International Airport, Doha Industrial area and in Al Wakrah.

Saudi Arabia has established 25 Free Zones in the country primarily to promote its non-oil exports. Petrochemical, Plastics/metal construction materials and electrical appliance manufacturing are the leading sectors operating in Saudi Arabian Free Zones. King Abdulla Economic City, Jubail Industrial City, Yanbu Industrial City, Tabuk Industrial City and Jizan Industrial City are the major zones in the country. Lebanon's, The Lebanon Free Zone at the Beirut Port inaugurated in 2016 covers 1.2 million square meter area and handles 6 million tons of Cargo annually. Bahrain has three Special Economic Zones established to promote its banking, finance, trade and industry. The Bahrain Logistics Zone in Khalifa Bin Salman port offers land plot of 3,000 square meters area for business activities. The zone focuses on logistics, storage, re-exports and other logistical services. Bahrain International Airport Zone is also offering cargo facilities, office and rental space without any customs duties. Bahrain International Investment Park (BIIP) is the third Free zone in the country offering 100 percent foreign ownership of companies, duty-free access to Gulf markets and 100 percent duty exemptions on raw material, equipment and capital (Source: Compiled from various Free Zone websites).

Table 3.6 : Free Zone Profile in Selected Middle East Countries

Country	Year of Establishment	Total Zones	Zone Type	FDI Source	Major Sectors	Markets
United Arab Emirates	1985	37	Free Trade Zone	Korea, Japan, Middle East	Warehouse, Trading, Garments	ASEAN, Middle East, Africa
Bahrain	1999	3	Free Trade Zone	China, UAE	Logistics Garments	USA, ASEAN
Saudi Arabia	1975	25	Free Trade zone	Middle East, USA	Oil, Petrochemicals, Plastic	ASEAN, USA Middle East
Kuwait	1993	3	Free Zone	Kuwait	Trading, Oil, Logistics	Middle East
Jordan	1984	18	Economic Processing Zone	India, Pakistan, China	Garments, Trading	US, Middle east
Turkey	1985	8	Free Trade zone, Science park	Turkey	Food Processing, Garments	Middle East, ASEA
Iran	1999	3	Free Zone, Free port	Europe, USA	Textile, Leather	Middle East

Source: Boyenge (2007), WFZO (2015) Vinod (2016) and Data Compiled from different free zone Websites

3.7.5 Special Economic Zones in Asian Countries

The concept of Special Economic Zone was widely welcomed in Asian countries since the 1960s; it is evident from the global distribution of SEZs across the world that 43 percent of the zones are located in the Asian region. Most of the Asian countries considered SEZs as the mechanism to resolve their long battling issues of unemployment, infrastructural deficiencies and inability to participate in international trade. Countries like India, China, Bangladesh, Pakistan, Sri Lanka, Malaysia, Philippines, Cambodia Japan Vietnam and Singapore have operational zones.

China established the first Special Economic Zone in late 1960s and from late 1970s China has gradually prompted the establishment of more zones in its municipalities with property right protection, tax holidays and lucrative land policies especially for foreign investors. This SEZ experience has transformed China into one of the largest FDI recipients, exporters and foreign exchange earners of the world. China is well known for multi-product SEZs with massive land area provisions, the major zone like Shenzhen, Zhuhai, Shantou and Guangdong has 32,750, 12,100, 23,400 and 13,100 hectares of land area respectively. These zones were the first zones established in the country in coastal areas primarily because of their easy access to international world trading centers like Hong Kong and Taiwan. Further, in 1984, 14 coastal zones were opened to set up coastal zones and in 1988 Hainan Island with 3, 40,000 hectares was declared as another SEZ. Depending on their region, political structure and investment type various other forms of Free Zones were also established as Open Economic Zones, Economic and Technology Development Zones (ETDZ). Normally ETDZ covers more than 30,000 hectares. The contribution of Chinese zones to China's total export is in the range of 17-24 percent. And Special Economic Zones in China have provided jobs to more than

16 million overall. Moreover, 20 percent of China's FDI has made its way to zones (Lakshmanan, 2009).

The attempts by the Government of India to promote Special Economic Zones as an export platform on the basis of economic benefits and incentives like tax holidays, duty exemptions and better infrastructure became the feature of Indian development by 1960s. India created its first zone in 1965 at Kandla, Gujarat. It was followed by the Santacruz EPZ in Mumbai in 1973, by 1980 new zones were established in Noida, Falta and Chennai and Cochin, Visakhapatnam SEZ was established in 1989. The primary objectives of these zones were not defined until 2000, after which the policies, objectives, incentives and benefits of Special Economic Zones were clearly mentioned in the EXIM Policy of the country. India has enacted SEZ Act and SEZ Rules in 2005 and 2006 to further boost the implementation of zones in different parts of the country. As of 2016, India has 411 formal approvals and 206 exporting SEZs with 4319 units providing employment to 17, 11,657 persons (SEZ Fact Sheet, 2017) [90].

Since 2000, many Free Trade Zones have established in South Korea to attract more FDI. First South Korean SEZ was established in Masan in 1970. The majority of the investment in South Korean zones was from Japan as South Korea has attractive geographical proximity to Japan. In addition to traditional EPZs like Masan and Iri, production oriented Free Zones were established in Kusan, Taebul, Tinghae and Yulchon from 2003 onwards. Later zones focused on logistics were constructed in Pusan Port and Incheon port.

The first Free Zone in Sri Lanka became operational in 1978 in Katunayake, which is within close proximity of Colombo. It is located in Gampaha district, which is one of the most developed districts in Sri Lanka. In

1978, the government also set up the Greater Colombo Economic Commission (GCEC) to facilitate FDI in the fully export-oriented enterprises in Sri Lanka. In 1992, GCEC was renamed as Board of Investment (BOI) with a view to creating a one-stop investment center. From 1998 onwards BOI expanded the SEZ regime in Sri Lanka by creating six new zones between 1998-2000. The newly established zones are; Malwatta, Mirigama, Wathupitiwela, Mawathagama, Polgatawela and Hirana. Presently 16 zones are operational in Sri Lanka providing employment to over 121,000 peoples.

Bangladesh Started Special Economic Zone programme in 1981 with the establishment of Bangladesh Export Processing Authority (BEPZA). The major objectives of BEPZA were to promote FDI, exports, Technology Transfer and generation of employment. The first zone in Bangladesh became operational in 1983 at Chittagong with the land area of 453 acres. Later second SEZ commenced operations in Savar near Dhaka in 1993 with the land area of 205 acres.

Table: 3.7 : Free Zone Profile in Selected Asian Countries

Country	Establishing Year	Total Zones	Zone Type	FDI Source	Major Sectors	Markets
China	1965	250	SEZ, Science Park	US, Europe	Garments Electronics Cosmetics	USA, EU Japan, ASEAN
Republic of Korea	1970	10	Free Economic Zone (FIT), Foreign Investment Zone(FIZ)	Japan	Software, Automobile Electronics	USA Japan
Bangladesh	1983	47	Economic Zone	China, UK, US, India	Gas, Textile Chemical	USA, Europe
India	1965	206	Special Economic Zones, Free port, Export Oriented Unit	EU, US	Garments, Jewelry, Engineering Software	USA, Europe
Malaysia	1971	18	Free Industrial Zones	US, Europe	Electrical Electronics Software	Japan, USA Europe, China
Philippines	1972	68	Economic Zone	UK, Japan Malaysia	Chemical, Electronic Automotive	USA, Japan
Sri Lanka	1978	16	Export Processing Zone	UK, Japan, Singapore Hong Kong	Textile Rubber Engineering	South east Asia, UK

Country	Establishing Year	Total Zones	Zone Type	FDI Source	Major Sectors	Markets
Indonesia	1986	27	Free Trade Zone	Japan, Singapore	Communication , Chemical, Food	USA, ASEAN
Cambodia	2001	14	Special Economic Zone	China, Thailand USA	Garments	USA
Japan	1995	5	Special Economic Zone	USA Europe	Electronics Automobile	Europe
Vietnam	1991	67	Special Economic Zone	Japan, Thailand France	Wood, Leather, Food, Garments	USA
Singapore	1960	53	Special Economic Zone	Global	Financial Services, Software	Global

Source: Boyenge (2007), WFZO (2015) Vinod (2016) and Data Compiled from different free zone Websites

3.7.6 Special Economic Zones in the United States of America

The U.S. Congress passed the Foreign Trade Act in 1934 to tackle the damages of Great Depression and also intended to expedite and encourage foreign trade. In 1950, the Act was expanded in order to include manufacturing and production. Further in 1990 the Act also included the use of oil refining under the Free Trade Zone scheme. The FTZ of USA are designated sites where special customs procedures apply. These zones have assisted in developing its economy by attracting foreign commerce and helped the U.S. companies to improve their international competitiveness. The FTZ board's annual report for 2013-14 reports imports to FTZs account for more than 12 percent of total U.S. goods import and export to record figures of \$79.5 billion. In 2014-15 FTZs exported a record 2 million motor vehicles, which is largely a story of international automakers operating in U.S. FTZs. By this year, more than 3,000 companies were operating in FTZs employing 400,000 American workers. The international acceptability of the American FTZs are evident from the presence of international auto sector companies operating in zones which include: Mercedes Benz, BMW, Nissan, Toyota, Hyundai and Volkswagen and other global MNCs like Ricoh, Mitsubishi, Yamaha, Airbus, L.G, Sony, Konica and Canon (World Free Zone Organization, 2015).

Summary

From the international experiences of SEZs, it is evident that zone mechanism has been widely accepted by countries irrespective of their economic status. The hassle-free business environment provided by the zone is an advantage in the globalized era, enabling limitless opportunities to countries to reap the advantages of their comparative advantage. Free Zones enabled developing countries to upgrade themselves to the global market by absorbing the most modern technologies of production and managerial methods along with

resolving the issues of unemployment and inadequate FDI inflow. At the same time, SEZs facilitated the developed countries to strengthen their economies by freely investing in any part of the world for better returns for their investments. Also, the new innovations developed by various researchers in the zone clusters enabled them to optimize the production process. In short, zones have empowered a surge in the international trade by demolishing trade barriers.



SPECIAL ECONOMIC ZONES – INDIAN EXPERIENCES

- 4.1 *History of Special Economic Zones in India*
- 4.2 *State-wise Distribution of Special Economic Zones*
- 4.3 *Sector-wise Distribution of Special Economic Zones*
- 4.4 *Different Phases of Special Economic Zones in India*
- 4.5 *Special Economic Zone Act, 2005*
- 4.6 *Profile of Special Economic Zones in India*

During 1960's, India began to make a continual transition from inward-looking economy to outward oriented, export promotion economy. Selective import liberalization and promotion of non- traditional exports were introduced through various incentive schemes. Indian economy was also facing problems of severe trade imbalances, growing unemployment and also inadequate FDI Inflow. In order to confront these issues, the Government of India introduced its first Export Processing zones in 1965 at Kandla, Gujarat. The EXIM policies of the early 1990s were formulated to focus on curtailing licensing, discretionary controls and reduced administrative controls to integrate Indian economy to the rest of the world. The interest of setting up of more Special Economic Zones in India has increased subsequently from the 2000s onwards when the provision for the introduction of SEZs in India was included in India's EXIM Policy. Realizing the need to utilize the limitless opportunities created by the globalization, the government has implemented SEZ Act in 2005 and SEZ

Policy in 2006, which has further accelerated the establishments of SEZs in the country. These policy instruments have provided a strong legal and administrative framework for SEZ operations by clearly listing various incentives, duty exemptions and other benefits offered to SEZs. This chapter tries to understand the evolution and history of Special Economic Zones in India, detailed analysis of SEZ policies enacted by the government and profiles of various government-owned SEZs in India.

4.1 History of Special Economic Zones in India

The genesis of Free Zones in India began with India setting up first Export Processing Zone in Kandla, Gujarat in 1965 as a mechanism to promote exports, increase foreign exchange reserves and to generate additional employment. With the establishment of Kandla SEZ, India became the first country in Asia to recognize the effectiveness of Free Zone scheme to enhance international trade. The proposal to establish Kandla EPZ was initiated in 1961 with the goal to catalyze the development of the Kutch region of Gujarat and the fullest utilization of Kandla Port. The Second zone in the country was, Santacruz Electronic Export Processing Zone (SEEPZ) established at Mumbai in 1974. Initially, SEEPZ was introduced as a single-product zone to stimulate the production of electronics goods with the expectation of transfer of technology to the country. Later, Gem and Jewelry sector was allowed to operate from SEEPZ. In the beginning, Central Government was exclusively responsible for setting up and operating the zones, this policy was amended in 1994, enabling State governments and private sector to partake in developing and operating the Export Processing Zones.

During the 1980's four more zones were established in different parts of the country focusing on regional economic development. Export Processing

Zones were established in Cochin- Kerala, Chennai (Madras)-Tamil Nadu, Falta-West Bengal, Noida-Uttar Pradesh in 1986. All these zones were constructed as Multi- product zones. Cochin EPZ and Falta EPZ were set up with the objective to develop the backward regions of the country. The seventh Export processing zone was set up in Vishakhapatnam, Andhra Pradesh in 1989. The Indian EXIM policy of 2000, announced the establishments of Special Economic Zones in the country with larger provisions and facilities than the Export Processing Zone scheme. Under this policy, zones in SEEPZ, Cochin, and Kandla were converted into Special Economic Zone. Later in 2003, all the other EPZs were also converted as Special Economic Zones. There has been a surge in the number of zones in India after the establishment of SEZ Act 2005 and SEZ Policy in 2006. As of March 2017, formal approvals are given to 416 SEZ, employing 17, 11,657 persons altogether in 4,319 units (Source: sezindia.nic.in).

Table 4.1 : Evolution of Special Economic Zones in India

Sl. No	SEZ	State	Year of Establishment	Conversion	Products
1	Kandla SEZ	Gujarat	1965	2000	Multi- Product
2	SEEPZ SEZ	Maharashtra	1975	2000	Electronics, Gem & Jewelry
3	Cochin SEZ	Kerala	1986	2000	Multi Product
4	Madras SEZ	Tamil Nadu	1986	2003	Multi- Product
5	Falta SEZ	West Bengal	1986	2003	Multi- Product
6	Noida SEZ	Uttar Pradesh	1986	2003	Multi- Product
7	Vishakhapatnam SEZ	Andhra Pradesh	1989	2003	Multi- Product

Source: Compiled from various SEZ Websites

4.2 State-wise Distribution of Special Economic Zones

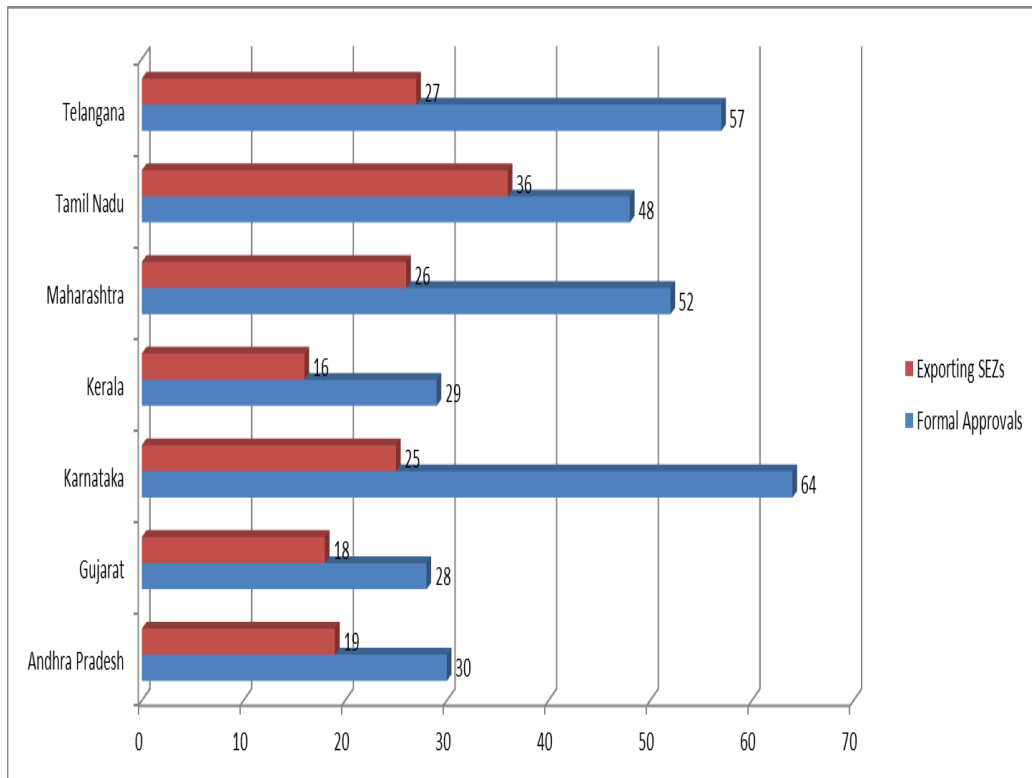
Out of 29 States and 7 Union Territories (UT) in India, Special Economic Zones operates in 20 States and 2 Union Territories. There are three types of zone approvals in India, Principal Approval, Formal Approval and Notification (Details of various types of approvals are described in Chapter-1). The list of formal approval and notified zones across different States and Union Territories indicate that Industrial states like, Andhra Pradesh, Karnataka, Maharashtra, Telangana and Tamil Nadu have secured the highest number of Special Economic Zones, followed by Gujarat, Kerala and Uttar Pradesh.

Table 4.2 : State-wise Distribution of Approved SEZs in India

States/UTs	Formal Approvals	In-principle Approvals	Notified SEZs	Exporting SEZs (Central Govt. + State Govt. /Pvt. SEZs + notified SEZs under the SEZ Act, 2005)
Andhra Pradesh	30	4	24	19
Chandigarh	2	0	2	2
Chhattisgarh	2	1	1	1
Delhi	2	0	0	0
Goa	7	0	3	0
Gujarat	28	4	24	18
Haryana	23	3	20	7
Jharkhand	1	0	1	0
Karnataka	64	0	42	25
Kerala	29	0	25	16
Maharashtra	52	11	48	26
Manipur	1	0	1	0
Nagaland	2	0	2	0
Odisha	7	0	5	3
Puducherry	1	1	0	0
Punjab	5	0	3	2
Rajasthan	9	1	8	4
Tamil Nadu	48	4	46	36
Telangana	57	0	46	27
Uttar Pradesh	24	1	19	11
West Bengal	7	2	5	7
Grand Total	411	32	330	206

Source: www.sez.nic.in, As on February 2017

The Backward States of Chhattisgarh, Jharkhand, Manipur, and Nagaland have the lowest number of SEZ approvals in the country. The higher proportion of approved SEZs in industrial States and developed cities instead of utilizing their spread effects in backward regions of India indicates the failure of SEZ objective to achieve rapid economic growth and regional development in the country (Devadas and Gupta, 2011[91] and Tantri, 2010). Table 4.2 denotes that the SEZ approvals were given mostly to the industrial States of India, ignoring the backward States.



Source: SEZ Indian Website: www.sez.nic.in

Figure 4.1 : List of States with Highest Number of SEZ Approvals and Operational in India

The above figure depicts that states like Karnataka, Telangana, and Maharashtra have obtained the maximum number of SEZ formal approvals. Whereas the maximum number of exporting zones/operating zones are situated in Tamil Nadu, Telangana, Maharashtra and Karnataka respectively. Gujarat, Kerala and Andhra Pradesh do not show much difference between the number of formal approvals and operating SEZs. The fast-growing states of Indian Union have foreseen the benefits and economic advantages of Special Economic Zone programme and utilized it prudently. The Government should focus to establish and promote the SEZs in the backward states of the country.

4.3 Sector-wise Distribution of Special Economic Zones

One of the major establishing objectives of SEZ regime in India is to widen the export basket by promoting new products for export. Presently zones operate and promote a vast variety of sectors and products in India, but a close evaluation of sector distribution reveals that 64 per cent of the zone sectorial distribution of formal approvals concentrates on IT/ITES and Telecom sector in India. IT/ITES zones were generally established in developed cities like Noida, Hyderabad, Chennai, Bangalore, Mumbai, and Pune. This can be the result of India's growing trend in the IT/ITES sector and availability of highly skilled and trained manpower mostly due to the outsourcing of these activities to India. Biotechnology, Multi-product and Pharmaceutical are other leading sectors in the sector distribution. Other sectors like energy, electronics, minerals, engineering, petrochemical and auto-related constitute only a minor portion of the distribution.

Table 4.3 : Sector-wise Distribution of Special Economic Zones in India

Sector	Formal Approvals	In-Principle Approvals	Notified SEZs	Exporting SEZs (Central Govt. + State Govt. /Pvt. SEZs + Notified SEZs under the SEZ Act, 2005)
Agro	5	2	4	1
Airport based multiproduct	3	0	0	0
Auto and related	1	1	1	1
Aviation/Aerospace/ Animation& Gaming/Copper	6	1	5	5
Beach & mineral/ metals	2	0	2	0
Building prod./mal./ transport equipment / ceramic and glass	2	2	2	2
Biotechnology	22	1	15	2
Electronic product/Industries	2	0	2	2
Engineering	14	1	14	13
Footwear/Leather	5	0	5	3
Food Processing	3	0	2	2
IT/ITES/Electronic Hardware	263	0	211	117

Aluminium	2	0	2	1
Light Engineering/Metallurgical Engineering /Automotive Components	1	0	0	0
Multi-Product	19	9	16	21
Multi-Services	7	1	7	2
Non-Conventional Energy	2	0	2	2
Petrochemicals & petro./oil and Gas	2	1	0	0
Pharmaceuticals/chemicals	16	2	16	12
Port-based multi-product	5	1	3	2
Power/alternate energy/ solar	3	1	3	3
Textiles/Apparel/Wool	7	1	6	7
Writing and printing paper mills	1	0	1	0
Granite processing Industries and other allied machinery/ manufacturing	2	0	1	0
Grand Total	411	32	330	206

Source: www.sez.nic.in, As on February 2017

It is evident from Table 4.3 that the concentration of IT/ITES, Biotechnology and Pharmaceutical sectors in the sector-wise approval of SEZs. This phenomenon will result in the concentration of SEZ export to few markets (Tantri (2014). Lakshmanan (2009), Chandrachud (2013), Bhikshu (2010) and Aggarwal (2004) note that along with IT/ITES sectors, other multi-product zones with, electronics, energy, petrochemical and engineering goods has to be promoted. The sector concentration of the SEZs is a threat to the economy in a long run due to lack of diversified export basket and international markets.

4.4 Different Phases of Special Economic Zones in India

Indian Government has been trying to promote zones as an export facilitator by issuing benefits and incentives such as tax holidays, reduced controls and quality infrastructure facilities since the 1960s. Over the past years, Special Economic Zone regime in India has emerged over five distinctive phases which are discussed below.

4.4.1 *The Initial Phase (1960-1980):* The initial phase witnessed the implementation of Kandla zone and SEEPZ. However, there was lack of clarity about the objectives these zones wanted to achieve. The zone operation policies were rigid, infrastructure was weak and the package of incentives and facilities were not attractive enough to raise investment. Single window clearance facility was not available hence the companies had to acquire the necessary clearance individually from central and state governments. FDI policy was also limited. To overcome these shortcomings, the Government appointed three committees; Kaul Committee in 1978 to review Kandla SEZ, Review Committee on Electronics reviewed SEEPZ and Tandom Committee in 1981 reviewed both the zones. These committees

pointed out the absence of an authority to centrally coordinate and control the zones and recommended to resolve procedural constraints, inadequate infrastructural facilities, limited concessions, and limited powers of the zone authorities. The committees made several concrete recommendations to improve the performance of zone regime in India. However, the policy regime remained static during this phase (PHD Chamber, 2015; Aggarwal, 2004).

4.4.2 *The Expansionary Phase (1981-1990):* During this phase, the recommendations of the Tandon Committee were implemented to make SEZ regime as a mechanism to promote exports from the country. The Committee also recommended setting up more zones in the country to achieve this objective. The inward-oriented developmental approach was replaced by outward-oriented export promotion approach during this phase. Following the report, the government resolved to set up four more zones in 1984, subsequently, new zones were developed in Noida, Cochin, Falta and Madras. It was during this phase that government introduced Export Oriented Units (EOUs) scheme which facilitated the development of EOUs beyond the boundaries of EPZs. However, the primary objective of Export Processing Zones was not clearly spelled and there were no major changes in the development and administrative procedures (PHD Chamber, 2015; Aggarwal, 2004).

4.4.3 *Consolidation Phase (1991-1999):* During the early 1990s, the Indian economy has experienced a massive dose of globalization through the restructuring of the economic policies. There was a paradigm shift from the regulated economic regime to the globally

competitive regime through reduced controls, import liberalization and hassle-free export provisions. During this phase, the government has initiated new policy incentives, administrative empowerment, procedural simplification and other measures to restructure the Export Processing Zones. This phase has experienced 146 circulars on EPZs issued by Central Board of Customs and Reserve Bank of India (RBI) to promote the zone operations in the country. One of the major changes took place during this phase was that the powers of Board of Approval were decentralized by an automatic approval route for reforming licensing procedures. The incorporation of trading, re-engineering, agriculture and horticulture units under EPZ operations has widened the scope of the EPZs during this phase (PHD Chamber, 2015; Aggarwal, 2004).

4.4.4 *The Emergence Phase (2000-2006):* This phase has witnessed a major shift in the direction and approach towards EPZs. In April 2000, the government adopted a new policy framework as ‘The Export-Import Policy 2000’ for the further expansion of the Special Economic Zones into public, private, state governments or joint ventures with a minimum size not less than 1000 hectares. The objective of the EXIM Policy was to facilitate globally competitive and hassle-free business environment for investors. A number of fiscal and non-fiscal incentives were offered to zones developers and units and various measures have been taken to improve the quality of the zone operations and management, which includes more relaxations in the approval procedures and simplifying the customs rule. On November 1, 2000, the existing EPZs at Kandla, Cochin,

and Santacruz were converted into Special Economic Zones and later in 2003 Noida, Chennai, Falta and Vishakhapatnam zones were also converted to SEZs. The enactment of SEZ Act in 2005 and SEZ Rules in 2006 provided a structured policy framework for SEZ operations. (Ibid).

4.4.5 *The Growth Phase (2007-Present):* The enactments of SEZ Act and Rules have increased the number of Special Economic Zones in India. The number of operational zones has increased from 87 in 2008 to 170 in 2012 further to 206 in December 2016. The implementation of MAT and DDT has caused losing of significance of SEZs to certain extent. The new government has promised to focus on SEZs and fix the problems hampering the development of SEZ operations in order to boost manufacturing and service exports and infrastructure development of the country (PHD Chamber 2015).

4.5 Special Economic Zone Act, 2005

Earlier, the policy relating to the Special Economic Zones was contained in the Foreign Trade Policy and incentives and other facilities offered to the Special Economic Zone developer/co-developer and units were implemented through various notifications and circulars issued by the concerned Ministries/Departments. However, in order to give a long-term and stable policy framework with a minimum regulatory regime and to provide expeditious and single window clearance mechanism, a Central Act for Special Economic Zones was found to be necessary. Accordingly, the SEZ Act, 2005 was enacted, effective from 10th February 2006. Thus, activities of SEZs and its units are governed by the provisions of the SEZ Act, 2005. The enactment of SEZ Act,

have ceased a set of legislation, rules and regulations which governed the SEZ till then, namely (MEDC, 2008) [92]:

- a) Foreign Trade Policy 2004-09, notified under Foreign Trade (Development & Regulation) Act, 1992;
- b) Chapter XA of the Customs Act, 1962; and
- c) SEZ Rules and Regulations notified under Chapter XA of the Customs Act, 1962.

The Act also made reforms in a number of other legislation as –

- Income-tax Act, 1961
- Insurance Act, 1938
- Banking Regulation Act, 1949
- Indian Stamp Act, 1899

4.5.1 Salient Features of SEZ Act, 2005

The major features of Special Economic Zone Act, 2005 are given below:

- The Central Government is authorized to direct modified applicability of Central Acts (except labour matters) to SEZs and units therein.
- State Governments are authorized to enact laws / notify policies for providing fiscal and other concessions.
- SEZ shall be deemed to be a territory outside the customs territory of India.
- SEZ shall be deemed to be a port, airport, inland container depot, land station and land customs stations, as the case may be, under the Customs Act, 1962.

The Act provided notification and guidelines towards the procedure for making proposal to set up Special Economic Zone, guidelines for notifying special Economic Zone, permitting exemption from taxes or duties, constitution of Board of Approval, duties, powers and functions of Board, appointment and duties of Development Commissioner, constitution, powers and functions of Approval Committee, procedures to set up a unit, setting up and operation of Offshore Banking Unit, exemptions, drawbacks and concessions to every developer and entrepreneur etc.(SEZ Act 2005).

19 SEZs were established/notified before the enactment of the SEZ Act, 2005 of which, seven SEZs were owned and operated by Central Government and rest by State Governments and private sector, which are as follows:

- a. **Central Government SEZs:** Kandla SEZ (Gujarat), SEEPZ-SEZ (Maharashtra), Noida SEZ (U.P.), Madras SEZ (Tamil Nadu), Cochin SEZ (Kerala), Falta SEZ (West Bengal), Visakhapatnam (AP).

- b. **State Government & Private Sector SEZs:** Surat SEZ (Gujarat), Jaipur SEZ (Rajasthan), Indore SEZ (Madhya Pradesh), Jodhpur SEZ(Rajasthan), Moradabad SEZ (Uttar Pradesh), Manikanchan SEZ (West Bengal), Mahindra City (Chennai Tamil Nadu), Mahindra City (Chennai, Tamil Nadu), Mahindra City (Chennai, Tamil Nadu), Salt Lake Electronic City (Kolkata), Surat Apparel SEZ, Nokia SEZ (Chennai) (SEZ Act 2005, SEZ Customs Manuel (2014) [93].

4.6 Profile of Special Economic Zones in India

The establishment of Special Economic Zones in India has enabled the country to promote exports, upgrade technology and generate additional employment opportunities. Although, the first zone was established in 1965 at Kandla, without much focus and policy frameworks, soon the government recognized the need to promote zone regime in order to compete in the international market. Many zones were established later across the country and exclusive policies and notifications were enacted for zone operations. The Central Government own seven Special Economic Zones in India, the profile of these zones are discussed below.

4.6.1 Kandla Special Economic Zone (KASEZ)

Kandla SEZ is the first zone established in Asia, located in Kutch District of Gujarat, near to the city of Gandhidham. KASEZ is situated at distance of 9 kilometers from Kandla Port, which is an added advantage for the zone as Kandla port is a major hub in India for import and export activities. KASEZ was inaugurated on March 1965 by then Prime Minister of India Mr. Lal Bahadur Shastri. The zone covers an enormous area of 100 hectares with 203 units. The business-friendly atmosphere, high-class infrastructure and the strategic location of the zone made the zone the most attractive investment destination in the region (Source: www.kasez.com).

Table 4.4 : Export and Employment Performance of Kandla SEZ

Year	Export (In Rs. Crores)	Export Growth Rate	Employment	Employment Growth Rate
2005-06	1101.1	-	13500	-
2006-07	1482.7	34.66	15000	11.11
2007-08	1939	30.77	18404	22.69
2008-09	2420	24.81	19130	3.94
2009-10	2205.8	-8.85	21200	10.82
2010-11	2648.2	20.06	21017	-0.86
2011-12	2960.8	11.80	23465	11.65
2012-13	2961.6	0.03	24517	4.48
2013-14	3636	22.77	25604	4.43

Source: Office of the Development Commissioner, KASEZ

KASEZ has made a remarkable contribution towards export and employment generation in the region, the export has grown positively from 2005-06 to 2008-09, and there was a negative growth rate of export in 2009-10. The export growth rate again improved from 2010-11 onwards. KASEZ is the third largest employment provider zone among Central Government zones in India. Zone's employment has steadily grown from inception till date, apart from a slightly negative growth in 2010-11. As of December 2015, there are 25,759 employees working in Kandla SEZ. Nearly 36 per cent of zone workers are women.

Table 4.5 : Number of Units in Kandla SEZ in Selected Years

Year	1990-91	1997-98	2000-01	2007-08	2010-11	2014-15
Number of Units	136	98	109	169	186	203

Source: Office of the Development Commissioner, KASEZ

KASEZ is one of the leading zones in the number of operating units among Central government zones in India. The number of units has considerably increased after the implementation of SEZ Scheme in 2000. The growing number of units denotes the increasing preference of the entrepreneurs to do business in the zone. As of 2014-15, there are 203 operational units in the zone. KASEZ is a Multi-Product zone, major sectors operating within the zone are computer software, engineering goods, electronic hardware, food and agro products, garments and textiles, gem and jewelry, pharmaceuticals and plastic and rubber. Kandla SEZ authorities have invested heavily in infrastructure in the form of ready to occupy sheds with firefighting arrangement, heavy lifts etc. All main roads of the zones have been concreted and quarters have been constructed for customs staff.

4.6.2 Santacruz Electronics Export Processing Zone SEZ

Santacruz Electronics Export Processing Zone was established as the second Free Zone in India in 1st May 1973. SEEPZ has located at Andheri east area Mumbai, in an area of 110 acres. The zone was set as a sector-specific zone for the export promotion of electronics products, of land leased through the Maharashtra Industrial Development Corporation (MIDC), Andheri (East), which over the years has become a landmark of Mumbai. The objective of this zone was accelerating the progress of electronics manufacturing in India and to take advantage of the growing electronics world market.

Considering the high potential and the pollution-free nature of Gem & Jewellery Industry, the Govt. of India decided to permit manufacture and export of Gem & Jewellery items from SEEPZ during 1987-88, which soon gave a glamorous twist to SEEPZ. SEEPZ was one among the three Export Processing Zones converted as Special Economic Zone with effect from 1st November 2000 (Source: <http://www.seepz.gov.in/>).

SEEPZ provides the necessary infrastructure for setting up of units in the zone such as developed plots and ready built-up areas. There are 7 Standard Design Factories and 3 Gem & Jewelry Factories, 2 Towers in SEEPZ & one multi-storied building. The developed plots are leased for 30 years and built up area is leased for five years on a renewable basis. A well-connected network of central roads and a Business Facilitation Centre are attractive facilities of Zone. More than 400 units operate within SEEPZ (ibid).

Table 4.6 : Export and Employment Performance of SEEPZ SEZ

Year	Export (In Rs. Crores)	Growth Rate	Employment	Growth Rate
2005-06	9192.2	-	84,600	-
2006-07	12047.7	31.06	84,600	0.00
2007-08	11264.7	-6.50	87,368	3.27
2008-09	10079	-10.53	92,142	5.46
2009-10	9995	-0.83	86,844	-5.75
2010-11	11582	15.88	85,103	-2.00
2011-12	12608	8.86	85,103	0.00
2012-13	14399	14.21	86,421	1.55
2013-14	16989	17.99	93,863	8.61

Source: Office of the Development Commissioner, SEEPZ SEZ

SEEPZ has maintained remarkable export volumes throughout the years. The export value has increased from 9192.2 in 2005-06 to 16989 in 2013-14. There was negative growth of export during 2007-08, 2008-09 and 2009-10, afterward, the zones displayed a steady increase in the export values. Regarding the employment, zone provides employment to more than 93,000 persons and more than 40 per cent of them are women. SEEPZ is the highest employment provider among all Central Government zones in the country. The zone has generated a positive growth rate of employment in most of its years.

Table 4.7 : Number of Units in SEEPZ SEZ in Selected Years

Year	1990-91	1997-98	2000-01	2007-08	2010-11	2014-15
Number of Units	101	157	103	290	322	409

Source: Office of the Development Commissioner, SEEPZ SEZ

The operations in SEEPZ commenced in 1974 with 5 units, now it has grown to over 400 units operating in gem and jewelry, electronic hardware and trading sectors. Currently, SEEPZ accommodates the maximum number of operating units among Central government Zones.

4.6.3 Noida Special Economic Zone (NSEZ)

NSEZ the only Central Government SEZ in the northern India, headed by the Development Commissioner, was set up in 1985 in Noida on a 310-acre plot of land. The government of India has so far invested a sum of Rs.10726.80 million on its development. NSEZ provides excellent infrastructure, supportive services and sector-specific facilities for the thrust areas of exports like gem and

jewelry and electronics software. This is the landlocked SEZ, contrary to other zones which are situated in Port towns. Hence emphasis is given in establishing the type of units with high value and low volume. Proximity to Delhi and availability of skilled and dedicated manpower makes it ideal for setting up jewelry and software development units (Source: <http://www.nsez.gov.in>).

Table 4.8 : Export and Employment Performance of Noida SEZ

Year	Export (In Rs.Crores)	Growth Rate	Employment	Growth Rate
2005-06	5670.7	-	23323	-
2006-07	6893	21.55	33012	41.54
2007-08	16843.4	144.36	33012	0.00
2008-09	10608.82	-37.01	35484	7.49
2009-10	8560.267	-19.31	37314	5.16
2010-11	9405.08	9.87	38654	3.59
2011-12	10984.75	16.80	41943	8.51
2012-13	8177.95	-25.55	44224	5.44
2013-14	9991.8	22.18	45643	3.21

Source: Office of the Development Commissioner, SEEPZ

NSEZ has maintained high export growth rate in many years during the past. During 2006-07, 2007-08, 2013-14 it has exhibited tremendous export growths. The exports growth was in negative during 2008-09, 2009-10, and 2012-13. Exports value generated from the zone in 2014-15 was Rs. 11,063.72 cores. Employment in the zone was 46,235 in March 2015. NSEZ is the second largest employment provider among Central Government zones in the country.

Table 4.9 : Number of Units Noida SEZ in Selected Years

Year	1990-91	1997-98	2000-01	2007-08	2010-11	2014-15
Number of Units	50	117	146	162	172	202

Source: Office of the Development Commissioner, Noida SEZ

NSEZ has 202 developed plots of varying sizes, besides thirteen Standard Design Factory complexes that can accommodate 208 units including one exclusive block for trading service units. One SDF block of sixteen units are also under construction. Different Sectors like textiles, engineering, electronics, gem and jewelry, chemical, food and agro and software services operates within NSEZ. Future expansion has been strategically planned and when implemented fully, the zone would be able to provide 224 SDF units (ibid).

4.6.4 Madras Special Economic Zone (Chennai Special Economic Zone) (MSEZ)

Madras Special Economic Zone is a multi-product SEZ. The Zone was established as an Export Processing Zone (MEPZ) in the year 1984. Once the zone became operational, exports commenced from 1985-86. The same was converted into a Special Economic Zone (Multi product) on 1st January 2003. The zone covers 265 acres of land. The added objective of the SEZ is to facilitate exports through reduction of transaction costs. To this effect, the Govt. of India, Department of Commerce, has introduced special features that include Offshore Banking Units and Container Freight Stations to be set up within the zone besides liberalized Customs procedures. MSEZ provides a pollution free environment, uninterrupted power supply, customs in-house clearance, proximity to railway station and airport and adequate supply of managerial staff and skilled labour. The Zone is located in the city of Chennai (Madras), in the State of Tamil Nadu (Source: <http://www.mepz.gov.in>).

The other infrastructure facilities provided by MSEZ includes allotment of readymade sheds and land, drinking water supply, banks, ATM and Optical Fiber Cable (OFC) telecommunication network, child care, bus bay and parking facilities, emergency medical facilities and around the clock security services. Madras Special Economic Zone is situated in the key location of Chennai with direct road access to major ports. The Chennai port is situated 24 kilometers from MSEZ and Chennai International airport is 8 kilometers away from the zone (ibid).

Table 4.10 : Export and Employment Performance of Madras SEZ

Year	Export (In Rs.Crores)	Growth Rate	Employment	Growth Rate
2005-06	1858.9	-	32645	-
2006-07	2384	28.25	34932	7.01
2007-08	3046.5	27.79	38269	9.55
2008-09	4022.23	32.03	38871	1.57
2009-10	5788.29	43.91	41035	5.57
2010-11	8826.03	52.48	35269	-14.05
2011-12	10688.53	21.10	38871	10.21
2012-13	9970.85	-6.71	38871	0.00
2013-14	6964.22	-30.15	38871	0.00

Source: Office of the Development Commissioner, Madras SEZ

The exports from the zone have considerably grown from 2005-06 to 2011-12 with an average annual growth rate of 34.2 per cent. While during 2012-13 and 2013-14 the zones have recorded a negative export growth rate. MSEZ is one of the leading employment providing zones in the country, as per the reports from the MSEZ administrative office there is no much employment addition during 2012-13 and 2013-14. According to the reports, in 2013-14 MSEZ has provided 38871 employment opportunities.

Table 4.11 : Number of Units in Madras SEZ in Selected Years

Year	1990-91	1997-98	2000-01	2007-08	2010-11	2014-15
Number of Units	39	82	86	111	117	117

Source: Office of the Development Commissioner, Madras SEZ

The major contributing sector of MSEZ is software which contributes 45 per cent of the total zone export value. Recently Automobile sector is intensely prompted under engineering sector and other sectors like garments, gem, and jewelry, electronics and chemicals also operate in the zones.

4.6.5 Cochin Special Economic Zone (CSEZ)

The Cochin Special Economic Zone (CSEZ), a multi-product zone, was established through a resolution dated 24.09.1983 issued by the Department of Commerce, Government of India. The process of acquisition of land started in 1984 and the zone became operational in 1986 with export commencing in November 1986. The government of India converted the Cochin Export Processing zones into a Special Economic zone on November 1, 2000, along with KASEZ and SEEPZ.

Cochin Special Economic Zone (CSEZ) located in Kakkand with a land area of 103 acres has 61 developed plots of different sizes. CSEZ considered as one of the best Central Government owned zones in India having the best infrastructure. It owns a 25MVA 110/11kv substation and, is the only SEZ in India distributing power within the zone. CSEZ has an integrated water management system, incinerator to treat biodegradable waste. CSEZ is the only green and plastic free zone in the country. CSEZ offers standard design factory floors, and plots of land for building custom buildings. There is a dedicated building for IT/ITES units. CSEZ has round the clock on-site customs

clearance, it also provides internet and telephone connection through optical fiber cable and owns telephone exchange with the capacity of 1000 line telephone exchange respectively to all units. The Zone provides facilities like Videoconferencing studio, Foreign Post Office, Offshore Banking Unit etc. (Source: <http://www.csez.com>).

Table 4.12 : Export and Employment Performance of Cochin SEZ

Year	Export (In Rs. Crores)	Growth Rate	Employment	Growth Rate
2005-06	696	-	3907	
2006-07	1037.52	49.07	5921	51.55
2007-08	4651.31	348.31	6869	16.01
2008-09	11683.54	151.19	8894	29.48
2009-10	17588.24	50.54	9109	2.42
2010-11	18746	6.58	9906	8.75
2011-12	28637.32	52.76	10317	4.15
2012-13	32579.47	13.77	10464	1.42
2013-14	4461.07	-86.31	10494	0.29

Source: Office of the Development Commissioner, Cochin SEZ

CSEZ logged a turnover of 94 lakhs in its first year of operation. Zone began operations with 5 units and less than 300 workers. But the zone reported a very promising export performance from 2005-06 onwards. Its export growth rate was tremendous during 2007-08 with 348 per cent. It has achieved consecutively positive export growth rate from 2005-06 to 2012-13. Only in 2013-14, the zone reported a negative export growth rate. Regarding the employment generation, the performance of CSEZ is much below than most of the other Central Government zones in India. It provided employment to 10494 persons in 2013-14.

Table 4.13 : Number of Units in Cochin SEZ in selected Years

Year	1990-91	1997-98	2000-01	2007-08	2010-11	2014-15
Number of Units	23	45	49	82	138	116

Source: Office of the Development Commissioner, Cochin SEZ

As of 2014-15 Zone have 116 operational units, function in various sectors. Gem and jewelry, IT/ITES and Engineering are the major export contributor of the zone while IT/ITES and Electronics Hardware are the major employment provider of the zone. Other than these sectors, Food and Agro, Miscellaneous and Textile and Garment also operate in CSEZ.

4.6.6 Falta Special Economic Zone (FSEZ)

Falta Special Economic Zone (earlier FEPZ) was set up by the Government of India in the year 1984 along with Cochin, Madras and Noida SEZs. Falta Special Economic Zone has come under the purview of the SEZ Scheme later. First export from FSEZ initiated on 4th January 1986. The objective has been set as the generation of additional economic activity, promotion of goods and services, promotion of investment from domestic and foreign sources, the creation of employment opportunities and development of infrastructure facilities. The zone covers the land area of 280 acres. (Source: <http://fsez.gov.in>).

Near Calcutta, the Falta Special Economic Zone is located in a pollution free sylvan environment, at a distance of about 55 kilometers from the heart of Calcutta city and about 45 kilometers from the southern suburbs. The zone has built up space of Standard Design Factories 15,570 square meters and industrial

sheds in 15,350 square meters. It is well connected by a developed network of roads including a State highway with internal highways of 11 kilometers, two ports at Calcutta and Haldia and the International airport at Dumdum. Falta SEZ is also furnished with other infrastructure facilities like post office, telephone exchange, Staff quarters, Medical dispensary, banks, a container handling jetty and fire station (ibid).

Table 4.14 : Export and Employment Performance of Falta SEZ

Year	Export (In Rs. Crores)	Growth Rate	Employment	Growth Rate
2005-06	525	-	3371	-
2006-07	998.7	90.23	4253	26.16
2007-08	1026.3	2.76	4413	3.76
2008-09	946.098	-7.81	4487	1.68
2009-10	1172.55	23.94	5044	12.41
2010-11	1485.2	26.66	5661	12.23
2011-12	1246.45	-16.08	5961	5.30
2012-13	783.86	-37.11	6740	13.07
2013-14	1467.94	87.27	6873	1.97

Source: Office of the Development Commissioner, Falta SEZ

The export performance of FSEZ is fluctuating and it is the lowest ranking zone in terms of employment generation and exports. Textile, leather and Plastic are the major export contributing sectors of the zone. While textile, engineering and food and agro are the highest employment generating sectors in the zone. The growth of employment opportunities in the zone is also minimal compared to other zones in the country. But it has maintained a positive employment growth throughout the years.

Table 4.15 : Number of Units in Falta SEZ in selected Years

Year	1990-91	1997-98	2000-01	2007-08	2010-11	2014-15
Number of Units	18	43	111	128	131	93

Source: Office of the Development Commissioner, Falta SEZ

Presently, Falta has the lowest number of operational units also. The number of units increased from 81 in 1990-91 to 131 in 2010-11 but it decreased to 93 in 2014-15. Chemical, engineering, electronics, food and agro, plastics, sports, textiles and gem and jewelry are the major operating sectors in the zone.

4.6.7 Vishakhapatnam Special Economic Zone (VSEZ)

Visakhapatnam rightly called the 'City of Destiny' is a major industrial center in the state of Andhra Pradesh. VSEZ, formerly known as Visakhapatnam Export Processing Zone, was established in the year 1989. Set up in a sprawling 360 acres of prime land in one of the fastest growing cities of India, Visakhapatnam Special Economic Zone offers state of the art infrastructure coupled with the liberal package of incentives, concessions and support services. The export-friendly administrative set up ensures disposal of all approvals and clearances instantly. The administrative head of the Visakhapatnam Special Economic Zone is the Development Commissioner (Source: <http://www.vsez.gov.in>).

VSEZ has fully developed plots of sizes varying from half-acre and above and are allotted on lease basis by following competitive bidding methodology. Industrial sheds of size 1000 square meter and trading sheds of size 100 square meters are also available on the lease basis. Standard Design

Factory (SDF) Complexes are constructed in the zone to facilitate the entrepreneurs to have ready build premises for setting up units immediately without any loss of time. A dedicated 132/33 KV sub-station and abundant and good quality water are made available from a nearby reservoir. Two public sector banks namely Andhra Bank and State Bank of India have full-fledged branches operating from the Administrative Building of VSEZ. Both the banks are authorized to deal in foreign exchange (ibid).

Table 4.16: Export and Employment Performance of Vishakhapatnam SEZ

Year	Export (In Rs.Crores)	Growth Rate	Employment	Growth Rate
2005-06	612.7	-	2,562	-
2006-07	749.7	22.36	3,975	55.15
2007-08	741.3	-1.12	4,412	10.99
2008-09	902	21.68	5900	33.73
2009-10	918	1.77	5057	-14.29
2010-11	1583	72.44	6150	21.61
2011-12	2405	51.93	4647	-24.44
2012-13	1240	-48.44	4692	0.97
2013-14	1584.31	27.77	4761	1.47

Source: Office of the Development Commissioner, VSEZ

The export performance of VSEZ had fluctuations during 2005-06 to 2013-14. The growth rate was negative 48.44 per cent during 2012-13. The major contributing sectors are Gem and Jewellery, Engineering and Software. The total export value for the year 2013-14 is Rs. 1584.31 which is far below the export values of other Special Economic Zones. The employment growth of the zone is also fluctuating and during the recent years, there has been a sluggish growth. The employment has increased from 2,562 to 4761 in 2005-06 to 2014-14. Engineering, food and agro and miscellaneous provides the maximum

number of employment opportunities in the Zones. Considering the employment opportunities and export values created, VSEZ's performance is much lower than other zones.

Table 4.17 : Number of Units in Vishakhapatnam SEZ in selected Years

Year	1990-91	1997-98	2000-01	2007-08	2010-11	2014-15
Number of Units	n.a.	n.a.	16	88	73	102

Source: Office of the Development Commissioner, Vizag SEZ

There has been a steady increase in the number of operating units in the VSEZ from 2000 onwards. As of 2014-15, there are 102 operating units in the zones. Sectors like, food and agro products, IT/ITES, Engineering, Textile, Gem and Jewelry and miscellaneous operate in VSEZ.

Summary

The history of Special Economic Zones in India revealed the massive growth and various phases of zone operations in the country. The contributions of these zones to the total economic development of the country are found satisfactory. There has been a sudden surge in the SEZ establishments after the implementation of SEZ Act in 2005 as the objectives, benefit packages and attractive incentives are clearly listed by Act. In order to facilitate the balanced regional development of the country, SEZs has to be proportionally established in the backward states also, since the most number of SEZs in operations are concentrated only in industrial States. The diversification of the SEZ units or products has to be ensured by the government to reach wider international markets. Although the Central Government SEZs are performing at satisfactory levels, the decrease in the number of units in many SEZs indicate the reduced

preferences by the investors to invest in the zones. The removal of many incentives by the government in recent times is the major reason behind the reluctances of the investors in considering SEZ as the best options to do business with. The government has to do SEZ policy reforms to boost the confidence of the investors in the country and thereby making SEZs as the ‘engine of economic growth’.

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EXPORT PERFORMANCE OF COCHIN SPECIAL ECONOMIC ZONE

- 5.1 *Special Economic Zone Contribution to Indian Economy*
- 5.2 *Comparison of CSEZ with Indian Exports and SEZ Exports*
- 5.3 *Export Performance of Indian Special Economic Zones*
- 5.4 *Sector- Wise Export Performance of CSEZ*
- 5.5 *Export Growth of Different Sectors in CSEZ*
- 5.6 *Share of Different Sectors in CSEZ Exports*
- 5.7 *Performance of CSEZ during EPZ and SEZ Regime*
- 5.8 *Revealed Comparative Advantage Index Analysis*
- 5.9 *Net Export Index Analysis*
- 5.10 *Net Foreign Exchange Earning Analysis*

The link between exports and economic development is a well-established fact. Enormous policies by the government have tried to promote exports as a mechanism for economic development, and Special Economic Zone is one of the widely used policies of this kind. The SEZ Act 2005 and SEZ Rules 2006, envisages the major objectives behind the establishments of Special Economic Zones as, the generation of additional economic activity, promotion of exports of goods and services, promotion of foreign exchange earnings through strengthening exports. Hence Special Economic Zones were established primarily with an objective to promote export and thereby actively part take in the international trade, securing foreign exchange earnings.

This chapter answers the key research question of export promotion capacity of SEZs. The analysis recorded in this chapter explains the export performance of SEZs in India generally and evaluates particularly the export performance of Cochin Special Economic Zone (CSEZ). The Data for the analysis was collected from Annual Progress Reports (APR) of various Special Economic Zones and through filing the Right to Information Act to various zone authorities. National level export data was also collected from Economic Review, Ministry of Commerce and Industry and also from Reserve Bank reports. The study period is limited from 2000-01 to 2013-14. Micro-level data like sector-wise export and employment generation and sector-wise list of operating units were not properly maintained by many zones. Hence the micro level export comparison of CSEZ is done only with Madras Special Economic Zone and Vishakhapatnam Special Economic Zone. Sector-wise comparison of CSEZ with other zones is limited for the study period of 2005-06 to 2013-14, due to the unavailability of data.

To study the export performance of CSEZ, Statistical tools like, Compound Annual Growth Rate, Standard Deviation, Annual Growth Rate, Mean Value, Balassa's Revealed Comparative Advantage Index, Net Export Index and Net Foreign Exchange Earnings were used. A macro-level comparison of CSEZ with other Central Government SEZs is conducted to study the export potential of CSEZ at the national level. To evaluate the pattern of exports and contribution of each sector in CSEZ, sector-wise analysis of export performance was also conducted for the study period. The export values of zones in absolute terms might be promising but if the increase in export value is accompanied by a substantial increase in the imports, the positive impact on nation's balance of trade would be limited. Hence the researcher has also tried to evaluate the export performance of Cochin Special Economic Zone in real terms by assessing the Net Foreign Exchange Earnings (NFEE) of the zone too.

5.1 Special Economic Zone Contribution to Indian Economy

In order to understand the capacity of Indian SEZs, in contributing considerable volumes of exports to nation's total export basket, the share of SEZs exports in India's total export is calculated. The contribution of SEZs towards the total exports of India has remarkably increased over decades, especially after the introduction of SEZ Act 2005. The prominence of any variable on the economy can be measured through analyzing of its contribution towards Gross Domestic Product (GDP) (Elangovan 2013) [94]. Hence the contributions of India's total exports to GDP and SEZs exports to India's GDP were measured in table 5.1.

The contribution of SEZ exports towards India's GDP reveals the significance of the economic contribution of the zones to the nation's economic development. The share of Indian exports towards GDP increased from 10.17 per cent to 16.73 per cent during 2000-01 to 2013- 14 while the share of SEZ exports to GDP has improved from 0.43 per cent to 4.72 per cent during the same period. Although the zone contribution was only .43 per cent of GDP in 2000-01, it doubled to .88 per cent in 2006-07. Further, the share of SEZ exports has considerably improved after the enactment of SEZ act 2005 and SEZ Rules 2006, which is evident from the steady increase in the zone contribution per cent of 1.88, 3.61, 4.36 and 5.07 in the following years. In 2012-13 the share of SEZ was the highest with 5.07 per cent contribution to the GDP. The increase of SEZ's share to GDP during 2008 to 2011 was much higher than the increase of overall export share in GDP (Figure 5.1).

Table 5.1 : India's Total Exports and SEZ Exports - Contribution to GDP

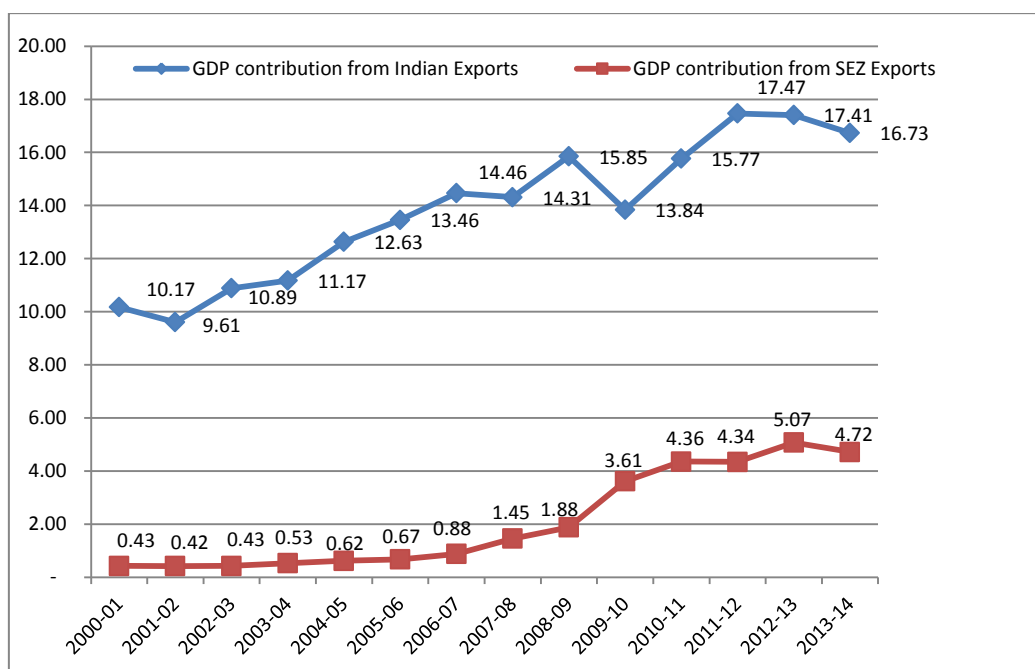
Year	India's GDP*	India's Total Export*	All India SEZ Export*	Share of Indian Export in GDP**	Share of SEZ Export in Indian Export***	Share of SEZ Export in GDP**
2000-01	2,000,743	203,571	8,552	10.17	4.20	0.43
2001-02	2,175,260	209,018	9,190	9.61	4.40	0.42
2002-03	2,343,864	255,137	10,057	10.89	3.94	0.43
2003-04	2,625,819	293,367	13,854	11.17	4.72	0.53
2004-05	2,971,464	375,340	18,314	12.63	4.88	0.62
2005-06	3,390,503	456,418	22,840	13.46	5.00	0.67
2006-07	3,953,276	571,779	34,615	14.46	6.05	0.88
2007-08	4,582,086	655,864	66,638	14.31	10.16	1.45
2008-09	5,303,567	840,755	99,689	15.85	11.86	1.88
2009-10	6,108,903	845,534	220,712	13.84	26.10	3.61
2010-11	7,248,860	1,142,922	315,868	15.77	27.64	4.36
2011-12	8,391,691	1,465,959	364,478	17.47	24.86	4.34
2012-13	9,388,876	1,634,319	476,159	17.41	29.14	5.07
2013-14	10,472,807	1,752,143	494,077	16.73	28.20	4.72

Source: Reserve Bank of India, Ministry of Commerce and Industry

*Values in Rs Crores, ** Values in percentages

The analysis given in table 5.1 reveals that SEZ export was providing a significant contribution towards the GDP of the country, while the growth rate of shares of SEZ export in Indian export was much higher than the growth rate of India's export share in GDP. During the period from 2000-01 to 2013-14, 9.61 to 17.47 per cent of GDP was contributed from India's total export, out of India's total exports 3.94 to 29.14 per cent was contributed by Indian SEZs. Also, the proportion of SEZ's export contribution in India's total export has increased considerably from 4.20 to 28.20 per cent in 2000-01 to 2013-14. This indicates that the Special Economic Zone's contributions played a vital role in India's total export.

Figure 5.1 displays the contribution pattern of overall Indian exports and SEZ exports to GDP during the period 2000-01 to 2013-14. The steady growth of both these variables to GDP is evident in the figure. It has to be noted that the share of SEZ exports has slowly improved from 2000-01 to 2006-07. Once the SEZ Act came into effect in 2005, the percentage of SEZ export contribution to GDP has remarkably increased at much rapid rate. Although there was a downfall of Indian exports contributions in 2009-10, the SEZ export maintained a surge in its contribution to the GDP by rising from 1.88 per cent to 3.61 per cent during the same period. There onwards a steady and improved contribution from SEZ exports is visible in the GDP.



Source: Reserve Bank of India, Ministry of Commerce and Industry, Values in percentages

Figure 5.1 : Contribution of Indian Exports and SEZ Exports to GDP

The analysis reveals that both Indian exports and SEZ exports has considerably improved their contributing roles towards the GDP over the period while SEZ have remarkably improved their contributions from 2006-07 onwards.

Before going deep into the export performance of the Cochin Special Economic Zone, it will be useful to understand the major milestones achieved by the zone.

Table 5.2 : Cochin Special Economic Zone- The Major Milestones

No	Milestones	Date
1	Government Decision to set up CSEZ	June, 1983
2	Issue of notification	1984
3	Project approval	February, 1985
4	Land acquisition and construction	May,1985
5	Customs bonded area declaration	June,1986
6	First export	November, 1986
7	Construction of single storied SDFs	1987-1990
8	Construction of Electronics complex	1992
9	Construction of Garment complex	1994
10	Conversion to SEZ	2000

Source: Devolvement Commissioner's Office, CSEZ

5.2 The Comparison of CSEZ with Indian Exports and SEZ Exports

The first export from CSEZ was Rs. 0.94 crores in 1986-87, which was later increased to Rs. 32,579.47 crores in 2012-13. The export figures from CSEZ have improved over the time with other SEZs in the country. Presently SEZ exports contribute a considerable amount to Indian exports. It is relevant to understand the contribution of CSEZ to total SEZ exports in the country. The volume of exports and the foreign exchange earnings represents the successful performance of a zone in absolute terms. The growth of SEZ exports and CSEZ exports are given in Table 5.3.

Table 5.3 : All Indian SEZ Exports and the Contribution of CSEZ Exports

Year	All India SEZ Export*	Growth Rate**	Share of SEZ Export in Indian Exports	CSEZ Export*	Growth Rate**	Share of CSEZ Export in All India SEZ Export**
2000-01	8,552	-	4.20	304.3	-	3.56
2001-02	9,190	7.46	4.40	278.91	-8.34	3.03
2002-03	10,057	9.43	3.94	311.93	11.84	3.10
2003-04	13,854	37.75	4.72	404.19	29.58	2.92
2004-05	18,314	32.19	4.88	637.19	57.65	3.48
2005-06	22,840	24.71	5.00	696.01	9.23	3.05
2006-07	34,615	51.55	6.05	1,037.52	49.07	3.00
2007-08	66,638	92.51	10.16	4,651.31	348.31	6.98
2008-09	99,689	49.60	11.86	11,683.54	151.19	11.72
2009-10	220,712	121.40	26.10	17,588.24	50.54	7.97
2010-11	315,868	43.11	27.64	18,746	6.58	5.93
2011-12	364,478	15.39	24.86	28,637.32	52.76	7.86
2012-13	476,159	30.64	29.14	32,579.47	13.77	6.84
2013-14	494,077	3.76	28.20	4,461.07	-86.31	0.90

Source: Reserve Bank of India Data, Ministry of Commerce and Industry and DC office
CSEZ *Export values in Rs. Crores, ** Values in per cent.

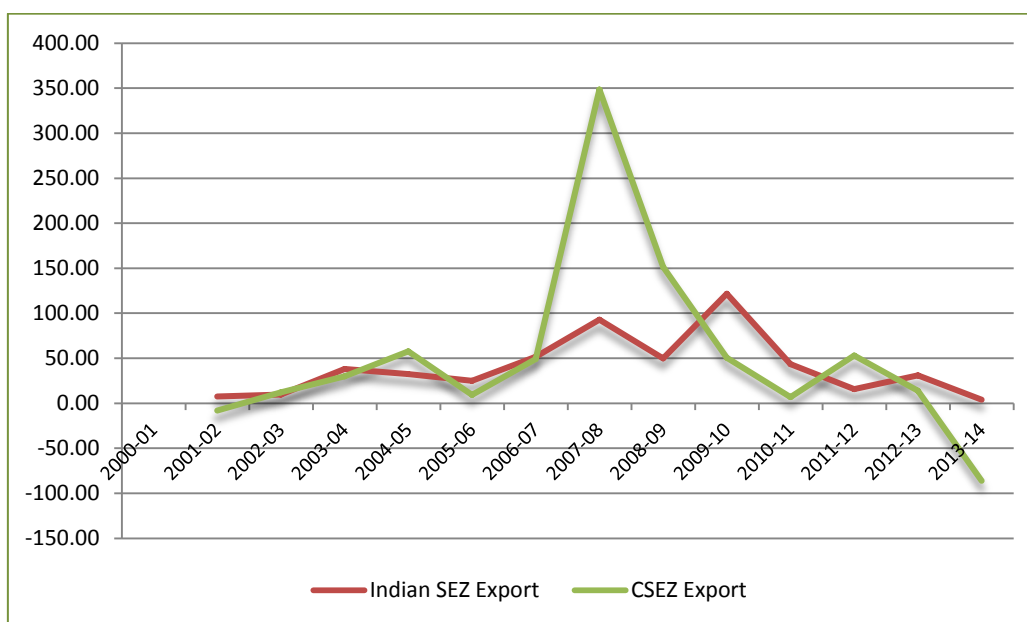
Table 5.3 represents the export performance of Indian SEZs and CSEZ in terms of annual growth rates, the share of Indian SEZ in overall Indian exports and the share of CSEZ in all India's SEZ exports. All India SEZ exports have increased from Rs. 8552 crores to Rs. 494,077 crores during the period 2000-01 to 2013-14. The export performance of CSEZ also increased from Rs. 304.3crores to Rs. 4,461.07 crores during the same period. Although the performance of the CSEZ was promising and consistent until 2012-13, the zone had a massive decrease in the export value in from Rs. 32,579.47 crores in 2012-13 to Rs. 4,461.07 crores in 2013-14, due to the closure of few units in the zone. The annual growth rate of exports from CSEZ was higher than all India SEZ exports for five years during the study period. CSEZ reported a substantial acceleration in its export growth rates over India SEZ exports during 2004-05, 2007-08, 2008-09, and 2011-12. CSEZ has achieved the highest growth rate of 348.31 per cent in 2007-08 which was the ever highest growth rate on exports by any government-owned SEZs in India.

When the Indian exports fluctuated during the world-wide recession in 2008-09 and 2009-10, the Indian SEZ and CSEZ exports reported high growth rates, mainly due to the diversified markets. The highest share of SEZ export in Indian export is reported as 29.14 per cent in 2012-13 and 11.72 per cent is the maximum share of CSEZ export in Indian exports during 2008-09. This reflects that both Indian SEZs and CSEZ considerably contribute to the overall exports of the country.

After the enactment of SEZ Act 2005, the boost in exports from all India SEZs and CSEZ is impressive due to the investment-friendly atmosphere and other incentives and facilities provided by the Act.

5.2.1 Growth Rate Comparison of Indian SEZ and CSEZ Exports

The growth rates of Indian SEZ exports and CSEZ exports are given in Figure 5.2. The growth rates of all India SEZ and CSEZ exports were quite fluctuating during the study period from 2000-01 to 2013-14. CSEZ export growth rate started with -8.34 per cent in 2001-02 and maintained a sluggish growth till 2004-05. From 2007 to 2010 CSEZ has reported remarkable improvements in its growth rate compared to all India SEZ exports. After 2010, CSEZ's export growth rate has diminished in all years except in 2011-12. CSEZ registered -86.31 percent growth rate during the last year of the study. While all Indian SEZ exports performed almost continuous growth rate until 2007-08. Its growth rate decreased in 2008-09 to 49.60 per cent from 92.51 per cent and maintained a fluctuated growth rate afterward. During the last period of the study, both exports growth rates have significantly decreased along with a reduced growth rate of overall Indian Exports.

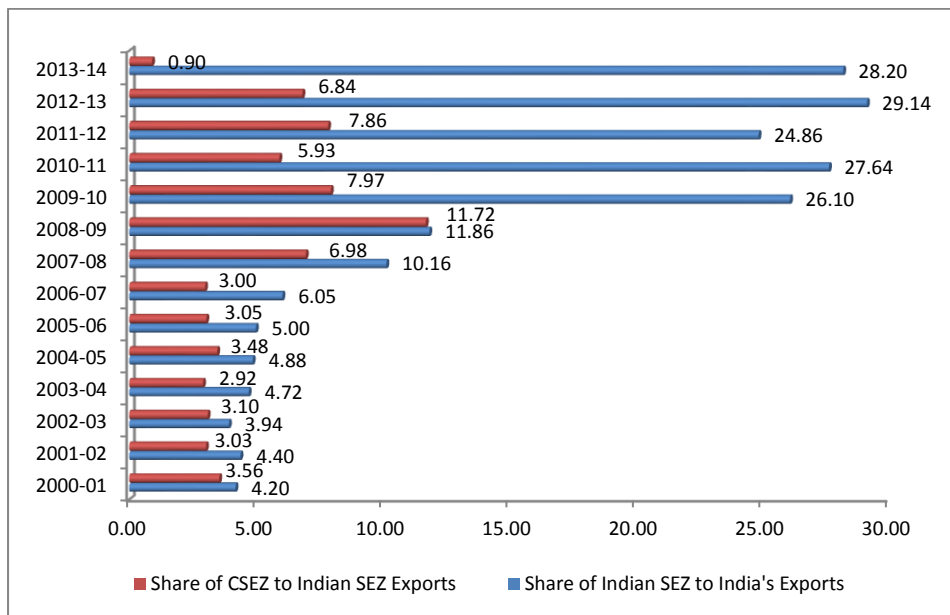


Source: Ministry of Commerce and Industry, DC office of CSEZ

Figure 5.2 : Growth Rates of Indian SEZ Exports and CSEZ Exports

5.2.2 Contribution of SEZ Export towards Indian Exports and CSEZ Exports towards Indian SEZ Exports

The share of Indian SEZs export on all Indian export and CSEZ export contribution to total Indian SEZs are presented in Figure 5.3. The contribution of all India SEZ to total Indian exports has improved remarkably during the study period. Its contribution percent has exploded after the implementation of SEZ Act in 2005. The reason being, increase in SEZ investments, attracted by the incentives and other packages offered by the SEZ Act. During the 2013-14 the share from SEZs to total exports of the country was 28.20 per cent, pointing to the significance of SEZs in promoting Indian exports and achieving its establishing objectives. While the share of CSEZ to Indian SEZ exports was reported in between. 90 per cent and 11.72 per cent during the study period. CSEZ's contribution to Indian SEZ exports was highest during 2007 to 2012, and then it diminished to less than 1 per cent due to the massive drop in the export performance of CSEZ.



Source: Ministry of Commerce and Industry and DC office CSEZ, Values in percentages

Figure 5.3 : Contributions of Indian SEZs on Indian Exports and CSEZ Contribution to Indian SEZ Exports

5.3 Export Performance of Indian Special Economic Zones

From 1960 onwards, the Government of India has established seven Special Economic Zones in different parts of the country to promote exports and other economic objectives (profiles of these zones are provided in the fourth chapter). These seven zones have contributed in various capacities to the total exports of the country. A comparison of each zone's export performance will provide an outlook about its competitiveness and capacities, moreover, the position of CSEZ among other zones will also be revealed through this analysis.

Table 5.4, explains the export values of all Central Government SEZs in India. These zones are owned and operated by the Central Government of India under various development commissioners. All the zones have remarkably improved their export performance after the implementation of SEZ Acts in 2005 and Rules in 2006. The export performance has been analyzed using Compound Annual Growth Rate (CAGR), Standard deviation (SD) and Mean Value. To understand the growth rate over the period of 14 years CAGR is used and the highest CAGR over the study period was generated by Cochin Special Economic Zone followed by Madras SEZ and Noida SEZ respectively. CSEZ have produced 21.14 per cent CAGR for the study period, it has to be noted that there was a major drop in the export values of CSEZ in 2013-14 otherwise the CGGR would have been much higher. The calculated CAGR percent for the first 13 years (excluding the last year with drastic drop in exports) was 43.26 per cent. The lowest CAGR values were reported from SEEPZ and Falta SEZ with 8.83 and 7.69 per cent respectively. The analysis explains CSEZ has generated the highest increase in its exports during the study period.

Table 5.4 : Export Performance of Central Government Owned SEZs

Year	Kandla SEZ	SEEPZ*	Madras SEZ	Falta SEZ	Noida SEZ	Cochin SEZ	VSEZ**
2000-01	527.9	5193.7	690.8	520	1034.2	304.3	219.1
2001-02	476	5225.6	762.6	923.6	992.4	258.5	253.2
2002-03	729.3	6083	819.1	512.4	1014.2	270.4	357.3
2003-04	807.1	7833.3	1047.6	882.2	1534.1	321.8	436
2004-05	1060.1	8298.6	1377	569.2	4266	463	579.3
2005-06	1101.1	9192.2	1858.9	525	5670.7	696	612.7
2006-07	1482.7	12,047.7	2384	998.7	6893	802.7	749.7
2007-08	1939	11,264.7	3046.5	1026.3	16,843.4	4471	741.3
2008-09	2420	10,079	4022.23	946.098	10,608.82	11,683.54	902
2009-10	2205.8	9995	5788.29	1172.55	8560.267	17,588.24	918
2010-11	2648.2	11582	8826.03	1485.2	9405.08	18,746	1583
2011-12	2960.8	12608	10,688.53	1246.45	10,984.75	28,637.32	2405
2012-13	2961.6	14,399	9970.85	783.86	8177.95	32,579.47	1240
2013-14	3636	16,989	6964.22	1467.94	9991.8	4461.07	1584.31
CAGR	14.78	8.83	17.95	7.69	17.59	21.14	15.18
Mean	1783	10056	4160	932.8	6855	8692.8	898.64
SD	1037	3428	3622	331.8	1264	3029	616.48

Source: Collected from various SEZ DC Offices, Export Values in Rs Crores

*SEEPZ- Santacruz Export Processing Zone SEZ, Mumbai

**VSEZ- Vishakhapatnam SEZ

The mean value is calculated for each zone to find out the average export over the years. The highest mean values were reported by SEEPZ and CSEZ during the years with 10056 and 8692.8 crores respectively. Falta SEZ and Vishakhapatnam SEZ have reported the lowest mean values for the period. The

mean analysis explains that CSEZ has second highest export generation average, that is, CSEZ has significantly contributed to the export generation of government SEZs in India. To evaluate the degree of dispersion from the mean value, the standard deviation is used. The analysis explains that Madras SEZ and SEEPZ have the highest standard deviation values, indicating these zones have the highest fluctuations in their export performances. Cochin SEZ has the third highest standard deviation value denoting that the zone's export performance was not consistent. From 2008-09 to 2012-13, CSEZ has continually maintained the position of highest export generating zone among other zones.

5.3.1 Contribution of Central Government Zones towards total SEZ Exports

The analysis on the contribution of each zone to the total SEZ exports of the country will indicate the capacity of each zone in contributing to the economic growth of the country. The share of each zone to the total SEZ export of the country is given in Table 5.5.

During the earlier period of the study, exports from SEEPZ SEZ have constituted the major portion of Indian SEZ exports consisting up to 60 per cent and maintained its position of the chief contributor till 2006-07. While Noida SEZ was the second highest export contributing SEZ during the same period. CSEZ was one of the lowest providers towards the total Indian SEZ exports at the early phase of the study period. But the zone becomes the highest contributor of export in 2008-09 with 11.72 per cent, the zone has continued its position of highest contributing zone among other zones till 2012-13. This shows the prominence of CSEZ among other Central Government SEZs in Indian in generating export values during this period. It is also to be noted that these zones altogether contributed more than 85 percent of Indian SEZ exports

until 2004-05. Later, the enactment of SEZ Act in 2005, has attracted a large number of private investors to SEZ operations and those SEZs turned to contribute the major share of SEZ exports from India. By 2013-14 the share of Central Government zones to total Indian SEZ exports reduced to 9 per cent.

Table 5.5 : Contribution of Central Government SEZs in the Total Indian SEZ Exports

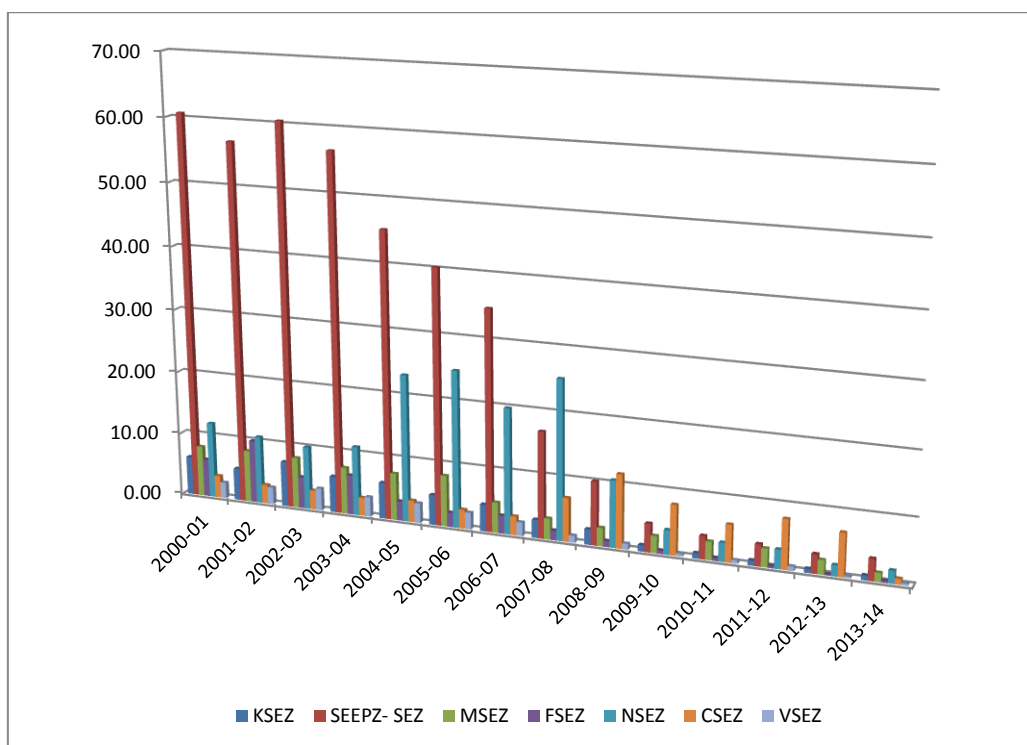
Year	Kandla SEZ	SEEPZ SEZ*	Madras SEZ	Falga SEZ	Noida SEZ	Cochin SEZ	VSEZ**
2000-01	6.17	60.73	8.08	6.08	12.09	3.56	2.56
2001-02	5.18	56.86	8.32	10.05	10.80	3.03	2.76
2002-03	7.25	60.49	8.14	5.09	10.08	3.10	3.55
2003-04	5.83	56.54	7.56	6.37	11.07	2.92	3.15
2004-05	5.79	45.31	7.52	3.11	23.29	3.48	3.16
2005-06	4.82	40.25	8.14	2.30	24.83	3.05	2.68
2006-07	4.28	34.80	6.89	2.89	19.91	3.00	2.17
2007-08	2.91	16.90	4.57	1.54	25.28	6.98	1.11
2008-09	2.43	10.11	4.03	0.95	10.64	11.72	0.90
2009-10	1.00	4.53	2.62	0.53	3.88	7.97	0.42
2010-11	0.84	3.67	2.79	0.47	2.98	5.93	0.50
2011-12	0.81	3.46	2.93	0.34	3.01	7.86	0.66
2012-13	0.62	3.02	2.09	0.16	1.72	6.84	0.26
2013-14	0.74	3.44	1.41	0.30	2.02	0.90	0.32

Source: Calculated from the data collected from various SEZ DC Offices, Values in Percentages

*SEEPZ SEZ- Santacruz Export Processing Zone SEZ, Mumbai

**VSEZ- Vishakhapatnam SEZ

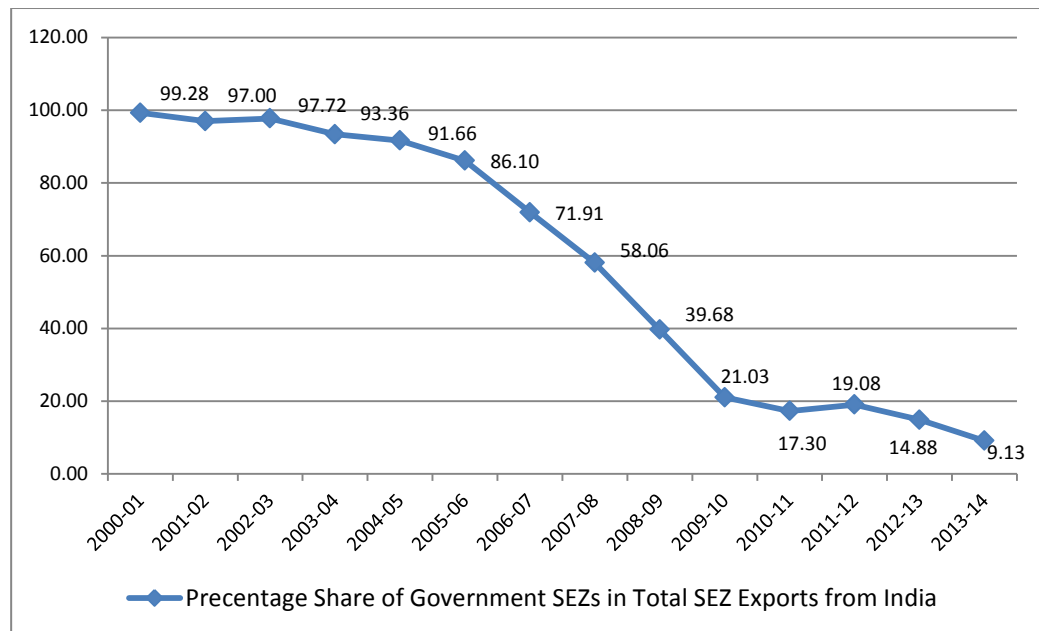
Figure 5.4 displays the contribution of each zone in the total SEZ export basket of the country. It is evident that SEEPZ and Noida SEZ were the major contributors during the initial phase, their level of contribution drastically dropped afterward. By 2008-09 CSEZ emerged as the major contributor and maintained its position until 2012-13. Although, CSEZ maintained the position of highest share towards the total SEZ exports the contribution per cent was never above 12 per cent while during the initial phase of the study SEEPZ SEZ and Noida were contributing 61 per cent and 25 per cent of the total Indian SEZ Exports.



Source: Calculated from the data collected from various SEZ DC Offices and Ministry of Commerce and Industry, Values in percentages.

Figure 5.4 : Share of Central Government SEZs in Total Indian SEZ Exports

As more zones established in various parts of the country after the enactment of SEZ Act, the shares of Central Government zones have decreased substantially towards the all Indian SEZ exports. It was not because their export values have decreased over the years, but due to the establishment of new private and State Government zones. The export volumes of many recently established sector-specific zones like IT/ITES and Electronics have made enormous contributions to the SEZ exports of the country (Tantri, 2014). The drop in the export contribution of government zones from 2005-06 is evident in the figure 5.5.



Source: Calculated from the data collected from various SEZ DC Offices and Ministry of Commerce and Industry, Values in percentage

Figure 5.5 : Decline in Contributions from Government SEZs towards Indian SEZ Exports

5.3.2 Export Growth of Central Government SEZs in India

To further understand the export performance of all Central Government SEZs, the annual export growth rate was calculated for the study period. A

steady export growth reveals consistent improvements in the export performance of the zone. But, all the zones have registered negative exports growths during the study period. Falta zone reported the most number of negative growth rates in 6 times, followed by Noida SEZ with. Meanwhile, VSEZ, SEEPZ, MSEZ and CSEZ have reported 2 years of negative export growth rates. MSEZ registered negative growth rate only once that was in 2013-14. CSEZ had negative growth rates during the first and last years of the study period, in between CSEZ has generated substantially higher export growth rates than all other zones.

Table 5.6 : Export Growth Rates of Central Government SEZs

Year	Kandla SEZ	SEEPZ*	Madras SEZ	Falta SEZ	Noida SEZ	Cochin SEZ	VSEZ**
2000-01	-	-	-	-	-	-	-
2001-02	-9.83	0.61	10.39	77.62	-4.0	-8.34	15.56
2002-03	53.21	16.41	7.41	-44.52	2.2	11.84	41.11
2003-04	10.67	28.77	27.90	72.17	51.3	29.58	22.03
2004-05	31.35	5.94	31.44	-35.48	178.1	57.65	32.87
2005-06	3.87	10.77	35.00	-7.77	32.9	9.23	5.77
2006-07	34.66	31.06	28.25	90.23	21.6	49.07	22.36
2007-08	30.77	-6.50	27.79	2.76	144.4	348.31	-1.12
2008-09	24.81	-10.53	32.03	-7.81	-37.0	151.19	21.68
2009-10	-8.85	-0.83	43.91	23.94	-19.3	50.54	1.77
2010-11	20.06	15.88	52.48	26.66	9.9	6.58	72.44
2011-12	11.80	8.86	21.10	-16.08	16.8	52.76	51.93
2012-13	0.03	14.21	-6.71	-37.11	-25.6	13.77	-48.44
2013-14	22.77	17.99	-30.15	87.27	22.2	-86.31	27.77

Source: Calculated from the data collected from various SEZ DC Offices, Values in Percentages

*SEEPZ- Santacruz Export Processing Zone SEZ, Mumbai

**VSEZ- Vishakhapatnam SEZ

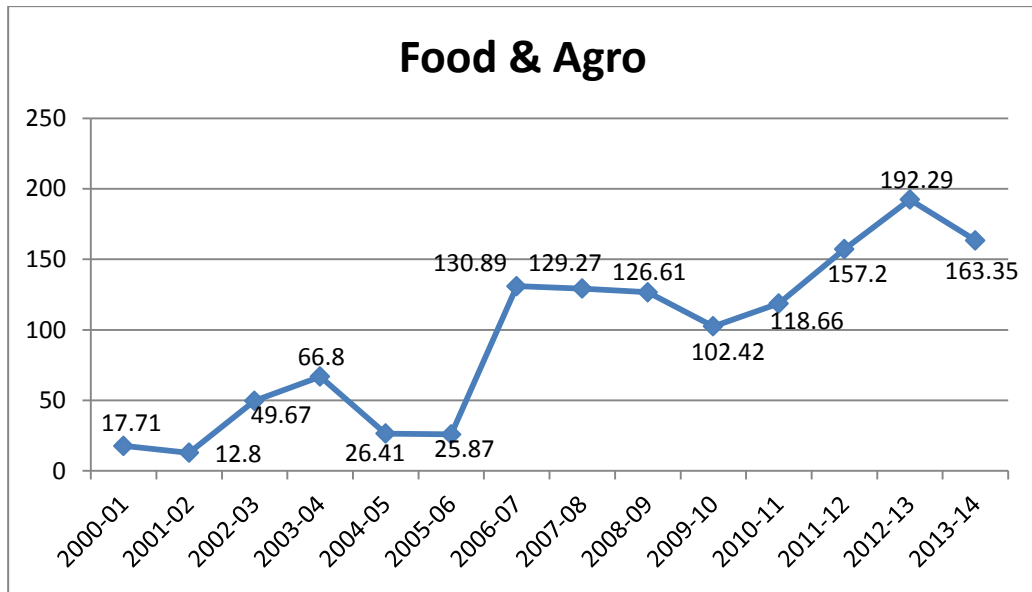
During the study period, the highest export growth rate was registered by CSEZ in 2007-08 with 348.31 per cent. CSEZ and MSEZ were the only zones reported with 8 consecutive years of positive export growth rates and the growth rates of CSEZ was much higher than MSEZ for 6 years. The table 4.6 also reveals that the export growth rates of CSEZ were much higher than all other zones. But the zone also registered a negative growth with -86.31 per cent which was the highest negative export growth rate among all zones. Hence the performance of CSEZ was moderately consistent with positive export rates in all years except in 2001-02 and 2013-14. Other than CSEZ and MSEZ, all other zones reported fluctuating export growth rates during the study period.

5.4 Sector- Wise Export Performance of CSEZ

Cochin Special Economic Zone was approved in 1985 and the export was initiated in 1986. CSEZ is a Multi-Product zone, hosting enterprises which operate in a variety of sectors. Food and Agro, Electronics Hardware, Engineering, IT/ITES, Gem and Jewelry, Textile and Garments and Miscellaneous are the major sectors functioning within CSEZ. To conduct a micro level analysis of the CSEZ performance, sector-wise export performance of zone is evaluated. The sector-wise analysis provides the microscopic view of the zone export performance specifically, the contribution of each sector towards the CSEZ total exports and the trend and pattern of sector exports over the period will provide a clear insight about the CSEZ exports. The detailed export analysis of each sector of CSEZ is provided in the following section.

5.4.1 Food and Agro Sector

Food and Agro is the oldest sector in CSEZ, commenced its exports in 1986 with Rs.0.94 crores, the whole exports from CSEZ for the first two years was constituted from Food and Agro sector. The sector exports, marine products, frozen fruits and vegetables, snack items, tea, coffee, nuts and spices to different countries. During 2000-01 the sector generated exports of Rs.17.71 crores which increased to 66.8 crores in 2003-04. The sector reported impressive improvements in its exports growth rate of 288 per cent in 2002-03. During 2004-05 and 2005-06, the sector experienced negative growth rates of -60 per cent and -2 per cent. Later, the incentives offered in the SEZ policies have attracted more units to the zones, hence from 2006-07 onwards, the exports from the sector improved considerably, reaching Rs. 129 crores in 2012-13. During, 2006-07, sector has reported a record growth rate of 406 percent, with an increase from Rs.25.87 crores to 130.89 crores. The Sector maintained 3rd position in export generation during 2003-04, it decreased to 6th position in 2005-06 and continued to remain in the 5th and 6th position after 2008-09. Although there was an increase in exports from food and agro sector in CSEZ, especially on the marine products, the increase was much below than the growth of food and agro sector in the Indian export after 2009. According to the unit owners in the CSEZ, the world recession resulted in lack of confidence among investors and decreased the international demand for products from the sector.



Source: Data collected DC office, CSEZ, Values in Rs. Crores

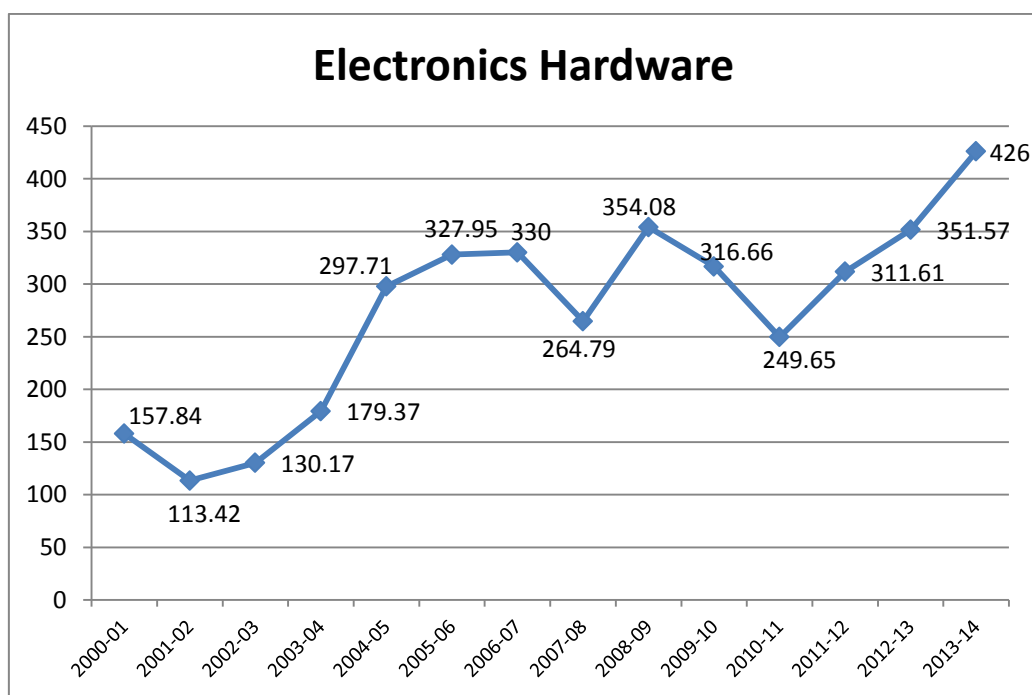
Figure 5.6 : Export Performance of Food and Agro Sector in CSEZ

5.4.2 Electronics Hardware Sector

The Electronics and Hardware sector initiated its exports in 1989-90, with Rs.0.02 crores and later emerged into the sector with constant export growth in most of the following years. The sector produces various types of lamps and cables, control panels, circuit board assemblies and communication equipment. In 2000-01 the sector registered an export value of Rs. 157.84 crores with the 1st ranking position on its export generation. Electronics and Hardware sector maintained 1st position until 2006-07 as a major contributor towards the CSEZ exports, that is, this sector contributed more than 30 percent of the total export value of the zone till 2006-07. From 2000 onwards, the exports of Electronics Hardware from India have increased considerably with its market access to US, U.K, and Singapore (Mukherjee & Mukherjee, 2012) [95]. From 2010-11 onwards, Electronics sector maintained the 4th ranking in its annual export contribution capacity in CSEZ. This drop in the ranking was not because

of the fall in export generation from Electronics sector, but due to the emergence of other sectors with high value-added products. The sector reported a fall in the export growth rates during 2006 to 2007, mainly because of Government of India signing ITA-1 Agreement, which allowed foreign companies to establish operations in India. This agreement also created an adverse effect on the Indian exports of electronics products, over the same period of time.

From 2011- 12 onwards, a steady growth in the export of Electronics Hardware sector from CSEZ was reported with 25 per cent and the growth trend continued until the end of study period. The reason being, increase in the Indian electronics exports and access to wider markets due to the New Manufacturing Policy 2011, which provided various incentives for lamps and telecommunication products. By 2013-14, Electronics hardware sector contributed Rs. 426 crores towards CSEZ exports.

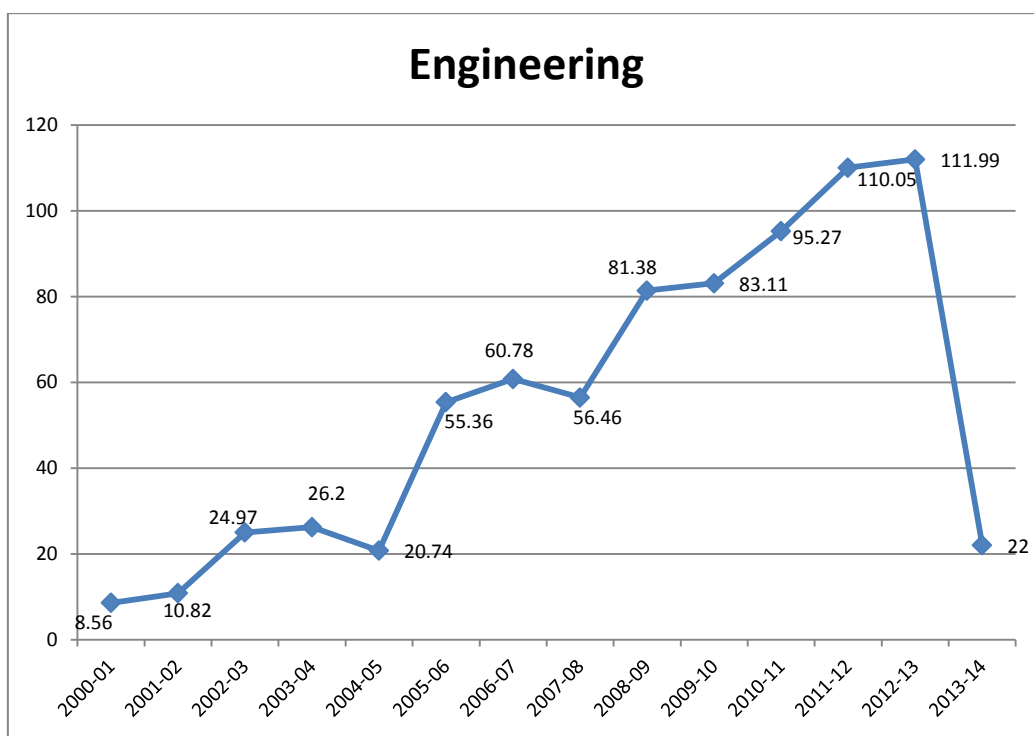


Source: Data collected DC office, CSEZ, Values in Rs. Crores

Figure 5.7 : Export Performance of Electronics Hardware Sector in CSEZ

5.4.3 Engineering Sector

Engineering sector commenced exports from CSEZ in 1992-93 with Rs. 0.1 crores and improved its export value to Rs. 11.99 crores in 2012-13. The major products exported in this sector are, medical equipment, generators, air purifiers, lighting fixtures, tools and dyes, and copper wire. The sector made an export growth of 131 per cent from Rs. 10.82 crores in 2001-02 to 24.97 crores in 2002-03 and 161 per cent export growth in 2005-06 from Rs.20.74 crores to Rs.55.34 crores. Other than these, the export growth of this sector was almost insignificant even though it has maintained positive export growths in most of the years. The export value generated by engineering sector is very small compared to other sectors. Engineering sector stands at the last in its export generation ranking in CSEZ since 2007. The share of exports towards the total exports of CSEZ from this sector reached the maximum of 8.1 percent in 2002-03. The sector holds the lowest share in the total exports from zone since 2007-08. It has to be noted that over the same period, Engineering sector became one of the leading contributors to the Indian exports and maintained excellent growth rates. As per the CSEZ authorities, the low performance of the sector is due to the existence of incompetent units and also because of the few number of new units operating in this sector. It is evident from figure 5.8 that the export value generated by the engineering sector is limited even though it had positive export growth for many years.



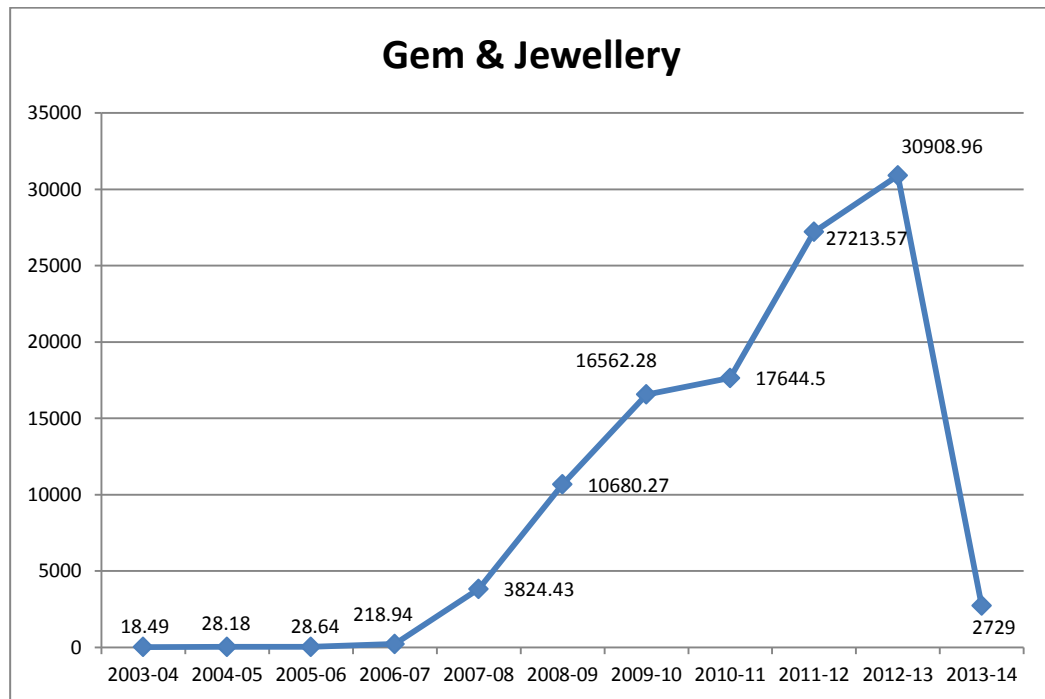
Source: Data collected DC office, CSEZ, Values in Rs. Crores

Figure 5.8 : Export Performance of Engineering Sector in CSEZ

5.4.4 Gem and Jewelry Sector

Gem and Jewelry is one of the fastest growing industries leading in foreign exchange earnings in India. The sector covers a wide variety of products like diamonds, precious stones, gold, silver and costume jewelry. On an average, this sector is responsible for nearly 12 percent of India's total exports from 2000 to 2014. India became the leading exporter of Gem and Jewelry in 2009, with the market share exceeding 23 percent (ibid). Many policy implications by the government to improve the gem and jewelry sector have facilitated its exports. In CSEZ, the sector reported first export in 2003-04, with Rs.18.49 crores and by 2012-13, the export value exploded to Rs.30, 908.96 crores. From 2007-08 onwards it has the highest ranking on export generation, moreover, from 2008-

09 to 2012-13, the sector contributed more than 90 per cent of the export value from the zone. The average annual growth rate of export from Gem and Jewelry sector is 258 per cent which denotes the gigantic growth of the sector over the period. The high-value addition of the products is one reason behind the enormous export values reported by the sector. During 2013-14 the export value of the sector plummeted to Rs. 2729 crores with – 91 per cent growth rate, due to the cancellation of license of few gem and jewelry units for not abiding within the directives of SEZ Letter of Approval. The performance of Gem and Jewelry sector is given in figure 5.9, the enormous growth of the exports from 2006 onwards and the sudden fall in exports during 2013-14 is clearly understandable from the figure.



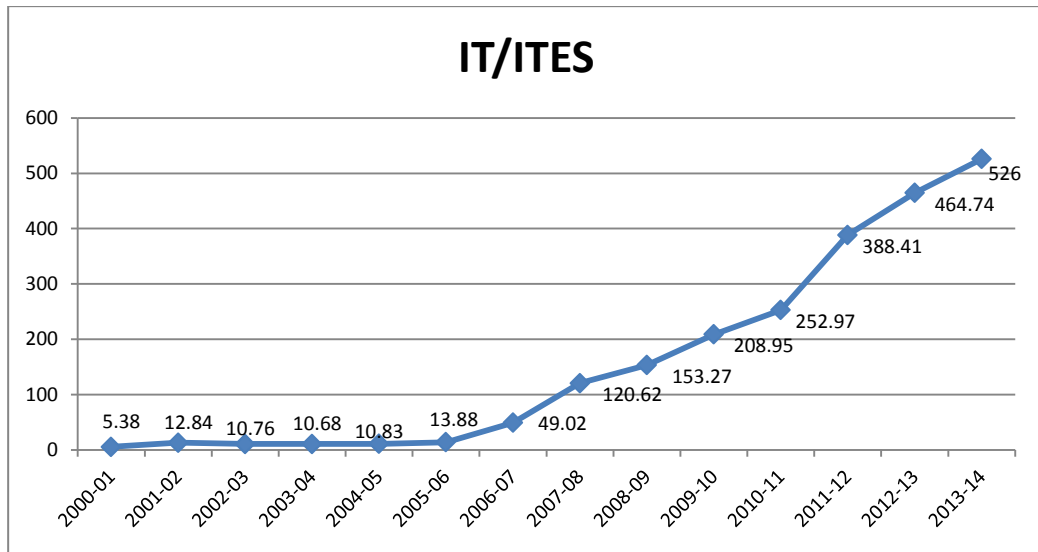
Source: Data collected DC office, CSEZ, Values in Rs. Crores

Figure 5.9 : Export Performance of Gem and Jewelry Sector in CSEZ

5.4.5 IT/ITES Sector

India has become the fastest-growing sourcing destination for IT/ITES sector, the sector has a compound annual growth rate of 25 per cent from 2000 to 2014. India's cost competitiveness in providing IT solutions and availability of skilled labour turned it as a favorable sourcing destination. The Indian IT/ITES export registered continues growth during 2000 to 2014. Software sector initiated exports from CSEZ in 1994-95 with Rs. 0.17 crores, which has increased to Rs. 526 crores in 2013-14. During the study period of 2000-01 to 2013-14, the sector has registered an average annual growth rate of 54 per cent. It is the second largest contributor of exports towards CSEZ since 2011-12. Although the Indian IT/ITES sector performed exceedingly well during the last decade, the IT/ITES sector export growth in CSEZ was stagnant during the first half of the study. Most of the units established in SEZs after the SEZ act 2005 were associated with IT/ITES activities Chandrachud (2013); Sharma (2009). This was found true in the case of CSEZ also and these newly established units have created a surge in the exports from the sector, resulting in high export growths in 2006-07 and 2007-08, with growth rates of 253 and 146 per cent respectively.

The global recession and European Union crises have adversely affected the export growth of IT/ITES sector of CSEZ from 2008-09 onwards. Many companies, who had clients from the US and Europe had suffered during this period, and the slow growth trend of the sector continued until 2010-11. Figure 5.10 provides the export growth of IT/ITES sector from CSEZ, although there was continuous growth since 2005-06, the pace of growth would have been much faster if it was not affected by the recession.



Source: Data collected DC office, CSEZ, Values in Rs. Crores

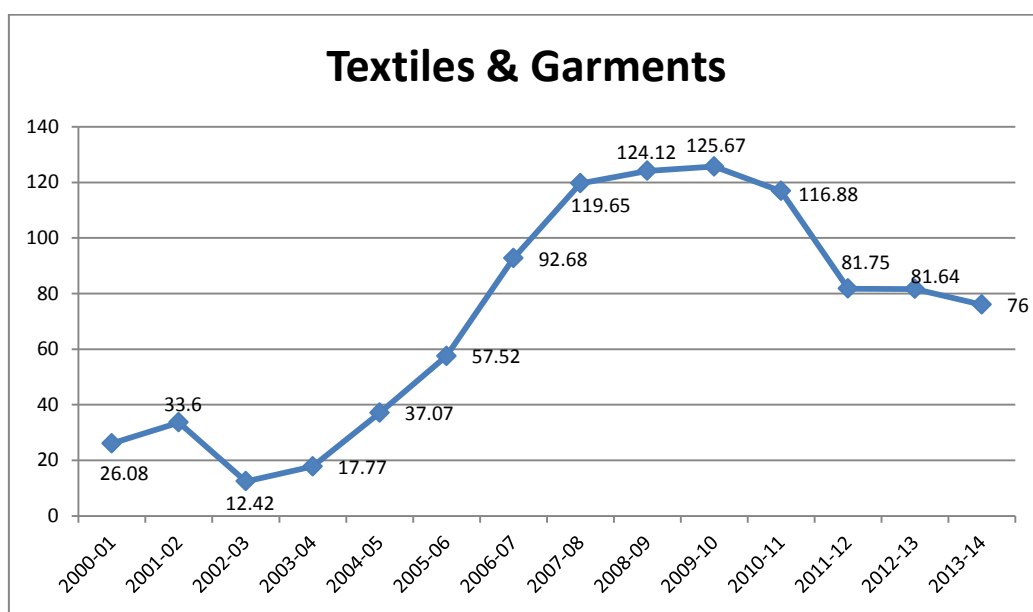
Figure 5.10 : Export Performance of IT/ITES Sector in CSEZ

5.4.6 Textiles and Garments Sector

Textile and Garments is a traditional sector and a very significant industry in India. It is basically a labour intensive sector and India is the second largest textile industry in the world, after China. Textile and Garment is one of the oldest sectors of CSEZ, generated their first exports in 1988-89 with the export value of Rs.0.07 crores. Over the years the sector has reported its maximum export value of Rs.125.67 crores in 2009-10. The average annual export growth of the sector was 17 per cent during the study period of 2000-01 to 2013-14. The export growth rate of the zone was almost stable during the first half of the period, where it reported the highest growth rate of 109 per cent in 2004-05 from the export value of Rs.17.77 crores to Rs.37.07 crores. The export ranking of the sector in CSEZ has decreased to the lowest ranks during the last years of the study. During Uruguay Round of Multilateral Trade Negotiations (1986-93), the global community has decided to integrate the Multi-Fiber

Agreement (MFA) into new Agreement on Textile and Clothing (ATC). ATC provided a time period for phasing out the quota system within ten years of time from January 1995 onwards. In 2005, MFA phased out quotas which benefited the Indian Textile Industry (ibid). This is evident in the consistent export growth from the textile and garment sector of CSEZ with 55, 69 and 29 per cent from 2006 onwards. Later, along with the European Union crisis and the rupee appreciation against dollar further made the Textile exports less competitive.

From 2010-11 the sector's export growth rate has registered negative growth rate. Considering labour and other cost-reducing factors, few units shifted their operations to Tamil Nadu during the last period of the study which has also adversely affected the performance of the sector. The steady growth of exports from 2003-04 to 2007-08 and the drop of exports from 2009-10 in CSEZ Textile and Garment sector is evident in figure 5.11.

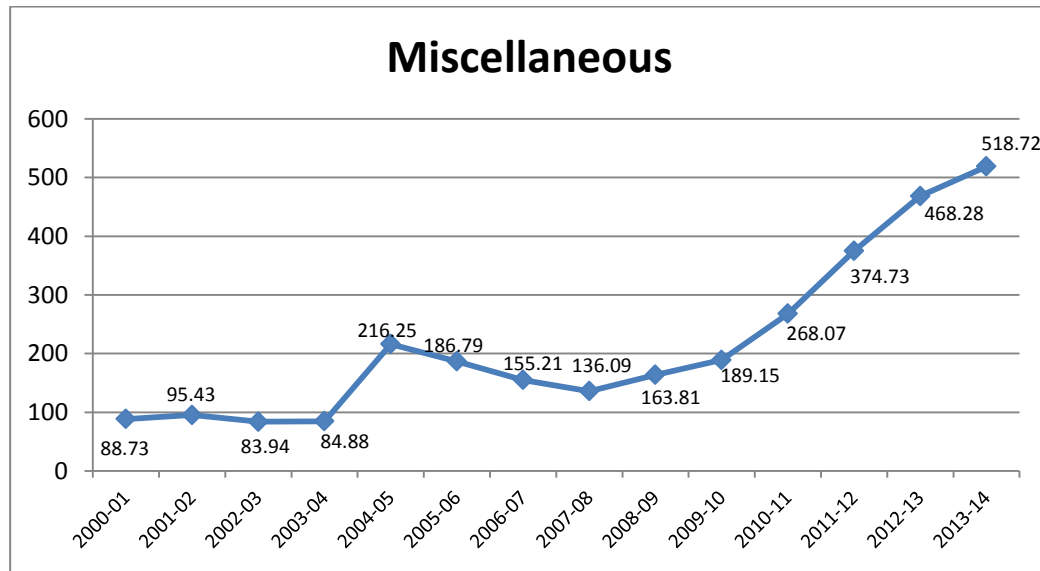


Source: Data collected DC office, CSEZ, Values in Rs. Crores

Figure 5.11 : Export Performance of Textile and Garments Sector in CSEZ

5.4.7 Miscellaneous Sector

Miscellaneous is another traditional, labour intensive sector in CSEZ, which commenced exports in 1989-90. The major products of the sector are plastic, ceramic, rubber, coir and jute products etc. The sector has reported the highest export value of Rs. 518.72 crores in 2013-14. Sector registered a fluctuating export growth during the first half of the study but in terms of export generation rankings, sector maintained the second position until 2005-06. During the last year of the study, this sector held 3rd position in export rankings. Unlike other sectors, Miscellaneous was unharmed by the global recession as it maintained a steady and promising export growth during and after the recession. During this period, the increase in demand for CSEZ ceramic products to UK and rubber products to Japan and Africa have earned major foreign exchange in the sector. The diversified export basket and reach of its products to different countries was also reasons for the steady increase of its export growth. Miscellaneous sector maintained an average annual export growth rate of 20 percent during the study period. The export growth pattern of the sector is provided in figure 5.12.



Source: Data collected DC office, CSEZ, Values in Rs. Crores

Figure 5.12 : Export Performance of Miscellaneous Sector in CSEZ

5.5 Export Growth of Different Sectors in CSEZ

The average annual growth rate of exports from CSEZ was 53 percent during the study period. The sectors like Gem and Jewelry, IT/ITES and Food and Agro have registered the highest average annual growth for the study period with 258, 56 and 52 per cent respectively. Gem and Jewelry maintained continuous export growth throughout the years except in 2013-14. The gigantic export growth rates of the sector have elevated the CSEZ as the highest export value generating SEZs among all other central government zones in the country during 2008-09 to 2012-13. The export volume of the sector was huge and the high export growth rates along with high-value addition resulted in favorable foreign exchange earnings.

IT/ITES sector reported positive export growth rates in years other than 2002-03 and 2003-04. The export values of the sector during the last period of the study were considerably large and a continuous increase in the export growths from the sector during this period benefited CSEZ to improve its total export values. Although Food and Agro sector reported a high average annual growth rate due to the significant increase in exports in few years, it produced a fluctuating export growth pattern throughout the study period. Moreover, the export values of the sector were relatively lower hence the high export growth rate of the sector did not bring many favorable results as Gem and Jewelry and IT/ITES sectors.

Table 5.7 : Export Growth of various Sectors in CSEZ

Year	Food & Agro	Electronics Hardware	Engineering	Gem & Jewelry	IT/ITES	Miscellaneous	Textiles & Garments	CSEZ Total
2000-01	-	-	-	-	-	-	-	-
2001-02	-28%	-28%	26%	-	139%	8%	29%	-8%
2002-03	288%	15%	131%	-	-16%	-12%	-63%	12%
2003-04	34%	38%	5%	-	-1%	1%	43%	30%
2004-05	-60%	66%	-21%	52%	1%	155%	109%	58%
2005-06	-2%	10%	167%	2%	28%	-14%	55%	9%
2006-07	406%	1%	10%	664%	253%	-17%	61%	49%
2007-08	-1%	-20%	-7%	1647%	146%	-12%	29%	348%
2008-09	-2%	34%	44%	179%	30%	18%	4%	151%
2009-10	-19%	-11%	2%	55%	43%	8%	1%	51%
2010-11	16%	-21%	15%	7%	16%	50%	-7%	7%
2011-12	32%	25%	16%	54%	53%	40%	-30%	53%
2012-13	22%	13%	2%	14%	19%	25%	0%	14%
2013-14	-15%	21%	-80%	-91%	13%	11%	-7%	-86%

Source: Calculated from the data collected from CSEZ DC office, Values in Percentages

The other four sectors, namely Engineering, Miscellaneous, Textile and Garments and Electronics Hardware produced average annual growth rates of 24, 20, 17 and 11 per cent respectively. The annual growth rate of Engineering sector was mostly positive but since the export values of the sector was low compared to other sectors and maintaining the lowest rankings in most of the years with regard to the export generation, the positive export growths of the sector did not generate much impact on the export earnings of the CSEZ. Although Miscellaneous sector experienced variations in export growth rates during the first half of the study, the high export value generated by the sector along with considerably large export growth rates, have resulted favorably on CSEZ exports. The higher export values of the Electronics Hardware sector in

the initial phase along with high export growth rates have positively impacted the CSEZ performance. Also towards the end of the study period Electronics Hardware sector generated remarkable export growth rates with high export values hence it is one of the key export generating sector in CSEZ. Textile and garment sector produced a negligible export growth performance as the export value and growth rates were relatively smaller than other sectors. The performance of the sector has considerably decreased during the last period of the study. In short, sectors like, Gem and Jewelry, IT/ITES, Miscellaneous and Electronics Hardware with high export generations have contributed more towards the CSEZ exports. Slight improvement in their export growth has directly resulted in a better export performance of the zone.

5.6 Share of Different Sectors in CSEZ Exports

To examine the contributing capacity of sectors towards the export generation of CSEZ, shares of each sector over the period is evaluated. During the early years of the study, Electronics Hardware and Miscellaneous sector contributed 51.87 and 29.16 per cent of CSEZ export respectively, which was more than 80 percent of the total zone exports (Table 5.8). Over the same period, the combined contribution of Engineering and IT/ITES sectors were only 4.58 percent. Food and Agro contributed 5.82 percent in 2000-01 and Textile and Garments sector also contributed considerable shares during the early years, which was 8.57 and 12.05 per cent in 2000-01 and 2001-02. Until 2005-06, the prominence of Electronics Hardware and Miscellaneous sectors towards export contribution prevailed in CSEZ, these sectors together contributing up to 70 per cent of the CSEZ in each year. In 2006-07, the Gem and Jewelry sector emerged as one of the major contributors to the CSEZ exports by providing 21.10 per cent towards the CSEZ exports, while Electronics Hardware and Miscellaneous

sectors jointly provided 46.77 percent. During this period, both sectors encountered a sharp fall in their annual export growth rates.

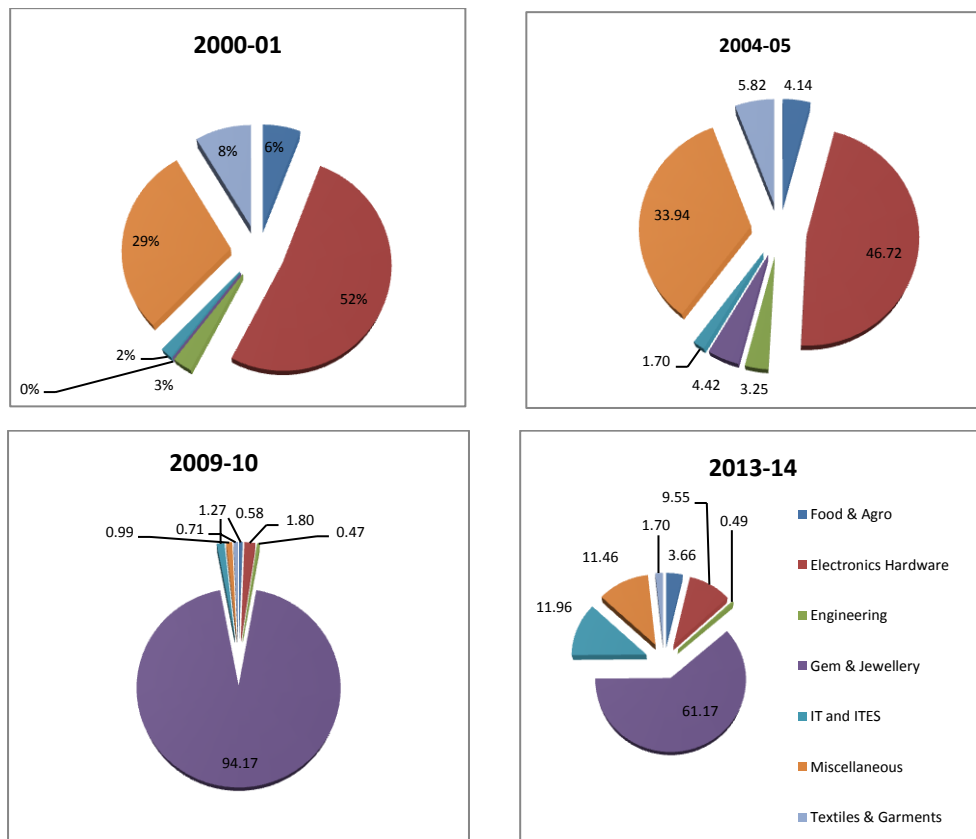
From 2007-08 onwards, the Gem and Jewelry sector started contributing a major portion of the CSEZ exports by generating the value of Rs. 3824.43 crores, providing 82.22 percent of the zone exports. In the following years, the sector contributed more than 90 percent of the CSEZ exports until 2012-13. The high-value additions on gem and jewelry products are the major reason behind this development. The other sectors in CSEZ also made considerable improvements on their annual export growth during this period, but it was almost nullified by the performance of the Gem and Jewelry sector in terms of contribution to total CSEZ exports.

In 2013-14, the share of Gem and Jewelry dropped due to the license cancellation of few operating units in the sector; still, the sector provided 61.17 percent of the total CSEZ exports, while IT/ITES and Miscellaneous sectors contributed more than 11 percent of the zone exports. It has to be noted that the contribution of Food and Agro, Engineering and Textile and Garments have drastically dropped towards the end of the study period. Electronics Hardware sector also made a considerable share at the last year of the study. The analysis reveals that, even though most of the sectors generated an increase in their annual growth rates during the late years of the study period, the gigantic increase in the export growth rates of Gem and Jewelry sector outperformed the other sectors.

Table 5.8 : Export Shares of Various Sectors in CSEZ

Year	Food & Agro	Electronics Hardware	Engineering	Gem & Jewelry	IT/ ITES	Miscellaneous	Textiles & Garments	Total
2000-01	5.82	51.87	2.81	0.00	1.77	29.16	8.57	100
2001-02	4.59	40.67	3.88	0.00	4.60	34.22	12.05	100
2002-03	15.92	41.73	8.01	0.00	3.45	26.91	3.98	100
2003-04	16.53	44.38	6.48	4.57	2.64	21.00	4.40	100
2004-05	4.14	46.72	3.25	4.42	1.70	33.94	5.82	100
2005-06	3.72	47.12	7.95	4.11	1.99	26.84	8.26	100
2006-07	12.62	31.81	5.86	21.10	4.72	14.96	8.93	100
2007-08	2.78	5.69	1.21	82.22	2.59	2.93	2.57	100
2008-09	1.08	3.03	0.70	91.41	1.34	1.38	1.06	100
2009-10	0.58	1.80	0.47	94.17	1.27	0.99	0.71	100
2010-11	0.63	1.33	0.51	94.12	1.38	1.40	0.62	100
2011-12	0.55	1.09	0.38	95.03	1.38	1.28	0.29	100
2012-13	0.59	1.08	0.34	94.87	1.45	1.41	0.25	100
2013-14	3.66	9.55	0.49	61.17	11.96	11.46	1.70	100

Source: Calculated from the data collected from CSEZ DC office, Values in Percentages



Source: Calculated from the data collected from CSEZ DC office, Values in Percentages

Figure 5.13 : Contributions of Different Sectors towards the CSEZ Export in Selected Years

The contribution of different sectors towards the total export of CSEZ is given in figure 5.13. The traditional industries like Food and Agro, Textile and Garments have registered a downfall in their export growth and contributions to the CSEZ exports over the study period, the performance of Engineering sector was also not promising during the same period. Electronics Hardware and Miscellaneous sectors were the major contributing sector towards CSEZ exports until 2006-07. The prominence of these sectors has diminished with the arrival of Gem and Jewelry sectors as the major contributor of CSEZ in 2007-08.

5.7 Performance of CSEZ during EPZ and SEZ Regime

Cochin Special Economic Zone was established in 1986, primarily to promote export-oriented activities and also for the economic development of the region. Before 2000, it was known as Cochin Export Processing Zone. Various tax incentives and facilities were provided to the zone investors during the period. But the performances of Indian Export Processing Zones were not as promising as expected. In order to further facilitate the exports and other economic activities through Export Processing Zones, Government of India implemented SEZ policies in 2000 and subsequently converted all the existing zones to Special Economic Zones. There was a surge in the numbers of SEZs and investments among them afterward. Hence it is important to evaluate if these policy implications and conversion from Export Processing Zone to Special Economic Zone have benefited the performance of Cochin SEZ.

Cochin Export Processing Zone made its first export in 1986 with Rs. 0.94 crores, by 1992-93 the export value increased to Rs. 62.25 crores. The zone crossed the milestone of 100 crores in 1994-95 by generating an export of Rs. 102.53 crores. In 1998-99, the export was Rs. 200.05 crores and in 1999-2000, the last year of EPZ regime, the export value increased to Rs. 242.53 crores. During the EPZ regime of 14 years, CSEZ has achieved a compound annual growth rate of 48.68 percent and maintained positive annual export growth rates in every year except 1990-91, when the country opted for wider economic reforms.

Table 5.9 : Export Growth of Cochin Zone during EPZ and SEZ Regime

Year	CEPZ Growth Rate	Year	CSEZ Growth Rate
1986-87	-	2000-01	-
1987-88	317.02	2001-02	-8%
1988-89	59.18	2002-03	12%
1989-90	76.12	2003-04	30%
1990-91	-50.32	2004-05	58%
1991-92	423.44	2005-06	9%
1992-93	117.81	2006-07	49%
1993-94	34.62	2007-08	348%
1994-95	22.35	2008-09	151%
1995-96	17.34	2009-10	51%
1996-97	37.45	2010-11	7%
1997-98	5.52	2011-12	53%
1998-99	14.64	2012-13	14%
1999-00	21.23	2013-14	-86%

Source: Calculated from the data collected from CSEZ DC office, Values in Percentage

The growth rate of Cochin zone during both regimes is given in Table 5.9, the zone has registered an impressive growth rate in almost all years. In EPZ regime, the rate was higher during the early years and declined in the later years. 423.44 per cent growth in 1991-92 was the highest recorded growth of export in CSEZ. The average annual export value in EPZ regime was Rs. 86.25 crores. The export values during the EPZ regime was low hence a slight increase in the export values has resulted in higher export growths.

During the SEZ regime, the zone has made an enormous improvement in export values, reaching to Rs.32579.42 crores in 2012-13. The compound annual growth rate in the SEZ regime was Rs.21.14 per cent; the sudden drop in the exports during the last year has adversely impacted the growth rates. The average annual export growth during SEZ regime was 53 per cent. In real terms zone made a remarkable progress in the export values during the SEZ regime because of the increased investment in CSEZ after 2000 and the export values of the zone have surged during the same regime. The SEZ policies and incentives have attracted investments and further boosted exports. To avail the incentives and Tax benefits, more units started operations in CSEZ during the SEZ regime, especially after the enactment of SEZ Act. The units in CSEZ have increased from 49 in 2000 to 82 in 2007 and exports growth rates escalated from 49 per cent in 2005-06 to 348 percent in 2007-08. Hence conversion of Cochin zone from EZP to SEZ has benefited the zone in remarkably improving the export values. Also, there was a shift in the export contributions from traditional industrial units to modern industrial units during SEZ regime.

5.8 Revealed Comparative Advantage Index Analysis

To evaluate the export competitiveness of sectors in Cochin Special Economic Zone with respect to total exports of the country, Revealed Comparative Advantage Index (RCAI), developed by Balassa in 1965, is used in this study. Competitiveness is the ability of a country to compete in the international market by producing a commodity at lower cost or supply them at a rate cheaper than competitor countries. The concept of comparative advantage is commonly used in modern economics to analyze the pattern of trade and specialization of nations in commodities which have a comparative advantage (Saboniene, 2009) [96].

RCAI (also known as Balassa Index), was used for the first time to analyse the RCAI of the European Union and Canada and has been adopted in various reports and published by UNIDO and World Bank. RCAI index is widely used in cross-country and product-specific comparisons to assess competitiveness (Prasad, 2004) [97]. RCAI index is measured by the product's share in the country's export in relation to its share in the world.

RCAI index of country A for product I is measured by the product's share in country's exports in relation to its share in world trade. The formula to estimate RCA is,

$$RCA_i^A = (x_i^A / X^A) / (x_i^w / X^w)$$

Where:

x_i^A – Country A exports of product i;

X^A – Total exports of country A;

x_i^w – World exports of product i;

X^w – Total world exports.

The index reveals a comparative advantage in export of commodity *i* by country A if the index value is greater than one and disadvantage if the index's value is less than one, with respect to the world. Measures of revealed comparative advantage have also been used to assess a country's export potential (Saboniene, 2009).

5.8.1 Revealed Comparative Advantage Index of CSEZ

In the present study, to evaluate the export performance and competitiveness of various sectors in Cochin Special Economic Zone, the modified version of RCAI formula is used, the formula is given as;

$$RCA^{iZ} = (x^{iZ}/X^Z) / (x^{iC}/X^C)$$

Where:

x^{iZ} – CSEZ exports of product i ;

X^Z – Total exports of CSEZ;

x^{iC} – Indian exports of product i ;

X^C – Total Indian exports.

The RCAI Results for the CSEZ sectors given in table 5.10 which show that, during the study period from 2000-02 to 2013-14, many sectors in CSEZ have enjoyed comparative advantages. Electronics Hardware, Gem and Jewelry and Miscellaneous sectors enjoyed better comparative advantage than other sectors in the zone. From 2000-01 to 2007-08, Electronics Hardware, being an upcoming industry in India during the time, enjoyed a better comparative advantage than other sectors in CSEZ. The RCAI value of 22.35 in 2005-06 by this sector was the highest RCAI value recorded in CSEZ. During this period, Indian exports of Electronics Hardware have improved remarkably while the export growth of this sector in CSEZ fluctuated from 2006 onwards. The sector regained better comparative advantage during the last year of the study by generating a hike in its export value. In recent times, increase in the Indian electronics exports and access to wider markets due to the New Manufacturing Policy 2011, which provided various incentives for lamps and telecommunication products, has improved the performance of the sector in Indian Exports but that trend was not visible in CSEZ exports of electronics hardware sector.

Table 5.10 : RCAI Analysis of CSEZ Sectors

Year	Food & Agro	Electronics Hardware	Engineering	Gem & Jewelry	IT/ITES	Miscellaneous	Textiles & Garments
2000-01	0.41	21.98	0.79	-	0.13	6.33	0.42
2001-02	0.33	15.22	0.98	-	0.26	6.94	0.65
2002-03	1.21	17.56	2.1	-	0.19	5.29	0.23
2003-04	1.34	16.39	1.49	0.28	0.13	3.77	0.22
2004-05	0.39	21.31	0.73	0.27	0.08	5.48	0.49
2005-06	0.36	22.35	1.61	0.27	0.09	5.17	0.68
2006-07	1.22	14.08	1.1	1.67	0.19	3.13	0.86
2007-08	0.24	2.76	0.22	6.81	0.1	0.7	0.29
2008-09	0.11	0.81	0.12	5.98	0.05	0.39	0.13
2009-10	0.06	0.59	0.09	5.79	0.04	0.27	0.09
2010-11	0.06	0.41	0.11	5.83	0.06	0.39	0.09
2011-12	0.04	0.38	0.08	6.48	0.06	0.34	0.05
2012-13	0.04	0.4	0.07	6.57	0.05	0.36	0.04
2013-14	0.25	3.62	0.09	4.31	0.34	2.6	0.2

Source: Computed from the data collected from CSEZ Development Commissioner's office, Ministry of Commerce and Industry, Economic Survey and Reserve Bank of India EXIM reports

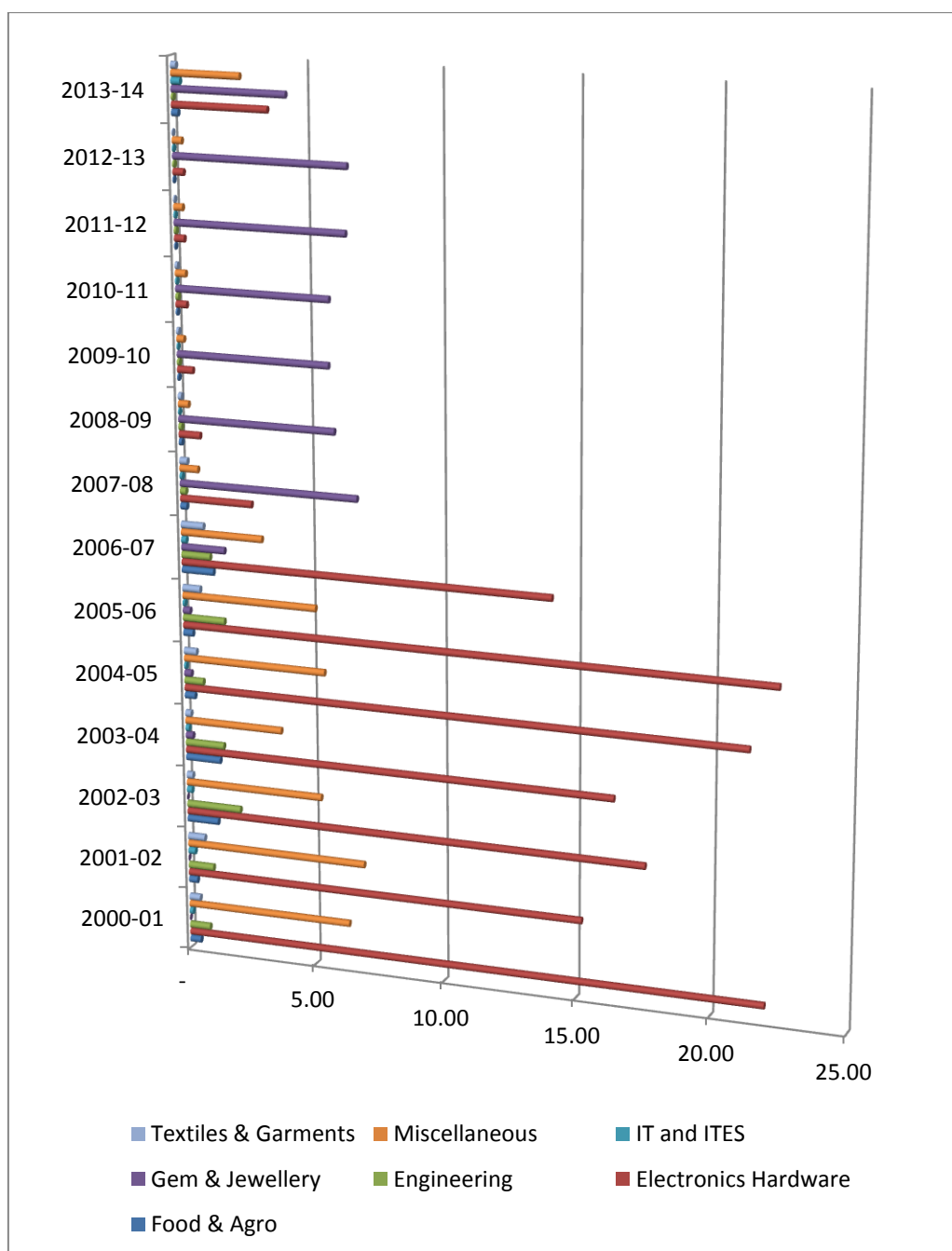
Gem and Jewelry, a major contributor of Indian exports is a high-value addition and import-intensive industry. This sector in CSEZ maintained a higher comparative advantage among other sectors from 2006-07 onwards; the maximum comparative advantage of 6.81 was recorded in 2007-08. The index value above unity from 2006 indicates the export competitiveness of the sector. Although the sector has registered highest export value among all sectors in CSEZ during the second half of the study period, the high import values and the major share held by Gem and Jewelry in Indian exports, have reduced its comparative advantage scores of the sector in CSEZ.

The Miscellaneous sector also reported comparative advantage on its exports during the first half of the study period. But the sector registered an RCA index value less than unity from 2007-08 onwards and achieved an index value above unity in the last year of the study. IT/ITES, a fast-growing and promising industry in India, has registered a remarkable contribution to Indian exports over the period of time. But the comparative advantage index of IT/ITES sector in CSEZ is not impressive. Although the comparative advantage of the sector was below unity in the first half of the study period, the sector has registered RCA index value equal to unity only in 2006-07. But later, the performance of the sector deteriorated and never achieved an index value above unity, representing the lack of comparative advantage and competitiveness of IT/ITES sector of CSEZ. A surge of IT/ITES exports in total Indian exports was reported during this time, but the competitiveness of this sector in CSEZ in terms with Indian exports was not impressive.

Although Food and Agro and Engineering sectors registered comparative advantage on their export in few years of the study, these sectors were unable to maintain a stable index value above unity during the study

period. Moreover, the RCAI value of these sectors has drastically fallen during the latter half of the study period. Indian Textile and Garments industry have considerably improved during recent years but the performance of this sector in CSEZ was not competitive. Textile and garment sector in CSEZ has never achieved the index value equal or above unity. The low export volumes of the sector in CSEZ and relatively better performance of the Textile sector on Indian exports have adversely impacted the RCAI values of the Textile and Garments sector of CSEZ, hence dropping the position of the sector as one of the least competitive sectors in CSEZ.

Figure 5.14 portrays the Revealed Comparative Advantage Index values of the CSEZ sectors, over the first half of the study period, Electronics hardware and Miscellaneous sectors have registered the highest RCAI values with comparative advantages in their exports in relation to the country's exports. During the latter half of the study period, Gem and Jewelry sector regularly reported impressive RCAI values. But the RCAI values generated by the Gem and Jewelry sector were smaller than the index values generated by the Electronics Hardware sector during the initial phase of the study. Hence Electronics Hardware sector has produced highest competitiveness and comparative advantage index values among all sectors in the CSEZ during the study period. Although Gem and Jewelry generated enormous export values in the second phase of the study period, the high contribution of the gem and jewelry sector towards Indian exports has resulted in drop of RCA index values of the sector.



Source: Computed from the data collected from CSEZ Development Commissioner's office, Ministry of Commerce and Industry, Economic Survey and Reserve Bank of India EXIM reports

Figure 5.14 : RCAI Values of Sectors in CSEZ

5.8.2 Comparison of RCAI of CSEZ Sector with selected SEZs

To compare the Revealed Comparative Advantages Index values of CSEZ sectors with other SEZs in India, the two SEZ in the South India namely, Madras Special Economic Zone (MSEZ) and Vishakhapatnam Special Economic Zone (VSEZ) are selected. As Vishakhapatnam SEZ does not have Electronics Hardware units, this sector of VSEZ is not used in the comparisons. Data from 2005-06 to 2013-14 is collected for the study through filing right to information. The Researcher tried to collect sector-wise data from all Central Government owned SEZs in India using the same method, but the sector-wise data was not properly maintained by the other zones.

The analysis of RCAI values of the Food and Agro sector in all the selected zones reveals that none of these zones enjoy comparative advantage in relation to the Indian exports. The export generation of MSEZ's Food and Agro sector was zero during 2009-10, 2011-12 and 2013-14. Among all the zones, unity index value was achieved only once in CSEZ in 2006-07. Other than this, Food and Agro sector is not competitive in relation to the Indian exports. Comparatively CSEZ- Food and Agro sector has maintained better RCAI values than other two zones during the study period.

The CSEZ Electronics Hardware sector has registered the highest RCAI value than any sector in all the sample zones with a record of 22.35 RCAI value in 2005-06. But later the index value of CSEZ Electronics Hardware has dropped below unity in 2008-09. Although the index values have diminished over the period, Electronics Hardware sector of the MSEZ has maintained index value above unity throughout the study period. From 2006-07 to 2012-13, Electronics Hardware sector of the MSEZ reported comparatively better index values than CSEZ. Hence MSEZ enjoys comparative advantage than other zones on Electronics Hardware exports.

Regarding the Engineering sector, CSEZ maintained index value above unity only in first two years of the study, later its value dropped drastically. MSEZ Engineering sector, preserved index values above or almost near to unity in most of the years and maintained considerably higher values than CSEZ. VSEZ reported index values less than unity in the first three years of the study period and generated significant improvements. The RCAI value of VSEZ Engineering sector outran the other two SEZs in 2009-10 and further increased to 10 in 2010-11 and maintained comparatively higher values than other zones from there onwards. The Engineering sector in VSEZ is more competitive than other two zones under the study.

The export competitiveness of Gem and Jewelry sector in all zones were remarkably good than other sectors. CSEZ experienced index value below unity only in one year, MSEZ in three years and VSEZ in one year during the study period. VSEZ has higher competitiveness during the first two years of the study. Later, CSEZ outweighed the other two zones with its impressive RCA index values. It has to be noted that all the zones have achieved a comparative advantage in exporting Gem and Jewelry products mostly due to the high-value addition nature of the products. The IT/ITES RCAI values of VSEZ and CSEZ were insufficient and never achieved unity. While the RCAI values of MSEZ for IT/ITES sector was comparatively better than other two zones. MSEZ- IT sector registered index value above unity for five years in the study period. The reason being, Chennai is known as one of the major IT hubs of India and the existence of a large number of IT-related SEZs and MNCs adjacent to MSEZ along with an abundance of skilled and technically qualified personnel in the region.

Table 5.11 : Sector-wise RCAI Comparison of Selected SEZs

Year	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Food and Agro									
CSEZ	0.36	1.22	0.24	0.11	0.06	0.06	0.04	0.04	0.25
MSEZ	0.04	0.07	0.17	0.19	-	0.01	-	0.00	-
VSEZ	0.19	0.18	0.20	0.07	0.01	0.01	0.01	0.01	0.02
Electronics Hardware									
CSEZ	22.35	14.08	2.76	0.81	0.59	0.41	0.38	0.40	3.62
MSEZ	5.20	4.13	3.12	1.55	1.51	1.62	1.01	1.31	2.34
Engineering									
CSEZ	1.61	1.10	0.22	0.12	0.09	0.11	0.08	0.07	0.09
MSEZ	5.69	5.66	4.12	3.47	2.44	2.61	0.84	0.70	1.20
VSEZ	0.00	0.00	0.75	2.29	5.87	10.00	8.27	4.70	2.45
Gem and Jewelry									
CSEZ	0.27	1.67	6.81	5.98	5.79	5.83	6.48	6.57	4.31
MSEZ	0.08	0.99	1.80	1.44	2.63	1.93	3.43	3.24	0.93
VSEZ	6.22	7.12	5.23	2.31	0.95	1.37	2.68	2.04	2.86
IT/ITES									
CSEZ	0.09	0.19	0.10	0.05	0.04	0.06	0.06	0.05	0.34
MSEZ	1.25	0.64	0.87	1.13	0.88	1.14	1.06	0.99	1.28
VSEZ	0.00	0.00	0.00	0.00	0.04	0.05	0.11	5.30	0.06
Miscellaneous									
CSEZ	5.17	3.13	0.70	0.39	0.27	0.39	0.34	0.36	2.60
MSEZ	1.40	1.79	1.96	2.00	0.85	0.96	1.56	1.06	3.82
VSEZ	0.57	1.51	6.42	12.95	9.41	7.28	2.65	4.80	6.85
Textile and Garments									
CSEZ	0.68	0.86	0.29	0.13	0.09	0.09	0.05	0.04	0.20
MSEZ	1.79	2.00	1.67	1.38	0.93	0.98	0.80	0.64	0.94
VSEZ	0.00	0.00	0.24	0.15	0.04	0.04	0.00	0.01	0.01

Source: Computed from the data collected from CSEZ, MSEZ and VSEZ Development Commissioner's office, Ministry of Commerce and Industry, Economic Survey and Reserve Bank of India EXIM reports

Miscellaneous sector of VSEZ has reported better comparative advantage than other SEZs with maintaining index value above unity in all years except in 2005-06. MSEZ registered higher index values than CSEZ from 2007-08 onwards as the Miscellaneous export of CSEZ dropped after 2006-07. The RCAI values of Textile and Garments sector of CSEZ and VSEZ were not found competitive throughout the study period. While MSEZ reported index value above unity four times in the study period indicating that the export competitiveness for Textiles and Garments in all these zones were not satisfactory.

5.9 Net Export Index Analysis

To further analyze the export performance of the Cochin Special Economic Zone, Net Export Index is used in this study. The Net Export index is popularized by Mlangeni in 2000, through evaluating the net export to the total trade ratio of a particular commodity. Mlangeni used the net export to total trade ratio to evaluate a country's trade performance, which accounts for the possibility of exporting and importing within a particular commodity category. (Bezic, et. al, 2011[98]; Saboniene, 2009).

The formula to calculate Net Export Index is:

$$\text{Net Exports } iA = (X_i - M_i) / (X_i + M_i)$$

Where;

X_i - Country A exports of product i

M_i - Country A imports of product i

Net Export Index is an updated version of Revealed Comparative Advantage Index; specifically, this index measures the degree of specialization of a country in exporting a particular commodity. Net Export ratio ranges from -1 to +1. Values indicate lack of comparative advantage when it is between 0 and -1. When the value is between 0 and +1 it illustrates a comparative advantage. And if the value equals 0, then exports and imports of a product are equal.

5.9.1 Net Export Index of CSEZ

To understand the specialization level of Cochin Special Economic Zone in its export of a particular sector, a modified version of the net export index is used as:

$$\text{Net Exports}_i = (X^z - M^z)/(X^z + M^z)$$

Where:

X^z – Zone exports of product i ;

M^z – Zone imports of product i ;

The Net Export Index values of CSEZ sectors calculated on the basis of the above formula is given in Table 5.12. The index value close to +1 represents higher comparative advantage and value close to -1 shows lack of comparative advantage. Mere analysis of exports values will not provide the real understanding about the performance of the sectors as it ignores the import values of the sectors. The export performance can be nullified by the huge import values. Unlike RCAI, Net Export Index considers the impact of import on the performance of various sectors of the zone.

Net Export Index values of CSEZ Food and Agro sector reveals that the export performance of the sector was impressive only in 2003-04 and 2006-07. In all other years, the Net Export Index values of the sector were not close to +1 which represents the lesser specialization of Food and Agro products in CSEZ net exports. Although Electronics Hardware sector reported high RCAI values in its export, the Net Export Index value produced by the sector is not impressive. The sector even reported values close to -1 in 2003-04, 2010-11 and 2012-13. The high import value of the sector during these years is the major reason behind the low Net Export Index values. The Engineering sector also did not report promising export specialization as the index value reached close to -1, four times during the study period.

Table 5.12 : Net Export Index of Various Sectors of CSEZ

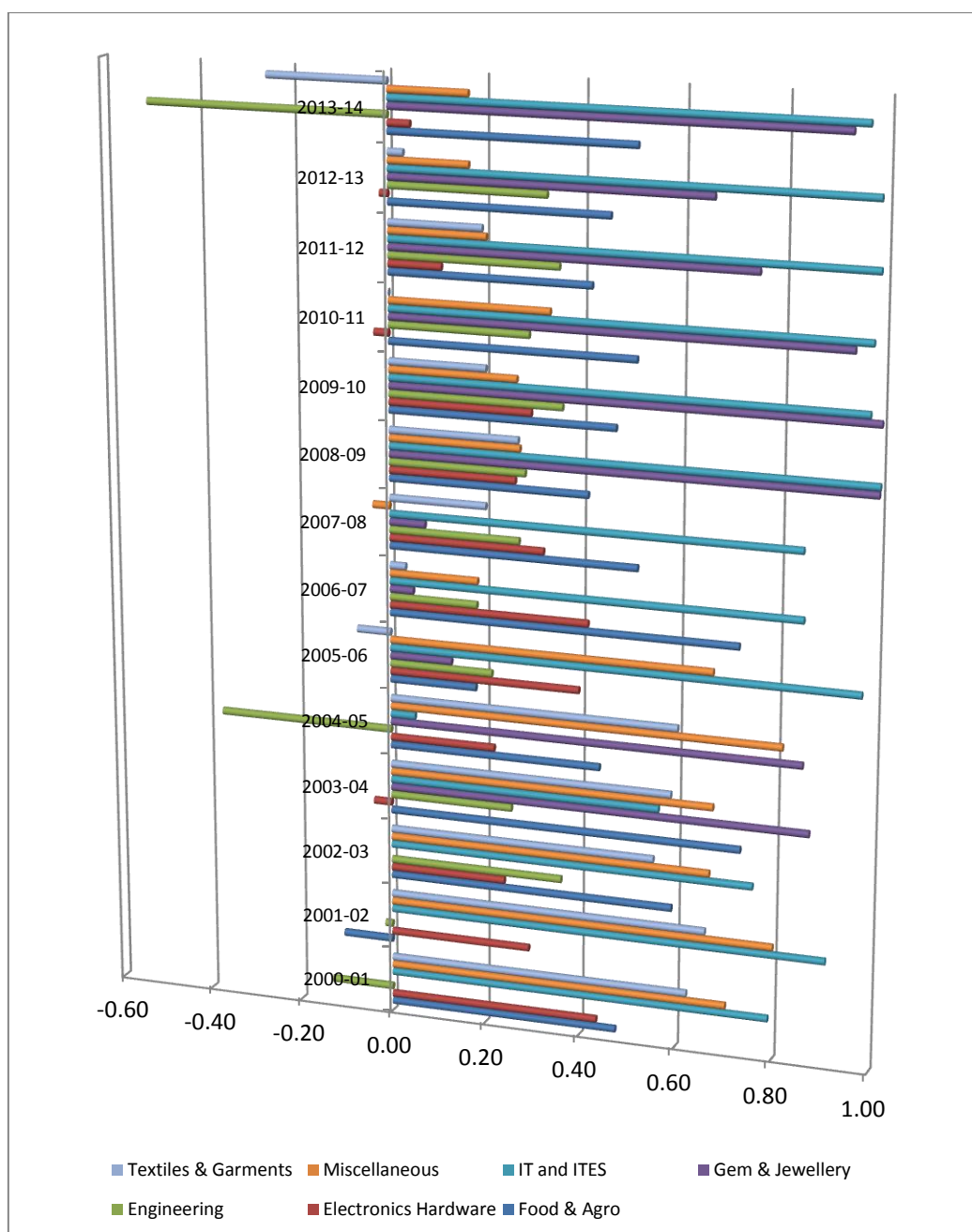
Year	Food & Agro	Electronics Hardware	Engineering	Gem & Jewelry	IT and ITES	Miscellaneous	Textiles & Garments
2000-01	0.48	0.43	-0.13	-	0.79	0.70	0.62
2001-02	-0.10	0.29	-0.02	-	0.91	0.80	0.66
2002-03	0.59	0.24	0.36	-	0.76	0.67	0.55
2003-04	0.73	-0.04	0.26	0.87	0.56	0.67	0.59
2004-05	0.44	0.22	-0.37	0.85	0.05	0.81	0.60
2005-06	0.18	0.40	0.21	0.13	0.97	0.67	-0.07
2006-07	0.72	0.41	0.18	0.05	0.85	0.18	0.03
2007-08	0.51	0.32	0.27	0.07	0.85	-0.04	0.20
2008-09	0.41	0.26	0.28	1.00	1.00	0.27	0.27
2009-10	0.47	0.30	0.36	1.00	0.97	0.27	0.20
2010-11	0.51	-0.03	0.29	0.94	0.98	0.33	0.00
2011-12	0.42	0.11	0.35	0.75	0.99	0.20	0.19
2012-13	0.46	-0.02	0.33	0.66	0.99	0.17	0.03
2013-14	0.51	0.05	-0.51	0.93	0.96	0.17	-0.25

Source: Computed from the data collected from CSEZ Development Commissioner's office

Gem and Jewelry and IT/ITES sector produced the highest Net Export Index value among all other sectors. Gem and Jewelry reported low Net Export Index value only during 2006 to 2008 due to high imports, in all other years, the index values of the sector were remarkable as it has generated high-value additions on the products processed in the CSEZ. While the IT/ITES has reported tremendous Net Export Index value in almost all years under study.

The low import in IT sector is the reason behind this scenario as computer peripherals and software are the major imports of the sector. Heavy machinery and raw materials were not necessary for this sector. Miscellaneous and Textile and Garments sectors maintained high Net Export Index values during the first half of the study period but during the latter phase, the export specialization from these sectors have deteriorated resulting in low Net Export Index values. The value additions generated by these sectors have considerably dropped towards the end of the study period.

The sector-wise Net Export Index values of Cochin Special Economic Zone are presented in figure 5.15. Miscellaneous, Textile and garments and IT/ITES sector registered high Net Export Index values in the first years of the study period, denoting a comparative advantage in exporting the products from these sectors with relation to the total CSEZ exports in real terms. From 2003 onwards, Gem and Jewelry sector registered high index values and remained in the lead position on index values along with IT/ITES and miscellaneous sectors. Later, during the last phase of the study, it was only IT/ITES and Gem and Jewelry sectors which have reported comparatively high Net Export Index values than other sectors. Net Export Index value close to -1 was mostly produced by Engineering, Electronics Hardware and Textile and Garment sectors. The highest Net Export Index values were generated by IT/ITES and Gem and Jewelry sectors of CSEZ due to high-value additions to the gem and jewelry products and low imports and high export value generation of IT/ITES sector.



Source: Computed from the data collected from CSEZ Development Commissioner's office

Figure 5.15 : Net Export Index of Different Sectors in CSEZ

5.9.2 Comparison of Net Export Index of CSEZ with Selected SEZs

The comparison of Net Export Index value of various sectors operating in CSEZ, MSEZ, and VSEZ is calculated to further evaluate the pattern of export of a particular sector in each zone. The analysis reveals that, apart from substantial Net Export Index values in CSEZ during the early years of the study period, no other zones were able to produce index value closer to +1 in Food and Agro sector, which means there was a low export specialization of Food and Agro products in the total exports of the zones. The Net Export Index values of Electronics Hardware and Engineering sectors were also not impressive. Although the RCAI values of CSEZ and MSEZ on Electronics Hardware sector was high, the low Net Export Index values reflect the high volume of imports in the sector and in real terms the net export ratio of this sector is not impressive. In Engineering sector, net export index value reached close to +1 once in the case of VSEZ in 2008-09 apart from this no zones have ever generated notable net export index values in the sector.

The Net Export Index values generated by IT/ITES and Gem and Jewelry sectors by all zones were comparatively better than other sectors (Table 5.13). CSEZ Gem and Jewelry sector reported outstanding index values and high comparative advantage in its exports and VSEZ generated index value close to +1 only in 2008-09 for Gem and Jewelry sector. Net Export Index values of MSEZ for the same sector were not at all impressive throughout the study period. In IT/ITES sector, CSEZ had tremendous net export index values for all years. But MSEZ- IT/ITES sector never generated index value close to +1 during the study period. VSEZ- IT/ITES produced highly fluctuating index values ranging from -1 to +1. In most of the years, VSEZ, IT/ITES sector achieved a high comparative advantage in exports as the imports reported by the sector in the zone was very less.

Table 5.13 : Comparison of Net Export Index Values of Selected SEZs

SEZ	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Food & Agro									
CSEZ	0.18	0.72	0.51	0.41	0.47	0.51	0.42	0.46	0.51
MSEZ	0.1	0.2	0.1	0.1	-1.0	0.3	-1.0	0.1	
VSEZ	1.0	1.0	1.0	1.0	1.0	1.0	-0.7	-0.8	-0.8
Electronics Hardware									
CSEZ	0.40	0.41	0.32	0.26	0.30	-0.03	0.11	-0.02	0.05
MSEZ	0.16	0.23	0.05	0.07	0.08	0.08	-0.05	0.08	0.17
Engineering									
CSEZ	0.21	0.18	0.27	0.28	0.36	0.29	0.35	0.33	-0.51
MSEZ	0.41	0.19	-0.10	-0.02	0.07	0.16	-0.04	0.03	0.12
VSEZ	-0.14	-1.00	-0.58	0.95	-0.07	0.03	0.13	-0.07	-0.36
Gem & Jewelry									
CSEZ	0.13	0.05	0.07	1.00	1.00	0.94	0.75	0.66	0.93
MSEZ	-0.39	0.12	-0.08	-0.01	0.30	0.18	0.14	0.23	0.23
VSEZ	0.80	0.85	0.07	0.97	0.15	-0.02	-0.02	0.00	-0.22
IT and ITES									
CSEZ	0.97	0.85	0.85	1.00	0.97	0.98	0.99	0.99	0.96
MSEZ	0.45	-0.07	-0.07	-0.02	0.24	0.20	0.23	0.20	0.46
VSEZ	-1.00	1.00	-1.00	-1.00	0.97	1.00	0.99	1.00	1.00
Miscellaneous									
CSEZ	0.67	0.18	-0.04	0.27	0.27	0.33	0.20	0.17	0.17
MSEZ	0.28	0.27	0.25	0.10	0.16	0.17	0.14	0.13	0.20
VSEZ	0.79	0.55	0.56	0.98	0.28	0.14	-0.09	0.29	0.32
Textiles & Garments									
CSEZ	-0.07	0.03	0.20	0.27	0.20	0.00	0.19	0.03	-0.25
MSEZ	0.33	0.32	0.02	0.07	0.37	0.19	0.10	0.10	0.12
VSEZ	0.00	-1.00	-0.15	0.94	-0.71	-0.76	-1.00	-0.96	-0.97

Source: Computed from the data collected from CSEZ, MSEZ and VSEZ Development Commissioner's offices

For Miscellaneous sector, VSEZ produced impressive index values, particularly during the first phase of the study period. MSEZ and CSEZ were not able to generate impressive Net Export values in exporting Miscellaneous sector products. Index values of Textile and Garments sector were also not favorable for any of the zones. For this sector, VSEZ and CSEZ had negative values in many years of the study while MSEZ maintained index value above zero but never crossed .5 ranges.

The Net Export Index value reflects the degree of specialization or the net export of a sector in relation to the total trade of a zone. It was only IT/ITES and Gem and Jewelry sectors which registered high Net Export Index values in all zones, mainly due to the fewer imports in the IT/ITES sectors and High-value additions for its products in gem and jewelry sector. Hence the net exports of these sectors in the total trade of the zone were higher.

5.10 Net Foreign Exchange Earning Analysis

Special Economic Zones in India were established with the objective to improve exports and thereby increase India's foreign exchange earnings. Foreign exchange earnings are the monetary gains made by selling goods and services in the global markets. Products and services manufactured within the Special Economic Zones are solely intended for exports. While evaluating the actual export performance of SEZs there is little hope on relying on the absolute increase in exports as a yardstick because, if the increase in export value is accompanied by an equal increase in imports, then SEZs are not actually contributing to the country's economic growth. Hence the analysis of net foreign exchange earnings by the zone can be considered as a measure to evaluate the real economic contribution.

5.10.1 Net Foreign Exchange Earnings of CSEZ

The capacity of the CSEZ to earn foreign exchange earnings is analyzed in this section. The net foreign exchange earnings of each sector from CSEZ during the study period are given in Table-5 .14. During the early phase of the study period, Electronics Hardware and Miscellaneous sectors were the major contributors of foreign exchange for CSEZ. From 2006 onwards the foreign exchange earnings of these two sectors began to drop drastically. Later by 2010-11, Miscellaneous sector achieved the third position among CSEZ sectors in earning foreign exchange and maintained the position till the end of the study period. But foreign exchange earnings of Electronics Hardware sector turned out to be insignificant by the end of the study period.

Gem and Jewelry and IT/ITES's foreign exchange earnings were minor during the first half of the study period but from 2007-08 onwards these sectors became the two leading earning source of the zone and maintained their first two positions till the end of the study period. From 2008-09 to 2012-13, Gem and Jewelry contributed the major share of foreign exchange earnings of CSEZ. Food and Agro sector recorded relatively better foreign exchange earnings than Engineering and Textile and Garments sector in the zone. The sector has considerably contributed to the exchange earnings of CSEZ especially during the last phase of the study period. Engineering and Textile and Garments were in the last position on account of exchange earnings. As these sectors reported fluctuating exchange earnings growth rates and recorded negative foreign exchange earnings in the last year of the study.

Table 5.14 : Foreign Exchange Earnings of Various Sectors in CSEZ

Year	Food & Agro	Electronics Hardware	Engineering	Gem & Jewelry	IT/ITES	Miscellaneous	Textiles & Garments	Total
2000-01	11.41	95.69	-2.59	-	4.75	73.25	20.01	202.52
2001-02	-3	51.27	-0.33	-	12.21	84.72	26.7	171.57
2002-03	36.85	50.44	13.21	-	9.26	67.16	8.83	185.75
2003-04	56.34	-14.12	10.65	17.19	7.68	68.28	13.14	159.16
2004-05	16.11	106.88	-24.04	25.94	1.05	193.77	27.78	347.49
2005-06	7.91	185.79	19.5	6.54	13.67	149.89	-8.79	374.51
2006-07	109.7	193.08	18.77	20.26	45.04	48.26	5.85	440.96
2007-08	87.78	128.77	24.05	527.24	110.64	-10.13	40.14	908.49
2008-09	73.99	147.37	35.92	10658.67	156.16	68.8	52.55	11193.46
2009-10	65.38	144.49	43.95	16549.67	221.14	73.12	42.23	17139.98
2010-11	80.16	-15.96	42.95	17116.25	256.27	131.04	0.17	17610.88
2011-12	92.79	61.9	57.32	23345.26	394.13	123.81	26.62	24101.83
2012-13	120.32	-12.25	55.14	24595.22	470.26	131.6	5.05	25365.34
2013-14	110.18	37.8	-45.13	2630.06	523.49	145.82	-51.17	3351.05

Source: Computed from the data collected from CSEZ Development Commissioner's office

5.10.2 Comparison of Foreign Exchange Earnings of CSEZ with Selected SEZs

The gross foreign exchange earnings of Madras, Vishakhapatnam and Cochin Special Economic Zones are compared to get a clear idea about the pattern of real additions to the foreign exchange reserves of the nation. The foreign exchange earnings represent the real contribution of the SEZs to the country's economic growth, as it calculated after deducting the import values from the exports. The comparison of foreign exchange earnings of selected SEZs reveals that MSEZ was the leading in earnings in the first year of the study period, later its exchange earnings has diminished drastically to Rs. -278.42 crores during 2007-08. And during the second phase of the study period, MSEZ has slightly improved its position in earning foreign exchanges. VSEZ experienced an unstable foreign exchange earnings trend in the study period. The exchange earnings were better in the initial years and then decreased in 2007-08, thereon the zone's pattern of exchange earnings was very much fluctuating. During the last year of the study period, the zone experienced negative foreign exchange earnings of Rs. -449.11 cores.

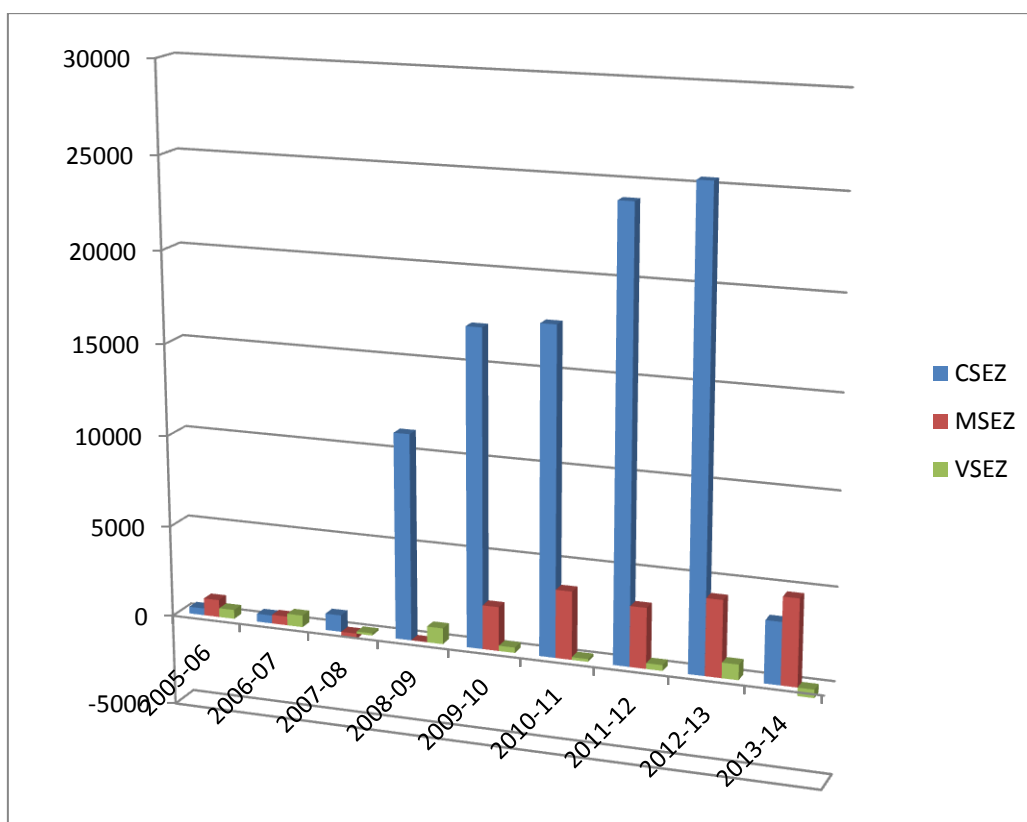
Unlike other two zones, CSEZ has made a steady increase in its foreign exchange earnings in all years of the study period, except the last year. The earnings have increased from Rs. 374.51 crores in 2005-06 to Rs. 25, 365.34 crores in 2012-13. From 2007-08 to 2012-13, CSEZ has earned the highest exchange earnings than other zones under the preview. The difference in the exchange earnings of CSEZ and other zones were enormous during this period. But the exchange earnings of CSEZ have severely dropped in the last year of the study due to the fall in the performance of Gem and Jewelry sector.

Table 5.15 : Net Foreign Exchange Earnings of Selected SEZs

Year	CSEZ	MSEZ	VSEZ
2005-06	374.51	948.65	496.93
2006-07	440.96	481.71	643.52
2007-08	908.49	-278.42	121.569
2008-09	11193.46	9.57	868.086
2009-10	17139.98	2387.85	291.84
2010-11	17610.88	3687.51	151.18
2011-12	24101.83	3269.3	313.26
2012-13	25365.34	4149.74	831.11
2013-14	3351.05	4687	-449.311

Source: Computed from the data collected from CSEZ, MSEZ and VSEZ Development Commissioner's offices, Values in Crores

The mean value of CSEZ Net Foreign Exchange Earnings was Rs. 11,165.17 crores during the study period, while the mean value of MSEZ and VSEZ was Rs. 2149.22 and Rs. 363.14 crores respectively, which denotes a clear advantage of CSEZ in net foreign exchange earnings.



Source: Computed from the data collected from CSEZ, MSEZ and VSEZ Development Commissioner's offices, Values in Crores

Figure 5.16 : Net Foreign Exchange Earnings of Selected SEZs

Figure 5.16 represents the net foreign exchange earnings of CSEZ, MSEZ and VSEZ during the study period from 2005-06 to 2013-14. MSEZ and VSEZ maintained the highest exchange earning positions in the first two years of the study respectively. From 2007-08 to 2012-13, CSEZ clearly outweighed the other two zones with impressive margins in terms of foreign exchange earnings. The earnings of CSEZ decreased considerably in the last year of the study and MSEZ got promoted to the first position in net Foreign Exchange Earnings.

Summary

From its inception, Cochin Special Economic Zone is remarkably contributing to the total exports and GDP of the country. The share of Indian SEZ export to GDP has increased much faster than the growth rate of Indian export's share in GDP. The export performance of CSEZ has exceedingly improved after the implementation of SEZ Act 2005. CSEZ has contributed 11.72 per cent of total SEZ exports of India in 2008-09. For many years CSEZ was the highest export generating zone among all the central government SEZs in the country, during the study period. CSEZ registered the highest CAGR rate and the second highest mean value of exports in the country indicating the remarkable export performance of the zone. Regarding the annual growth of exports, CSEZ reported continuous growth for eleven years and registered the highest ever growth rate by any government SEZs in the country. Hence Cochin Special Economic Zone has contributed a large volume of exports to the total exports of the country.

The traditional sectors like Food and Agro, Textile and Garments reported a decrease in their export performance within CSEZ over the study period. The major contributors of Exports in CSEZ at the initial phase of the study were Electronics Hardware and Miscellaneous sectors, later these sectors were replaced by Gem and Jewelry and IT/ITES sector. The immense increase in the export growth of Gem and Jewelry sector has elevated the zone as one of the leading export generators of the country during the study period and the sector has emerged as the major contributor of exports within the zone. The major share of the total exports of the zone was contributed by Gem and Jewelry for the entire latter phase of the study period too. The analysis conducted in this chapter also revealed that the export volume of CSEZ has remarkably improved during the SEZ regime than EPZ regime.

The revealed comparative analysis reveals that CSEZ had a comparative advantage in Electronics Hardware and Miscellaneous sectors during the early period of the study, later Gem and Jewelry achieved a comparative advantage in the exports from CSEZ. Comparative advantage index values of Gem and Jewelry were much below than the Electronic Hardware sector due to the larger proportion of Gem and Jewelry exports from India. Food and Agro, Gem and Jewelry sectors of CSEZ enjoy higher comparative advantage than other South Indian SEZs. While IT/ITES and Gem and Jewelry sectors have registered the highest net export index values in CSEZ due to fewer import volumes, high product diversifications and the high-value addition of products. CSEZ sectors like, Food and Agro, Electronics Hardware, Gem and Jewelry, IT/ITES and Textile and Garments have reported higher net export index values than other Special Economic Zones in South India.

The net foreign exchange analysis reveals that Electronics Hardware and Miscellaneous sectors were leading in foreign exchange earnings in the first phase of the study period, while Gem and Jewelry and IT/ITES took that position during the second half of the study period. The major portion of exchange earnings during the latter phase was contributed by Gem and Jewelry sector, this reveals the prominence of Gem and Jewelry sector in CSEZ. The foreign exchange earning capacity of CSEZ was incredible when compared with other SEZs in south India. CSEZ has clearly outperformed the other zones in terms of foreign exchange earnings with a clear margin in most of the years.

The above analysis reveals that Special Economic Zones in India have played an important role in promoting exports from the country. In other words, SEZs have been successful in achieving its establishing objective of export generation, to a certain extent. CSEZ has reported commendable export

performance during the study period, its comparison with other zones denotes that supremacy of this zone over other SEZs in many areas. Although the contribution pattern of the sectors has changed over the years, the export growth rates were not compromised in CSEZ. The utilization of the full potential of the zone will result in further improvements in its export generations, eventually contributing more towards the economic development of the country.

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DIRECT EMPLOYMENT AND WORKING CONDITIONS IN COCHIN SPECIAL ECONOMIC ZONE

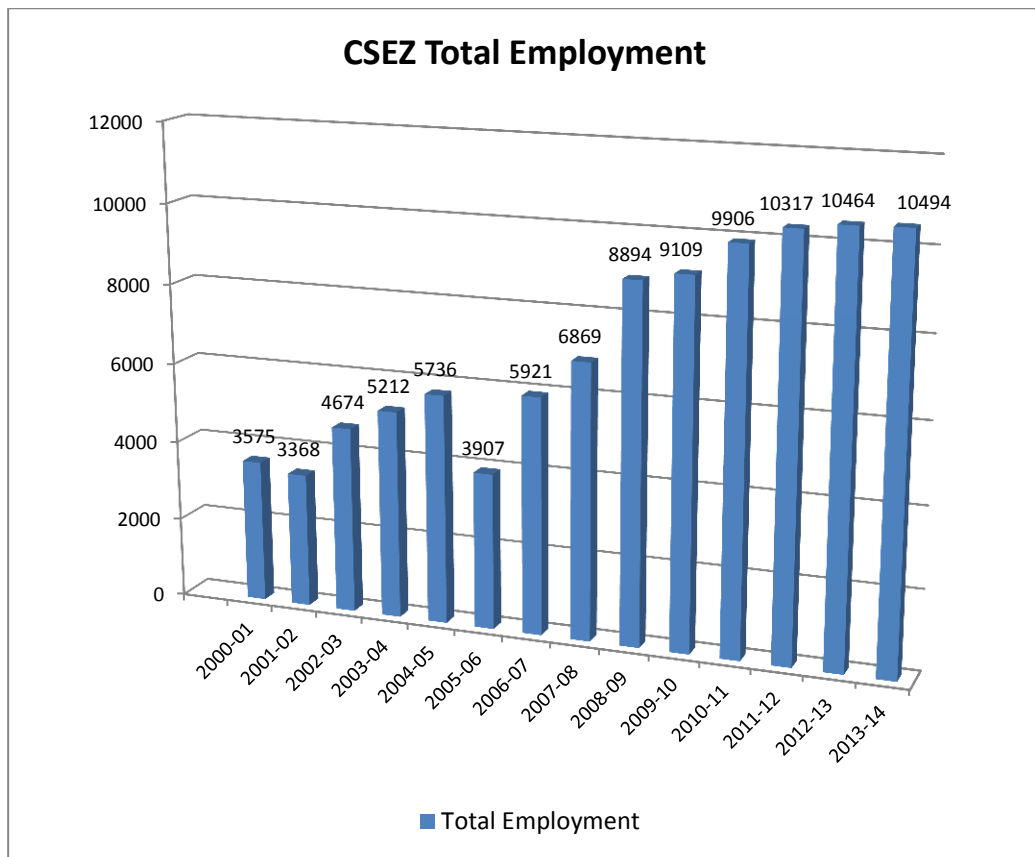
- 6.1 *Employment Profile of CSEZ*
- 6.2 *Sector-wise Employment of CSEZ*
- 6.3 *Growth of Employment in CSEZ*
- 6.4 *Female Participation in CSEZ Workforce*
- 6.5 *Comparison of CSEZ Employment with other SEZs in India*
- 6.6 *Analysis of Working Conditions in SEZs*
- 6.7 *Analysis of working conditions in CSEZ*

Special Economic Zones plays a vital role with respect to employment generation as it is one of the most prominent establishing objectives of SEZs. Most successful SEZs in relation with employment generation are established in Asia. China, Korea, India, Malaysia, Bangladesh and Thailand are the most successful countries to promote employment generation through SEZ operations. The Economist (2015), reports that approximately 68 million people were employed in free zones around the world in 2015. While in India, SEZs generated employment opportunities for 17,11,657 person as of March 2017 (www.sezindia.com). ILO (2014) [99] reports SEZ play a crucial role in promoting employment opportunities in developing countries. But many studies argued that Special Economic Zones in India have triggered immense controversies as they have been virtually exempted from labour legislation

which has resulted in labour exploitation and poor working conditions. Studies made by Patkar (2009), Mitra (2007), Bose (2007), Menon (2010) have severely criticized the Indian Special Economic Zones on their labour right violations, poor working conditions, and on many other grounds. Hence this chapter discusses the direct employment generation and the working conditions that exist in Cochin Special Economic Zone.

6.1 Employment Profile of CSEZ

Cochin Special Economic Zone initiated its operations in 1986 with less than 300 workers which have increased to 10494 employment opportunities by the end of 2014. CSEZ was one of the leading employment providers in the State since the inception of the zone. The major employment providing sectors of the zone were IT/ITES, Electronics Hardware and Miscellaneous sectors. The increasing demand for software and business process outsourcing jobs in India has directly resulted in the creation of additional employment opportunities in the IT/ITES sector of CSEZ also. The female participation in the CSEZ workforce has been decreasing from 2000 onwards. Although the Gem and Jewelry is the highest contributor towards CSEZ's total export volumes, it has the lowest ranking in terms of employment generation. The employees in CSEZ during 2000-01 were 3575, which constituted with 1740 male and 1835 female workers. By the 2014, it has increased to 7227 males and 3267 female workers in the zone.



Source: Office of the Development Commissioner, Cochin SEZ

Figure 6.1 : Direct Employment Generation in CSEZ from 2000-01 to 2013-14

There was a drop in the total employment of CSEZ in 2005-06 by 31.88 per cent as sectors like Electronics Hardware, Miscellaneous and Textile and Garments reported a drop in their employment during this year. After the enactment of SEZ Rule in 2006, there was a surge of investment in Special Economic Zones across the country; CSEZ is also benefited from SEZ Rules in form of increased investment, employment opportunities and exports. From 2006-07 onwards, the total employment of CSEZ kept increasing consistently. By 2013-14, CSEZ employed 7227 males and 3267 female workers with the aggregate figure of 10,494 total workers.

6.2 Sector-wise Employment of CSEZ

The employment trend in CSEZ has changed considerably over the study period, Traditional Industrial sectors like Food and Agro, Miscellaneous and Textile/Garments were the leading employment providers of the zone in the initial years of the study period (Table 6.1). These sectors have collectively contributed 69.79 and 67.93 per cent of the total employment of the zone in 2000-01 and 2001-02 respectively. Until 2005-06, these sectors continued to be the major employment providers, employing 55.72 per cent of the total workforce in CSEZ. The prominence of the traditional industrial sectors on CSEZ workforce began to decline from 2006-07 onwards, where the employment contribution of these sectors reduced to 38.64 per cent. Miscellaneous and Textiles/Garments were the leading employment providers of the zone during the early years of the study where they employed 31.89 and 30.24 per cent in 2000-01 and 36.13 and 23.07 per cent of the workforce in 2001-02 respectively.

During 2006-07, IT/ITES sector emerged as the highest employment provider of the zone by employing 37.02 per cent of the total workforce and maintained its position throughout the study period. In 2013-14 the sector provided employment opportunities to nearly half of the workforce in CSEZ by employing 46.91 per cent of the zone workforce. Whereas, the Engineering sector, was one of the lowest employment providing sectors of the zone. It has reported the lowest employment share of 6.71 per cent in 2000-01, which increased to 16.25 per cent in 2005-06. The share of employment by this sector has considerably decreased after 2005-06. Later, the sector maintained 8 per cent of the total workforce during the last years of the study. Electronics Hardware was another leading employment provider in CSEZ throughout the study period, this sector employed 16.03 per cent of the total workforce of the

zone in 2000-01 which increased to 24.35 per cent in 2003-04 and later decreased to 10.86 per cent in 2006-07. The employment contribution of Electronics Hardware sector was relatively fluctuating during the study period. Still, the sector managed to contribute large volumes of employment in CSEZ; Electronics Hardware was the second highest employment provider in the zones in 2013-14 with 24.80 per cent of employment share.

Table 6.1 : Percentage Distribution of Share of various Sectors in the Total Employment of CSEZ

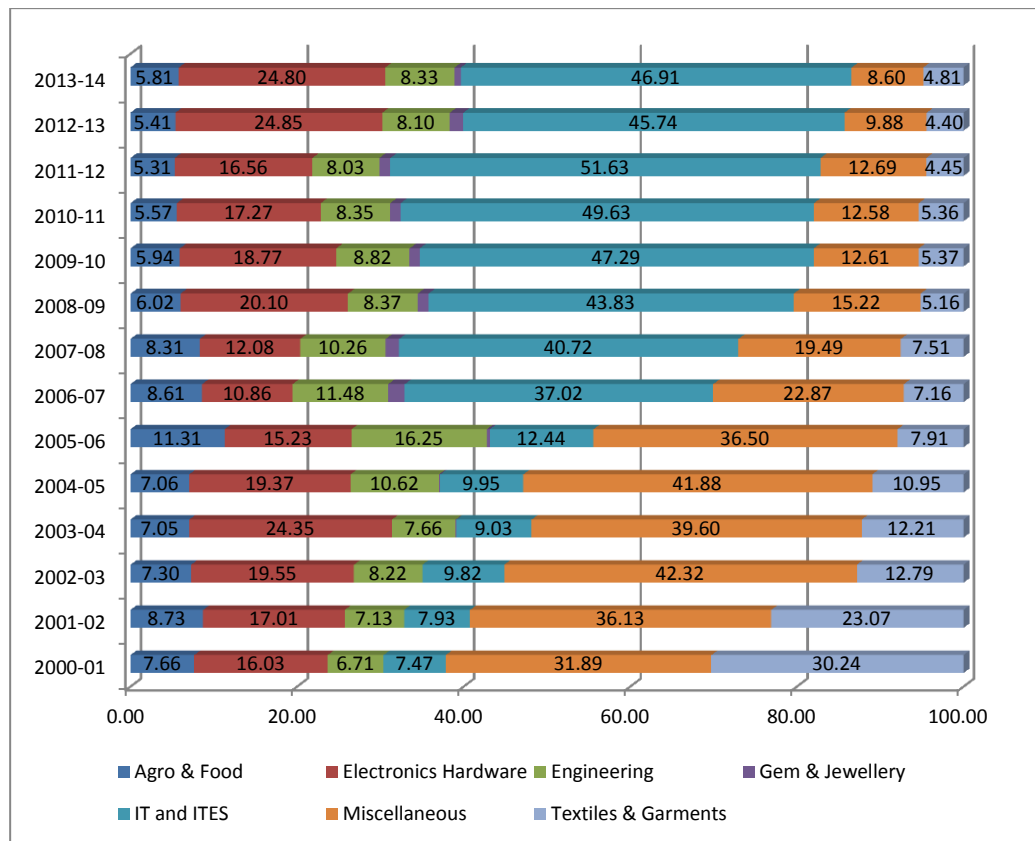
Year	Agro & Food	Electronics Hardware	Engineering	Gem & Jewelry	IT/ITES	Miscellaneous	Textiles & Garments	Total
2000-01	7.66	16.03	6.71	0.00	7.47	31.89	30.24	100
2001-02	8.73	17.01	7.13	0.00	7.93	36.13	23.07	100
2002-03	7.30	19.55	8.22	0.00	9.82	42.32	12.79	100
2003-04	7.05	24.35	7.66	0.10	9.03	39.60	12.21	100
2004-05	7.06	19.37	10.62	0.17	9.95	41.88	10.95	100
2005-06	11.31	15.23	16.25	0.36	12.44	36.50	7.91	100
2006-07	8.61	10.86	11.48	1.99	37.02	22.87	7.16	100
2007-08	8.31	12.08	10.26	1.62	40.72	19.49	7.51	100
2008-09	6.02	20.10	8.37	1.30	43.83	15.22	5.16	100
2009-10	5.94	18.77	8.82	1.20	47.29	12.61	5.37	100
2010-11	5.57	17.27	8.35	1.24	49.63	12.58	5.36	100
2011-12	5.31	16.56	8.03	1.34	51.63	12.69	4.45	100
2012-13	5.41	24.85	8.10	1.62	45.74	9.88	4.40	100
2013-14	5.81	24.80	8.33	0.74	46.91	8.60	4.81	100

Source: Office of the Development Commissioner, Cochin SEZ

Figure 6.2 narrates the percentage distribution employment generation of various sectors in CSEZ, Food and Agro sector has maintained the average annual employment share of 7.15 per cent employment contribution during the study period of 2000-01 to 2013-14. The sector employed 5 to 9 per cent of the zone workforce in most of the years except in 2005-06 where the share was the maximum at 11.31 per cent. Over the years, the employment proportion of the sector has slightly decreased to 5.81 per cent in 2013-14 from 7.66 per cent in 2000-01. Although the employment generation of the sector has increased from 2004-05 to 2007-08, the global recession occurred in 2008 has reduced the demand for food and agro products of CSEZ, resulting in a reduction in employment growth of the sector. Electronics Hardware is the second highest employment provider of the zone with the average annual share of 18.35. The share of the sector in total employment of the zone was 16.03 per cent in 2000-01, this has steadily increased until 2003-04 to 24.35 per cent of the zone employment. The actual employment of the sector has considerably increased during this period. Although the share of the Electronics Hardware sector on CSEZ employment was inconsistent from 2004-05 onwards, it has maintained a notable volume of the workforce during this span. The total employment proportion of the sector in CSEZ workforce was 24.80 per cent in 2013-14.

The Engineering sector achieved the highest employment share during 2004-05 to 2007-08 as the relevant employment has increased considerably during this period. The total employment share of the sector was 6.71 in 2000-01 and the sector continued to employ 8 per cent of the total workforce from 2008-09 onwards. Although Gem and Jewelry sector ranked as the highest export value generator of CSEZ, the employment contribution of the sector is the lowest. The sector started operations in 2003-04 with employment contribution of 0.10 per cent, the share of the sector slightly increased over the

years and registered the highest in 2006-07 with 1.99 per cent of the total zone employment. The employment share of the sector has declined in the later years and reached 0.74 per cent in 20013-14. The total number of Gem and Jewelry sector workers was only 78 in 2013-14. During the primary survey, the researcher observed that the number of actual workers in Gem and Jewelry sector was much more than the numbers provided by the zone authorities since many workers were contract labourers who were not given any job contracts or other employment documents by the company.



Source: Office of the Development Commissioner, Cochin SEZ

Figure 6.2 : Percentage Distribution of Share of Employment by various Sectors in CSEZ

IT/ITES sector held only 7.47 per cent of the total employment of the zone in 2000-01 but the employment proportion of the sector has considerably increased in the successive years. IT/ITES emerged as the highest employment provider of CSEZ in 2006-07 by employing 37.02 per cent of the workforce. Thereafter the sector retained its highest position in employment generation throughout the study period, employing more than 40 per cent of the workforce in the following years. The increased demand for software and allied services both from Indian and International markets during the mid-2000s have boosted the IT/ITES sector. The Business Process Outsourcing and Call Center Business flourished in India during this span. As a result, many new companies started their business in IT/ITES sector of CSEZ resulting in high increase in employment. By 2013-14, IT/ITES of CSEZ employed 46.91 per cent of the total workforce. This analysis supports the arguments put forwarded by Reddy (2010) that IT/ITES have contributed the majority of zone employments in Kerala, Karnataka and Tamil Nadu.

Miscellaneous sector comprising of various products like Ceramic, Rubber, Plastic, Jute, Coir products etc., was one of the leading employment providers of CSEZ during the initial phase of the zone. The sector employed large volume of unskilled/semiskilled workers having low educational qualifications. During the late 1990s and early 2000s, Miscellaneous sector provided employment to a large number of female workers from many parts of Kerala. The sector was the highest employment provider of the zone during the early phase of the study period, employing 31.89 per cent of the workforce in 2000-01, 41.88 per cent in 2004-05 and 36.50 per cent in 2005-06. Later, the prominence of the sector in being the largest employer has dropped as IT/ITES sector emerged as the highest employment provider during 2006-07. Although Miscellaneous sector maintained a considerable volume of workforce

throughout the study period, the massive recruitment occurred in IT/ITES sector reduced its share of the workforce to 12.69 per cent in 2011-12 and 8.60 per cent in 2013-14.

Textile and Garments sector was another leading employment provider in the first two years of the study period, with 30.24 per cent in 2000-01 and 23.07 per cent in 2001-02 but the employment proportion of the sector dropped in the following years. Throughout the study period, there was an apparent decrease in the actual employment provided by the sector, the reason being the closure of many textile units operated from CSEZ. The employment proportion of Textile and Garments plummeted to 5.36 per cent in 2010-11 and 4.81 per cent in 2013-14. Many Textile units in CSEZ had shifted their operations to other states in search of better business opportunities and cheap labour which resulted in the reduction of employment in this sector over the period.

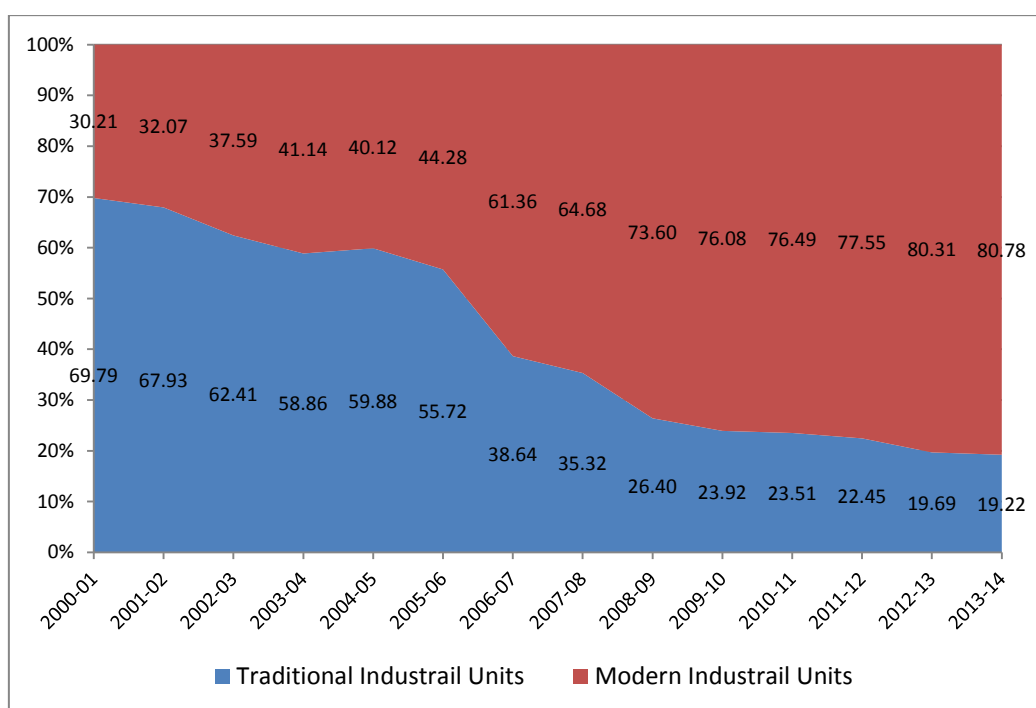
Table 6.2 : Average Annual Share of Employment by various Sectors in CSEZ

Sectors	Agro & Food	Electronics Hardware	Engineering	Gem & Jewelry	IT and ITES	Miscellaneous	Textiles & Garments
Percentage	7.15	18.35	9.17	0.83	29.96	24.45	10.1

Source: Office of the Development Commissioner, Cochin SEZ, Values in Percentage

Table 6.2 lists the average annual share of employment by each sector in CSEZ during the study period 2000-01 to 2013-14. IT/ITES sector registered the highest proportion during the span with 29.09 per cent followed by Miscellaneous sector. The prominence of Miscellaneous sector in the first phase

of the study period was declined as IT/ITES sector emerged as the major employment contributor from 2006-07 onwards. IT/ITES continued to be the highest employment provider till 2013-14. Electronics Hardware ranked the third position with 18.35 per cent on employment proportion of the zone. It was the third largest employment provider in the zone during the early phase of the study period and improved its position as the second largest employer in the later phase of the study. Textile and Garments, with 10.01 per cent of average annual employment proportion, was one of the leading employment providers in the early phase of the study period, its employment proportions had drastically fallen in the following years. Engineering and Food/Agro sectors trail with the next positions in the annual average per cent of the employment proportion of the zone with 9.17 and 7.15 per cent respectively. Gem and Jewelry held the last position in employment shares with 0.83 per cent during the study period.



Source: Office of the Development Commissioner, Cochin SEZ, Values in Percentage

Figure 6.3 Shift in Employment Pattern of CSEZ

Over the years, the employment pattern of CSEZ has considerably changed; the zone used to employ more number of unskilled or semi-skilled workforce in the initial stages of the zone operations especially in the 1990s and early 2000s. During this period, the demand for casual workers was high since a major portion of the zone products were from traditional industrial units like Food and Agro, Textile and Garments and Miscellaneous sectors. The major products of these sectors were cloths, jute, coir, plastic, processed food, rubber and ceramic etc. Demands for female workers were also high in these sectors due to the nature of these jobs. During the first three years of the study period employees of traditional industrial units comprised more than 60 per cent of the total workforce of the zone. But this trend has changed since 2006, after the enactment of SEZ rules, more number of modern industrial units launched their operations in CSEZ and massive recruitments took place. As a result, the employment composition of the zone shifted towards the modern industrial units and from 2006-07 onwards, these units were providing more than 60 per cent of the total employment in the zone. At the last year of the study, these units employed 80.78 per cent of the total workforce of the zone. The reason for this intense shift in employment contribution from traditional industrial units to modern industrial units is the emergence of IT/ITES and Engineering Hardware sectors and also the closure of many units operated in the traditional industrial sectors. This analysis substantiates the observations made by Arunachalam (2008) that the employment opportunities created by the SEZs in recent times demands highly educated and skilled workforce.

6.3 Growth of Employment in CSEZ

CSEZ maintained employment growth at 8 per cent compound annual growth rate (CAGR) from 2000-01 to 2013-14. Sectors like IT/ITES and Electronic Hardware achieved CAGR of employment at 23.14 and 11.41 per

cent respectively over this period. Sectors like Food and Agro and Engineering sectors attained 5.88 and 9.97 per cent of CAGR while, Miscellaneous and Textile/Garment sectors registered a negative CAGR of -1.66 and -5.29 per cent during the span. Thus the employment generation efforts of the modern industrial units were commendable than the traditional units and in fact, the actual employment of the traditional industrial units were also decreased during the study period.

6.3.1 Sector-wise Employment Growth in CSEZ

Sectors in CSEZ experienced different levels of employment growth trends during the study period. Although the total share of employment in zone's total employment and employment growth rate of each year is marginal, no sector other than Engineering registered a positive growth of employment during all years of the study period. Food and Agro sector also maintained positive employment growth rates across the years except in 2008-09 and 2011-12. The sector reported significant growth rates until 2007-08, the global recession of 2008 had negatively impacted the sector by the lesser demand for products resulting in the reduction of employment. The employment growth rates of Food and Agro were drastically dropped since 2008-09 and further, the sector registered negative growth rates of employment in 2008-09 and 2011-12 with -6.30 and -0.72 per cent correspondingly.

Being one of the leading employment providing sectors of Cochin Special Economic Zone, Electronics Hardware registered noticeable employment growth rates in 2002-03, 2003-04, 2007-08, 2008-09 and 2012-13 with 59.51, 38.73, 29.08, 115.42 and 52.22 per cent respectively. It should also be noted that the sector reported negative employment growths four times during the study span. Electronic Hardware sector employed the maximum

number of contract and trainee labourers in the zone, the recruitment of these workers varied each year as per the demand for its products from various markets.

Table 6.3 : Annual Employment Growths in Various Sectors

Year	Agro & Food	Electronics Hardware	Engineering	Gem & Jewelry	IT and ITES	Miscellaneous	Textiles & Garments
2000-01	-	-	-	-	-	-	-
2001-02	7.30	0.00	0.00	-	0.00	6.75	-28.12
2002-03	15.99	59.51	60.00	-	41.83	62.53	-23.04
2003-04	7.62	38.73	3.91	-	2.34	4.25	6.35
2004-05	10.35	-12.38	52.63	100.00	17.69	16.49	-1.26
2005-06	9.14	-46.44	4.27	40.00	-17.49	-40.63	-50.80
2006-07	15.38	8.07	7.09	742.86	77.83	-5.05	37.22
2007-08	11.96	29.08	3.68	-5.93	21.63	-1.11	21.70
2008-09	-6.30	115.42	5.53	4.50	28.25	1.12	-11.05
2009-10	1.12	-4.36	7.93	-6.03	9.52	-15.14	6.54
2010-11	2.03	0.06	2.99	12.84	12.37	8.44	8.59
2011-12	-0.72	-0.18	0.12	12.20	7.72	5.06	-13.56
2012-13	3.28	52.22	2.42	23.19	-11.30	-21.01	0.22
2013-14	7.77	0.08	3.07	-54.12	2.78	-12.77	9.78

Source: Office of the Development Commissioner, Cochin SEZ, Values in Percentage

Gem and Jewelry sector reported enormous employment growth rates during the first three years of its operations with 100, 40 and 742.86 per cent. But the number of reported workers in the sector was very few when compared to the other sectors. A rise in employment from 5 workers in 2003-04 to 10 in the next year resulted in 100 per cent employment growth in 2004-05 and also

an increase of workers from 14 in 2005-06 to 118 gave a mammoth employment growth rate of 742 per cent in 2006-07. Although IT//ITES sector reported negative growth rates for 2 years, the sector maintained impressive growth rates of employment in the balance years of the study. After the implementation of SEZ Rules in 2006, there was a surge in the employment of IT/ITES sector of CSEZ. The employment growth rates of the sector were 77.83, 21.63 and 28.25 per cent in 2006-07, 2007-08 and 2008-09.

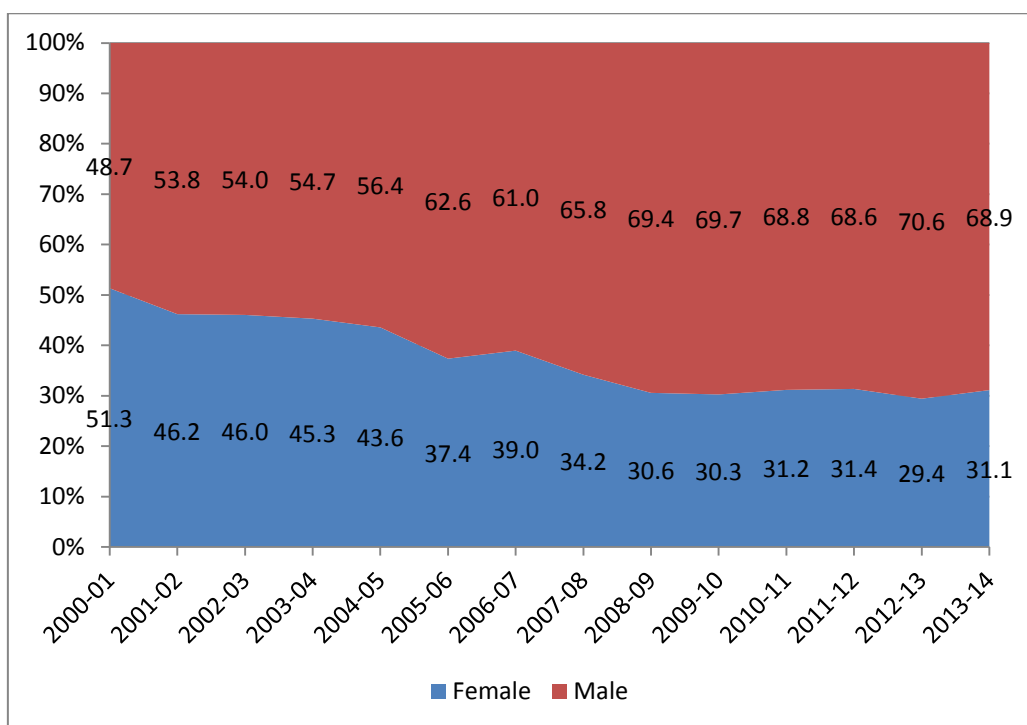
Even though, the Miscellaneous sector produced impressive employment growth rates in the initial phase of the study period with 62.53, 16.49 per cent in 2002-03 and 2004-05, the actual employment generation of the sector was largely dropped since 2005-06, resulting in negative employment growth rates in following years. Textile and Garments sector has experienced negative employment growth rate during various years of the study span, particularly in 2001-02 and 2005-06 with -28.12 and -50.80 per cent. Although the growth rates of the sector were mostly positive in the second phase of the study, the actual increase in the employment was minimal resulting in lower growth rates especially in the last years of the study period. The reason for unimpressive employment growth rates in these two sectors was due to the closure of many units operating in these sectors for various reasons.

6.4 Female Participation in CSEZ Workforce

International experience of many Special Economic Zones reveals that SEZs tend to employ more female workers. The increase in employment opportunities and income earning capacities had made women more independent and empowered. Study conducted by ILO (2003) argues that women constitute the majority of the workforce in most of the existing zones, reaching up to 90 per cent in some zones. But an alarming fact is recorded that as the nature of the

zones evolve to higher technologies, the gender profile changes favoring the male workforce. Madani (1999) the reason to employ more women in zones is because they are said to be more focused and diligent. Since there is a tendency for young women to get married and leave jobs after few years, they tend not to join trade unions. Lastly, women are expected to work for lesser pay than men for the same jobs. Madani also argues that despite their lower pay, women are the unintended beneficiaries from the formation of free zones. Rama (2001) reported the majority of jobs provided by zones are held by women in Caribbean Islands, Philippines, and China with lower dexterity levels. Narang (2015) observed that women participation in the total workforce of Special Economic Zone employment in many developing countries was more than 70 per cent but in India it is less than 50 per cent.

The female employment participation in the total workforce of CSEZ has alarmingly dropped during the study period. Female participation in CSEZ was 51.33 per cent in 2000-01 which declined to 43.57 per cent in 2004-05, 38.96 per cent in 2006-07 and further dropped by 31.13 per cent in 2013-14. The total employment and subsequent male and female employment generation in CSEZ for the study period is depicted in figure 6.4. Female work participation ratio was equal during the first year of the study which plummeted during the course of time.



Source: Office of the Development Commissioner, Cochin SEZ, Values in Percentage

Figure 6.4 : Female Work Participation Ratios in CSEZ

Analysis of the female participation in CSEZ employment contradicts the general belief that Special Economic Zones employ more female workers and helps them in the process of empowerment. The new units established in CSEZ from 2000 to 2014 were more on modern industrial units. These units required highly skilled and highly educated employees capable to work in sophisticated technology-driven environments. Moreover, the highest employment providing sectors of CSEZ were IT/ITES and Electronics Hardware, the average annual female participation rate of these sectors were 29.7 per cent and 17.1 per cent respectively in the study span. This indicates that the emergence of high skilled industries in CSEZ had adversely impacted the female participation in the total employment of the zone. This also validates the

arguments of the ILO (2003) studies that as the nature of the zones evolve to higher technologies, the gender profile changes favoring the male workforce.

6.4.1 Sector-wise Female Participation in CSEZ

The sector-wise female work participation of CSEZ will provide an idea about the female intensiveness of various sectors in the zone. As mentioned above the modern industrial units are more male intensive and traditional industrial units are more female intensive. Traditional industrial units like Food and Agro, Miscellaneous and Textile/Garments demands more female workers primarily due to the nature of employment among these sectors. Manual dexterity, greater discipline and patience make women more suitable for unskilled and semi-skilled jobs in these sectors. The female participation ratio in Food and Agro sector is one of the highest among all sectors in CSEZ. The female participation ratio of Food and Agro sector registered the highest of 60.4 per cent in 2011-12 and lowest of 47.6 per cent in 2001-02. The Miscellaneous sector also reported an impressive average annual employment ratio of 46.6 per cent during the study period, maintaining a stable female participation rate. Textile and Garments sector achieved the highest female participation ratio during the first phase of the study period with more than 90 per cent until 2004-05. Later the female participation ratio of the sector had considerably dropped to 69.26 in 2009-10 and further to 23 per cent in 2013-14. The automation of the operations is the major reason for the decreased demand for female workforce in the sector in the later phase of the study.

Table 6.4 : Female Participation in various sectors of CSEZ

Sectors	Food & Agro	Electronics Hardware	Engineering	Gem & Jewelry	IT and ITES	Miscellaneous	Textiles & Garments
2000-01	58.0	15.4	6.3		24.2	45.4	94.82
2001-02	47.6	20.6	30.5		26.5	47.9	94.78
2002-03	51.2	23.5	31.3		28.3	49.4	91.97
2003-04	50.1	21.8	34.6	0	32.5	48.3	92.30
2004-05	51.1	18.2	41.9	0	28.5	45.1	92.36
2005-06	51.3	17.0	36.8	23.5	30.3	43.7	71.70
2006-07	54.1	17.8	38.4	70.2	47.9	46.8	70.88
2007-08	54.2	16.3	38.1	14.4	28.6	42.8	73.05
2008-09	52.7	14.7	31.8	14.0	24.6	50.4	72.36
2009-10	56.6	15.4	37.1	11.9	23.9	47.3	69.26
2010-11	57.2	17.4	39.1	9.8	28.2	46.6	21.28
2011-12	60.4	17.3	39.9	26.8	27.9	45.1	20.04
2012-13	51.1	12.0	41.6	10.0	31.2	45.2	18.70
2013-14	50.3	12.6	44.1	19.2	33.5	47.7	22.97

Source: Office of the Development Commissioner, Cochin SEZ, Values in Percentage

The modern industrial units like Electronics Hardware, IT/ITES, Engineering and Gem and Jewelry are more male intensive sectors in CSEZ. The female work participation ratio of Electronics Hardware was the highest at 23.5 per cent in 2002-03 and IT/ITES registered the highest female participation of 33.5 per cent in 2013-14. Considering the fact that these sector being the highest employment providers of the zone, the massive recruitments took place in these sectors in the later years of the study period have further reduced the female participation ratio of Cochin Special Economic Zone. The increase in the number of the modern sectors units, the closure of many traditional units and mechanization of the traditional industrial units are the other reasons for the reduction in the female workers in the zone.

6.4.2 Comparison of Female Work Participation of CSEZ with Kerala and India

A major characteristic of Special Economic Zone employment is the feminization of the workforce, that is, a large share of women workers is being employed. A comparative study of CSEZ female work participation was conducted with the state and national level enabling to evaluate the strength of CSEZ in providing ample employment opportunities. During the study period of 2004-05 to 2013-14, the Indian female participation ratio is far below than the Kerala and CSEZ rates. The national level female ratio reached highest in 2013-14 at 21.8 per cent and the average annual rate of 19.9 during the span. While, Kerala is one of the states with the highest female participation rates, registered impressive rates above 60 per cent throughout the study period. But the Cochin Special Economic Zone's female participation ratios were much lower than the Kerala rates although it was higher than the national levels.

Table 6.5 : Comparison of Female Work Participation in CSEZ with Kerala and India

Year	India	Kerala	CSEZ
2004-05	20.4	64.5	43.6
2005-06	19.8	65.2	37.4
2006-07	20.7	65.8	39.0
2007-08	19.8	65.8	34.2
2008-09	20.0	65.5	30.6
2009-10	19.8	64.8	30.3
2010-11	18.8	62.7	31.2
2011-12	19.1	64.0	31.4
2012-13	18.6	60.8	29.4
2013-14	21.8	61.1	31.1

*Source: Annual Survey of Industries,
Office of the Development Commissioner, CSEZ, Values in Percentage*

The female work participation ratio of India was only 20.4 per cent in 2004-05 while Kerala maintained an impressive rate of 64.5 and CSEZ only achieved 43.6 per cent during the same year. Throughout the study period from 2004-05 to 2013-14, Kerala's female participation rate stood constantly at 60 per cent while CSEZ's ratio was close to 40 per cent in the initial phase of the study period and dropped to 30.6 per cent in 2008-09 and to 31.1 per cent in 2013-14. CSEZ units were not able to provide employment opportunities at par with the state level during the study phase from 2004-05 to 2013-14. Moreover the employment opportunities for females were drastically declined over the period of time.

6.5 Comparison of CSEZ Employment with other selected SEZs in India

To understand the national trend of employment in various Special Economic Zones in the country, comparisons of employment in zones were conducted for the time period of 2005-06 to 2013-14. Out of the seven Central government-owned SEZs in India in terms of employment generation, SEEPZ SEZ in Mumbai and Madras SEZ were ranked first and second positions respectively with the mean value of 87,338 and 37,514 employees. Cochin SEZ achieved only fifth rank in employment generation with 8,431 employees during this period. Even though CSEZ was one of the leading zones in India on export generation, the employment generation efforts of the zone is comparatively low with regard to national level.

Table 6.6 : Growth of Employment in Selected SEZs in India

Year	KASEZ	SEEPZ SEZ	FSEZ	NSEZ	CSEZ	VSEZ	MSEZ
2005-06	-	-	-	-	-	-	-
2006-07	11.11	0.00	26.16	41.54	18.45	55.15	7.01
2007-08	22.69	3.27	3.76	0.00	16.01	10.99	9.55
2008-09	3.94	5.46	1.68	7.49	29.48	33.73	1.57
2009-10	10.82	-5.75	12.41	5.16	2.42	-14.29	5.57
2010-11	-0.86	-2.00	12.23	3.59	8.75	21.61	-14.05
2011-12	11.65	0.00	5.30	8.51	4.15	-24.44	10.21
2012-13	4.48	1.55	13.07	5.44	1.42	0.97	0.00
2013-14	4.43	8.61	1.97	3.21	0.29	1.47	0.00

Source: Data collected from various SEZ Development Commissioner's office

The growth of employment in all seven SEZs in India from 2005-06 to 2008 were noticeably promising, the reason being the increased interest among investors in Special Economic Zones after implementing SEZ legal frameworks in 2005 and 2006. The exports, the number of units and the employments were considerably improved in all zones during these years as more investors were attracted to the zones by the special incentives and other benefits issues through the SEZ Act. But the global recession occurred in 2008 has negatively impacted the employment growth of Special Economic Zones in India from 2009-10, the employment growth rates of SEEPZ SEZ, NSEZ, CSEZ, VSEZ and MSEZ were dropped after 2009-10. But Indian zones started overcoming the drastic drop in employment growths by 2011-12 where all SEZs except VSEZ reached positive employment growth rates. CSEZ achieved highest employment growth rate of 29.48 per cent in 2008-09 when there was a rise in the number of IT/ITES units in the zone.

6.5.1 Correlation between Employment and Export in selected SEZs in India

The relationship between employment and export of Central Government zones were analyzed in order to understand how far a change in employment affects the export generations of the zones. The analysis is given in table 6.7.

Table 6.7 : Correlation between Employment and Export in Selected SEZs in India

SEZs	Correlation	p – value
KASEZ	0.966	0
SEEPZ SEZ	0.444	0.232
FSEZ	0.581	0.101
NSEZ	0.191	0.622
CSEZ	0.727	0.026
VSEZ	0.364	0.336
MSEZ	0.432	0.245

Source: Data collected from various SEZ DC Offices

The above analysis reveals that the employment and export of KASEZ was highly correlated while CSEZ also reported relatively higher correlation than other SEZs in the country. No other zones have reported any significant correlation between these two variables. This denotes that the change in the number of workers and export values were correlated only in KASEZ and CSEZ.

6.5.2 Labour Productivity of selected SEZs in India

Labour productivity is normally defined as a ratio of a volume measure of output to a measure of input use, which is the ratio between the volume of

output and the total employment. In other sense, it is the total volume of output produced per unit of labour during a given period. Labour productivity often reflects competitiveness and economic growth. In the present study, the labour productivity is calculated using the given formula,

$$\text{Labour Productivity} = \text{Total Export from a SEZ} / \text{Total Employment of a SEZ}$$

The labour productivity values of various Special Economic Zones in India are given in table 6.8.

Table 6.8 : Labour Productivity of Selected SEZs in India

Year	KASEZ	SEEPZ	FSEZ	NSEZ	CSEZ	VSEZ	MSEZ
2005-06	0.08	0.11	0.16	0.24	0.18	0.24	0.06
2006-07	0.10	0.14	0.23	0.21	0.14	0.19	0.07
2007-08	0.11	0.13	0.23	0.51	0.65	0.17	0.08
2008-09	0.13	0.11	0.21	0.30	1.31	0.15	0.10
2009-10	0.10	0.12	0.23	0.23	1.93	0.18	0.14
2010-11	0.13	0.14	0.26	0.24	1.89	0.26	0.25
2011-12	0.13	0.15	0.21	0.26	2.78	0.52	0.27
2012-13	0.12	0.17	0.12	0.18	3.11	0.26	0.26
2013-14	0.14	0.18	0.21	0.22	0.43	0.33	0.18

Source: Data collected from various SEZ Development Commissioner's office

Considering the labour productivity, the FSEZ and NSEZ were the leading zones in the country in the first years of the study period. SEEPZ SEZ produced the highest export volumes during the first years of the study but the high employment generation of the zone has reduced the labour productivity as the major products of the zone were labour intensive electronics products. Since 2008-09, CSEZ emerged as the zone with highest labour productivity primarily due to the massive production from Gem and Jewelry sector. This sector of CSEZ contributed more than 90 per cent of the total zone export volumes and employed only 1 per cent of the total employment. This phenomenon of Gem

and Jewelry sector and the high-value addition of its products are the reason behind the highest labour productivity of CSEZ among other Indian zones. During this period, no other zones were able to produce labour productivity figures anyway near to CSEZ. As the production of Gem and jewelry sector of CSEZ plummeted in 2013-14, the labour productivity of CSEZ has declined from 3.11 to 0.43 per cent.

6.6 Analysis of Working Conditions in SEZs

To promote export-led industrialization and attract massive foreign direct investment, the government of India introduced Special Economic Zones by providing a variety of incentive and benefits packages for investors. Conversely, the establishments of SEZ have ignited various socio-labour-regional issues in the country leading to many land displacement, labour unrest and regional imbalance issues. Many studies pointed out the labour issues in zones such as compromises on the working conditions and security of the workforce. Hence the establishments of SEZs further needs to be analyzed especially in conjunction with the existing working conditions and employee welfare facilities to the zone workforce.

6.6.1 Legal Exemptions under SEZ regime in India

The National Democratic Alliance (NDA) government has announced the Special Economic Zone policy in 2000 in order to establish SEZ across the country and also to convert all the existing Export Processing Zones to Special Economic Zones. The primary objective of the policy was to achieve an export-led growth via providing an internationally competitive and hassle-free environment for exports. The following UPA government enacted Special Economic Zone Act in 2005, to provide a proper legal framework for SEZ operations in the country. There have been many protests against the Act from

various parts of the country in connection with its liberal labour policies. Many parliamentarians demanded the government to reconsider the labour interests in light of ILO conventions and human rights. They also cautioned the government not to provide concessions and benefits at the cost of working conditions and worker's interest.

The SEZ legal frameworks are actually silent about the Labour laws governing labour relations in Special Economic Zones and the legal policies in relation with labour are not amended. Labour laws are excluded from the preview of Section 49 of the Act which assigns the powers to the individual states to amend the act and other matters in conjunction for the fulfillment of the benefits and concessions envisaged by the Act. But regarding the matters concerned with labour, it is noted that such powers of amendments are not applicable to 'matters relating to trade unions, industrial and labour disputes, welfare of labour including conditions of work, provident funds, employer's liability, workmen's compensation, invalidity and old age pensions and maternity benefits in any Special Economic Zones.' (SEZ ACT 2005, Singh 2014 [100]). Hence, unlike the fiscal benefits and concessions, matters relating to labour cannot be modified as per the SEZ Act.

But in reality, upon a closer evaluation of the SEZ policies implemented by many State governments in India, it is evident that the policies that govern labour regime have altered to promote exports and investments. Meanwhile, the government of Kerala was firm on protecting the labour rights in implementing its SEZ policies, as it noted that SEZ in the State will not be exempted from the preview of the any of the laws such as Labour Laws, Trade Union Laws, Welfare Fund Law, Provident Fund law, Factories Act, Gratuity Act etc., which are connected with the rights of the workers. The Central Act provision of exempting SEZs from Chapter V-B of the Industrial Dispute Act 1947 is not

implemented in Kerala. The Provisions contained in the Contract Labour (Regulation and Abolition) Act 1970 is applicable to all SEZs in the State' (SEZ Policy, Kerala) [101].

The SEZ Act also allows the Special Economic Zone units to function as 'Public Utility Services', if persons employed in 'Public Utility Sector' decides to strike they have to follow the procedures provided by the Industrial Dispute Act, 1947 else the strike will be considered as an illegal strike and as a breach of employment contract. Thus, limiting the capacity of the SEZ workers to exert their right to protest will also hinder their collective bargaining power. Also, many zones have amended the Trade Union Act, thereby limiting the access of Trade Unions in SEZ units. Halim (2009) criticizes the occurrence of labour rights violations and restriction of trade union activities within the zones. Trade Unions are in an extremely difficult position to coordinate with the employees in the zone units as outside trade union leaders are restricted to carry out activities within the zones. Empirical studies also report that SEZ workers are threatened by the management not to join trade unions.

SEZ Act also limited the control of Labour Commissioner's powers within SEZ premises by transferring the powers of the Labour Commissioner to the Development Commissioner. This has restricted the access of labour officers in SEZs. Hence no inspection could be conducted to find if the labour laws were properly implemented. The Development Commissioner of the Zone is the conciliation officer under the SEZ Act, authorized to intervene and facilitate the settlements of any industrial disputes occurring within the SEZ units. Empirical studies note that this phenomenon has generally resulted in favor of the unit management, as the office of the Development Commissioner will have to balance the pressures to keep the revenue of the zone high and the cost at lower levels.

Further, the introduction of ‘Self Certification Regime’ of the SEZ units with respect to Labour Laws such as Payment of Wage Act, Minimum Wage Act, Contract Labour (Regulation and Abolition) Act, Factories Act, Maternity Act etc., have given the unit management a dominant position with regards to the proper implementation of these laws.

Most of the Indian labour laws are enacted in the pre-independence era, later many amendments were passed during the post-independence period to safeguard the interest of the working class. The ILO guidelines played a key role in formulating and drafting basic principles of Indian labour laws. Moreover, a large number of laws were passed to include the resolutions of the International Labour Organization. The ratifications of ILO created provisions for the protection of the common interest and welfare of the labour force. Also, ILO’s work in India has executed the framework of the ‘Decent Work Country Programme’ from 2007-12 and achieved commendable results in promoting livelihood, eliminating child labour, improving working conditions and empowering women. The promotion of international labour standards and fundamental principles and rights at work was one of the major objectives of Decent work Country Programme’ (ILO in India, 2015 [102]). Hence the efforts of ILO are commendable in improving the quality of work, protecting the rights of the workforce and in proving safe and favorable working conditions in India.

6.6.2 Working Conditions in Special Economic Zones

The economic reforms took place in the 1990s and the attempts to promote exports afterward have increased the demand from investors to liberalize the rigid labour laws and employee welfare measures followed by the government. Also, to compete in the globalized market with international

counterparts many enterprises tried to reduce the cost of production through compromising labour welfare, social security and working conditions. Many establishments had implemented voluntary retirement schemes and replaced the permanent employees with contract employees. Special Economic Zones, being export enclaves expected to deliver world-class products at competitive prices, have been reported to have widespread existence of unhealthy labour practices both at international and national level. Empirical studies reveal that majority of the workforce in SEZs were contract workers in nature, and many of them are not given appointment letters, contract letter and proper identity cards which allows the enterprises to practice the hire and fire labour policy. In order to keep products at low prices, companies put more pressure on workers to reach higher production targets, deterioration of the working conditions, absenteeism, stress, fatigue, and labour unrest were found to be common perils in SEZs (Mansingh, et. al, 2012) [103].

Studies report, although Minimum Wage Act is implemented in SEZs, workers never received sufficient wages and the payment of wages was usually monthly, daily or per piece. Workers are made to work more than the stipulated 8 hours of work without any extra pay. Most of the contract workers were recruited through agencies who receive payments for the contracted amount from the units in the zones and they also take commission amounts from the wages given to the employees. In many SEZ units, two hour overtime is compulsory for the workers, including women without extra payment. Physical and mental tortures on women workers were found among Indian SEZs. Regarding the health and safety of the workers, it is reported that SEZ workers were not able to drink adequate water due to workloads and have to work in the environment without proper ventilation facilities. Diseases like heat stroke, rashes, asthma, cough, breathlessness and body aches were common for zone

workers. Although Unionization is permitted in Special Economic Zones, there were restrictions for union leaders from outside to interfere and promote union activities. Further, reports narrate that it is common for unit management to threaten workers not to join trade unions (Patkar, 2009; Suchitra, 2005 [104]; Gupta, 2009; Mansingh et al, 2012; Bose, 2007; Menon, 2010). In this context, an attempt is made through this study to evaluate the working conditions and labour welfare practices which exist in Cochin Special Economic Zone.

6.7 Analysis of Working Conditions in CSEZ

Even though SEZs have generated considerable employment opportunities in the country, the liberal labour policies by the SEZ regime is a serious concern. In the light of these arguments, a detailed analysis of employee welfare, labour standards and working conditions of CSEZ workers are discussed in this section. The study is carried out through collecting data from 533 workers in CSEZ from various sectors which covered 114 workers from the traditional industrial units and 419 workers from modern industrial units. Both permanent and contractual, male and female workers are included in the study. In total 63 male workers and 51 female workers from traditional industrial units and 302 male and 117 female workers from modern industrial units were approached for data collection.

For comparison purpose sectors are grouped into ‘Traditional Industrial Units’ and ‘Modern Industrial Units’. Traditional Industrial Units include labour-intensive sectors like Food and Agro, Textile and Garments and Miscellaneous where high skill and technical know-how is not necessary for most of the employees. The Modern Industrial Units cover IT/ITES, Electronic Hardware and Engineering sectors which demand highly skilled and technically qualified personnel.

6.7.1. General Background of CSEZ Workers

The study covered the general background of the CSEZ workers with respect to their age, marital status, education and migration status.

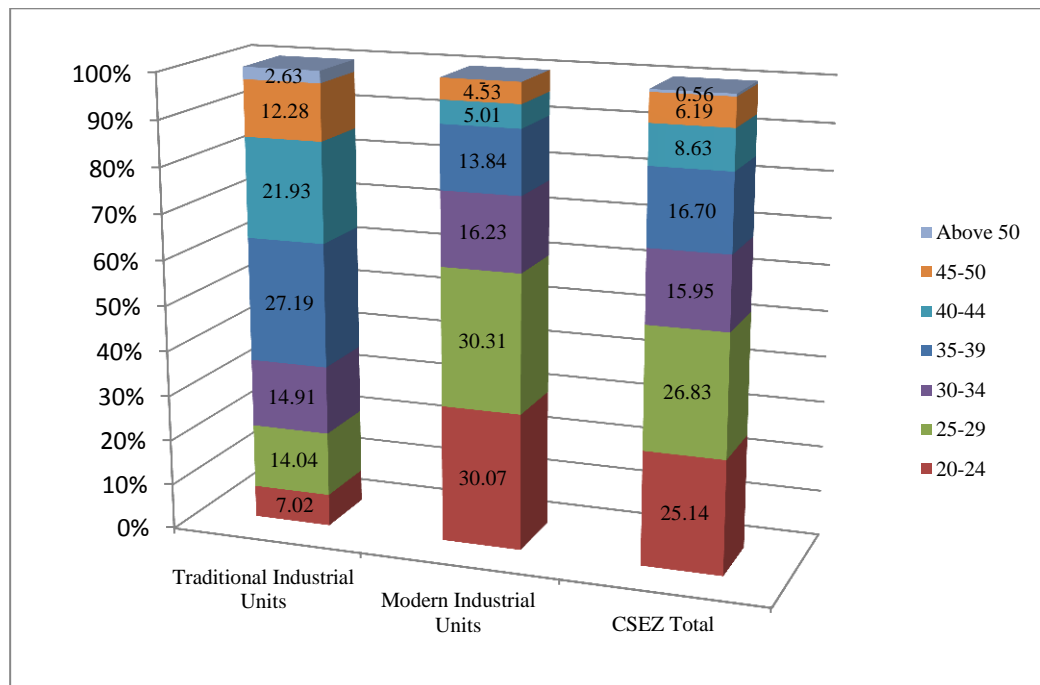
6.7.1.1 Age: Out of the 533 respondents, 52 per cent falls under the age of 30 years. Further 68 per cent falls under the age of 35. While only 21 per cent workers of the traditional industrial units comprises below 30 years of age, 61 per cent of the modern industrial units constitutes of age group below 30. On a closer observation, it is evident that more workers with higher age group were found in traditional industrial units. Overall 64.4 per cent of its workers were above the age of 35 years in it. The Miscellaneous sector with 72 per cent has the highest proportion of people with higher age group above 35 years. On the contrary, 37.5 per cent and 48 per cent of workers in Electronics Hardware and IT/ITES sector were found below the age of 30 years in modern industrial units, the reason being these two sectors hire the highest number of trainees and contract employees.

Table 6.9 : Percentage Distribution of Workers by Age

Age Group	Traditional Industrial Units		Modern Industrial Units		CSEZ Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
20-24	8	7.02	131	31.26	139	26.08
25-29	16	14.04	127	30.31	143	26.83
30-34	17	14.91	68	16.23	85	15.95
35-39	31	27.19	58	13.84	89	16.70
40-44	25	21.93	21	5.01	46	8.63
45-50	14	12.28	14	3.34	28	5.25
45-50	3	2.63	0	0.00	3	0.56
Total	114	100.00	419	100.00	533	100.00

Source: Primary Survey

Majority of the CSEZ workforce was found to be under the age of 35, primarily due to the high proportion of the young workers in the modern industrial units. Fresh graduates, willing to work as trainees on low salaries to gain work experience were absorbed by Electronics Hardware and IT/ITES sectors. It is also to be noted that 69 per cent of females working in modern industrial units are below 30 years of age, supporting many empirical studies that women workers in SEZs are young workers with poor bargaining power thus subject to exploitations.



Source: Primary Survey

Figure 6.5 : Percentage Distributions of Workers by Age

The differences in the age wise distribution of workers in two industrial units are evident in Figure 6.5 as the modern industrial units employ more young workers whereas the young workers were found considerably less in traditional industrial units. The proportion of workers above 35 years of age

were found more in traditional industrial units than modern industrial units. It is commendable to note that practice of child labour was not found in any sector in Cochin Special Economic Zone during the study.

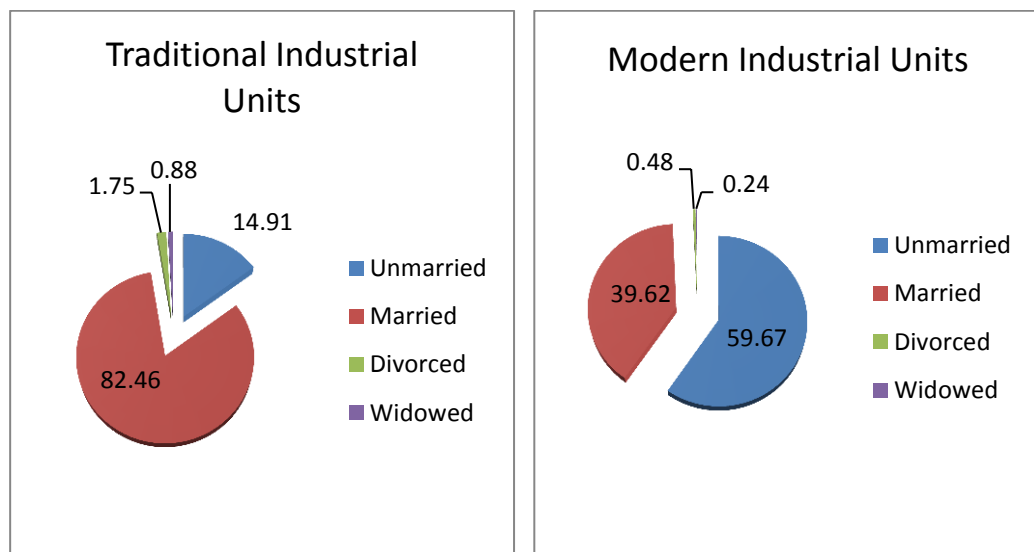
6.7.1.2 Marital Status: Considering the marital status of the respondents, 50 per cent of the CSEZ workers were found married. Table 6.10 shows that majority (82.46 %) of the workers in traditional industrial units were married while only 39.6 per cent of the modern industrial unit employees were married. This indicates that modern sectors employ more unmarried workers. Various sectors in the traditional industrial units covering Food and Agro, Textile and Garments and Miscellaneous sectors reported 86.6, 90.4 and 81.4 per cent of married workers respectively. But the proportions of married workers in modern industrial units were only 38 and 32 per cent in Electronics Hardware and IT/ITES sectors respectively as these sectors hold a large number of young workers. Engineering sector of Modern industrial units reported 62.5 per cent of married workers in the sector. It is also found in the study that a larger proportion of the male (54.5%) are unmarried in CSEZ as compared to female (40.48%) workers. This is contradictory to the findings of studies made by Aggrwal (2007) and Madani (1999) that SEZs workforce is characterized by a large ratio of unmarried female workers.

Table 6.10 : Percentage distribution of Workers by Marital Status

Marital status	Traditional Industrial Units		Modern Industrial Units		CSEZ Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Unmarried	17	14.91	250	59.67	267	50.09
Married	94	82.46	166	39.62	260	48.78
Divorced	2	1.75	2	0.48	4	0.75
Widowed	1	0.88	1	0.24	2	0.38
Total	114	100.00	419	100.00	533	100.00

Source: Primary Survey

It has also to be noted that the Modern Industrial Sector holding major employment portion of the CSEZ, employs 51 per cent of unmarried female works. Figure 6.6 displays the comparison of marital status among modern and traditional industrial units. 82 per cent of the workers in the traditional industrial units were married and only 39 per cent of workers in modern industrial units were found married, the reason being the large representation of trainees and contract workers in modern industrial units.



Source: Primary Survey

Figure 6.6 : Comparison of Marital Status of Workers in both Industrial Units

6.7.1.3 Education: During the survey, it was found that modern industrial units employees are highly qualified than the traditional industrial units in CSEZ. 51 per cent of the traditional unit worker’s educational qualification is equal to or less than SSLC while only 4 per cent of the modern unit workers fall in this category. Traditional unit sectors like Food and Agro and Miscellaneous reported the lowest educational levels for its employees as these sectors require more of unskilled and semi-skilled workers. 53.38 per cent of Engineering hardware and 38 per cent of Engineering sector employees were undergone

various vocational courses and 73 per cent of the IT/ITES employees have degree-level education, mostly engineering. Also, most numbers of postgraduates among CSEZ employees were found in IT/ITES sector with 18 per cent. 3 per cent of Electronics Hardware sector has postgraduate degree. While only 2 workers were found in the traditional industrial units (Miscellaneous sectors) with the postgraduate qualification. There has been a shift in the CSEZ employment and export volumes proportion towards modern industrial units over the years which show that, as the SEZ evolve over time, units move upward in the value chains and this has reflected in educational attainment of the CSEZ workers.

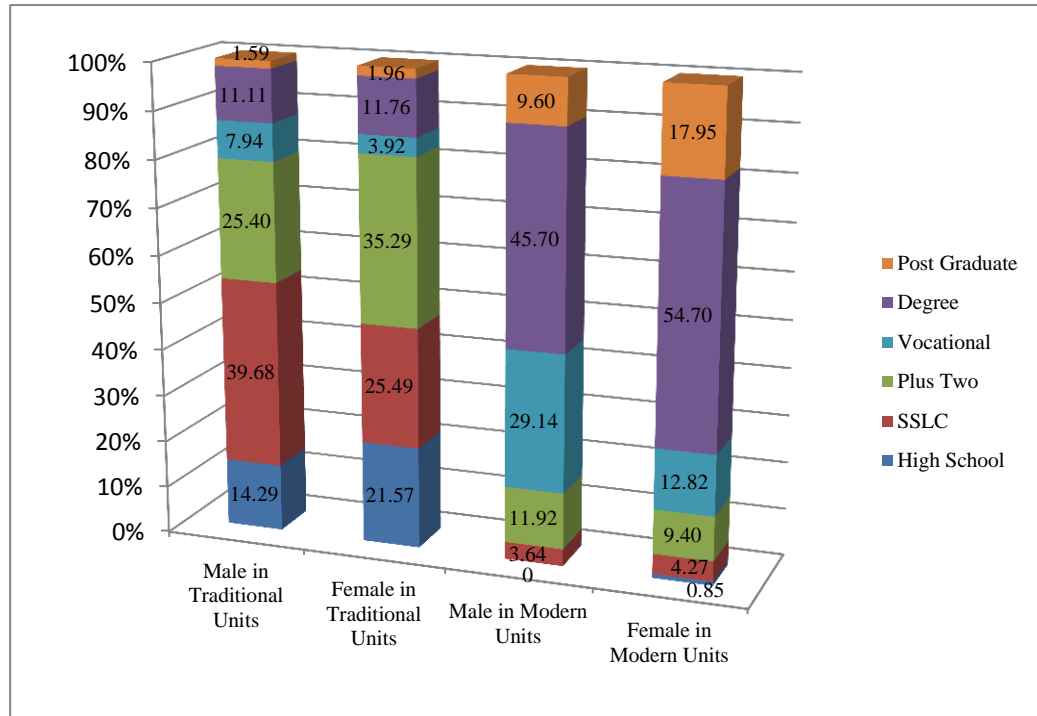
Table 6.11 : Percentage Distribution of CSEZ Workers by Educational Qualification

Education	Traditional Industrial Units		Modern Industrial Units		CSEZ Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
High School	20	17.54	1	0.24	21	3.94
SSLC	38	33.33	16	3.82	54	10.13
Plus Two	34	29.82	47	11.22	81	15.20
Vocational	7	6.14	103	24.58	110	20.64
Degree	13	11.40	202	48.21	215	40.34
Post Graduate	2	1.75	50	11.93	52	9.76
Total	114	100.00	419	100.00	533	100.00

Source: Primary Data

Figure 6.7 compares the education qualifications of male and female workers in both industrial units, it depicts that there are more number of male and female workers employed in traditional sectors with plus two level education or below. Modern sectors employ more qualified employees as the nature of jobs carried out in these sectors require more skilled and technically qualified workers. Female employees of the modern industrial sectors were

found to be more in proportion to the degree and postgraduate levels of education, than male workers.

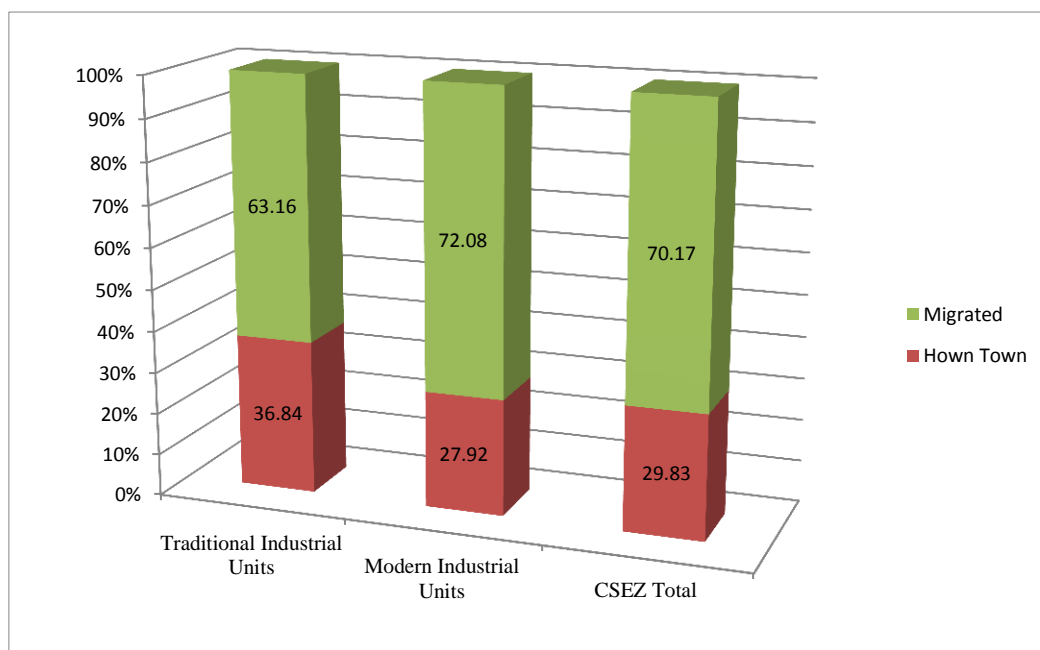


Source: Primary Survey

Figure 6.7 : Percentage Distributions of Education Qualifications of Male and Female Workers

6.7.1.4 Migration: Many empirical studies argued that in developing countries SEZ employment has triggered large-scale migration. In the study, it was found that CSEZ employment has also caused inter-state and intra-state migration of workers. On a closer evaluation, it was observed that all sectors other than Food and Agro sectors have generated high migration of workers. 57.5 per cent employees of Food and Agro sector reported that they have not migrated to work in CSEZ. Female migration was found more than 80 per cent in Miscellaneous and IT/ITES sectors. Figure 6.8 shows that 72 workers (63.16 %) in the traditional industrial unit and 302 workers (72 %) in the modern industrial

unit migrated to work in CSEZ. In total, 374 workers (70.17 %) have migrated from different places to work in CSEZ.



Source: Primary survey

Figure 6.8 : Percentage Distribution of Migratory Status of Workers

In total, 70 per cent of the respondents have migrated from their hometown to work in CSEZ, Most of these employees are staying in rented houses, hostels and as paying guests which leads to a reduction in the actual income of the workers. Interstate migration was reported only in IT/ITES sector of CSEZ.

6.7.2 Employment Profile and Benefits

The employment profile of the CSEZ workers were evaluated through nature of employment, skill acquisitions, working on shifts, overtimes, wage payments, leaves and other factors. The detailed evaluations of these factors are provided in the next session.

6.7.2.1 Nature of Employment: The nature of the job is a key factor in determining the welfare of employees. During the survey, respondents reported that large ratio of the employees was working as trainees or contract workers in CSEZ. This system prevents the companies from providing the full employment benefits to the employees. Employees reported that they have joined as contract workers and at the completion of their contract period, the company will issue a new contract. The contract employees are hired for fixed terms, usually for 11 months and trainees were fresh graduates who are appointed to gain experience in the field. Employees working on contract in the same company for more than 7 years and trainees with more than 3 years of work experience were found in CSEZ. Most of the employee welfare provisions were not given to these employees.

Table 6.12 : Percentage Distribution of Worker by Nature of Job

Employment Status	Traditional Industrial Units		Modern Industrial Units		CSEZ Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Permanent	83	72.81	192	45.82	275	51.6
Contract	19	16.67	83	19.81	102	19.1
Trainee	12	10.53	144	34.37	156	29.3
Total	114	100.00	419	100.00	533	100.00

Source: Primary Survey

In relation to the nature of the job, traditional industrial units were reported to offer more permanent jobs than modern industrial units. The proportion of permanent employees in traditional units was 72.81 per cent and in modern industrial units, it was only 45.82 per cent. In the case of contract and

trainee employees, modern industrial units were found to keep more workers in these categories. The proportion of contract and trainee employees were 16.67 per cent and 10.53 in traditional units while higher proportions of the same were found at 19.81 per cent and 34.37 per cent in modern units. The highest number of contract workers were in Electronics Hardware sector (43.61%) followed by Engineering sector (38.10%). While 37.29 per cent of the employees in the IT/ITES sector were reported as trainee workers.

In table 6.13 the proportion of contract employees in each sector of CSEZ is compared to the proportion of contract employees in Kerala. Data regarding the employment composition of Kerala IT/ITES sector is unavailable hence this sector is excluded in the analysis. It could be found that the proportion of contract employees in Food and Agro is equal to the State level, all other sectors employee larger proportions of contract workers in CSEZ, especially in Electronic Hardware, Engineering and Textile and Garment sectors.

Table 6.13 : Percentage Distribution of Contract Employees in CSEZ and Kerala

Sector	CSEZ Contract Employees	Kerala Contract Employees
Food & Agro	0.10%	0.94
Electronics Hardware	43.61	15
Engineering	38.1	8.84
Miscellaneous	20.76	14.21
Textiles & Garments	17.86	0.89

Source: Annual Survey of Industries, Primary Survey

The high ratio of contract and trainee employees in CSEZ is alarming as these workers are not entitled to any employee welfare benefits. The CSEZ units hesitate to provide permanent employment status to these workers so as to keep

their costs at lower levels. This indicates the fact that though CSEZ provides employment opportunities to the large number of workers, the employee welfare benefits in full were enjoyed only by a minor proportion of its workforce.

6.7.2.2 Entry Level Job: Special Economic Zones were instrumental in providing entry-level employment opportunities to workers and equipping them with skills and experiences. The primary survey reports that for 65 per cent respondents, CSEZ employment was the first job in their career. 60 and 67 per cent employees in traditional and modern sectors respectively responded that CSEZ provided them the first job opportunity. All sectors in CSEZ other than Engineering, inclined to provide employment opportunities to the freshers. This analysis also supports the Willmore hypothesis (1997) [105] that majority of the workers in Special Economic Zones entered labour market for the very first time through SEZ jobs.

6.7.2.3 Skills and Skill Acquisition: During the initial phase, like any other zone, CSEZ was dominated by labour-intensive industries such as food, textile, electronic assembly etc. But as CSEZ grew over time, units moved upward in the value chain demanding more skilled and qualified workforce. The survey results show that proportion of unskilled labour exists more in traditional industrial units with 39.4 per cent in Food and Agro, 25 per cent in Textile and 26.5 per cent in Miscellaneous sectors. This phenomenon is basically due to the nature of duties carried out in these sectors. But more than 98 per cent of the workforce in modern industrial units responded that they were either skilled or semi-skilled workers. The productivity of any worker depends on their skills to carry out their duties hence engineering, electrical and software related works in modern industrial units of CSEZ require skilled and technically qualified workforce. It is also to be noted that 50, 70 and 85 per cent of the female

workforce in Engineering, Electronics Hardware and IT/ITES sectors were also found to be skilled employees.

Table 6.14 : Percentage Distribution of CSEZ Employees by Skills

Skill Levels	Traditional Industrial Units		Modern Industrial Units		CSEZ Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Skilled	38	33.33	320	76.37	358	67.17
Semi- Skilled	34	29.82	95	22.67	129	24.20
Un-skilled	42	36.84	4	0.95	46	8.63
Total	114	100.00	419	100.00	533	100.00

Source: Primary Survey

It is clear from Table 6.14 that 67 per cent of CSEZ employees were skilled workers and 24 per cent were semi-skilled. Only 8.6 per cent of CSEZ workforce was unskilled which denotes that there was a high demand for skilled labour to carry out their jobs. A high proportion of unskilled workers were found in traditional units due to their job nature and consisting of cleaning and sorting, packing and folding jobs.

Table 6.15 : Percentage Distribution of Employees by Acquisition of Skills

Skill Acquisitions	Traditional Industrial Units		Modern Industrial Units		CSEZ Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Vocational Course	11	15.28	200	48.19	211	43.33
Company Training	24	33.33	143	34.46	167	34.29
On the Job Training	37	51.39	72	17.35	109	22.38
Total	72	100.00	415	100.00	487	100.00

Source: Primary Survey

Units in traditional industrial sector hire employees with low skills and qualification but they equip their workers with company training and on the job training. The proportion of traditional sector employees with skill acquisition through vocation courses were only 15.28 per cent. A major portion of the workforce in Food and Agro, Textiles and Garments and Miscellaneous sectors mastered the job over the time by doing it. Even though the workforce in this sector do low- skilled jobs, SEZs still help them in improving their skill base by introducing workers to the arduous industrial ambiance, punctuality, meeting deadline and quality control. Kusago (1998) reports that the training given in SEZs mainly on the job training which is mostly task-specific which helps the workers in enhancing the productivity of the workers. The skill acquisitions of the workers in modern industrial units were mostly (48.19%) through vocational courses as most of the employees working in these sectors were qualified through engineering colleges, polytechnics, ITI etc. IT/ITES and Electronics Hardware companies recruit workers (34.46 %) as trainees with minimal salaries to develop their skills. In total, CSEZ has been successful in enhancing the productivity of its labour (56.67 %) through skill acquisitions via various company training and on the job training. Hence, CSEZ has been a catalyst in enhancing the labour productivity of its workers through skill formations.

6.7.2.4 Work Shifts : Normally the production process is carried out on three shifts, each shift consists of nine main working hours, half an hour break time and three to four hours of overtime. Generally, the regular shift is allocated to female workers and trainees, men and contract workers are normally asked to work on shifts. But in case of meeting production targets, all employees are bound to work on shifts. Table 6.16 provides details of workers with shift systems. 61.73 per cent of respondents reported that they have to work on shifts.

While 63 per cent of workers in modern industrial units reported that they work on shift and 56 per cent of traditional unit employees reported the same.

Table 6.16 : Percentage Distribution of CSEZ Employees by Shifts

Working on shifts	Traditional Industrial Units		Modern Industrial Units		CSEZ Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Yes	64	56.14	264	63.01	328	61.73
No	50	43.86	155	36.99	205	38.46
Total	114	100.00	419	100.00	533	100

Source: Primary Survey

In traditional industrial units, 51.51 per cent respondents (38.89 % female) from Food and Agro sector and 52 per cent (15.38 % female) Miscellaneous sector workers reported that they have to work on shifts when there is an excess work load or any urgent production targets to meet. Also, 68.42 per cent of Electronics Hardware (41% female), 64.28 per cent of Engineering (33% female) and 60 per cent of IT/ITES (27 % female) sectors workers of modern industrial units reported that they have to work on shifts. Hence 56 per cent (21.5% of female) workers in traditional industrial units and 63 per cent (30 % of female) workers from modern industrial units have reported that they work on shifts in CSEZ.

6.7.2.5 Night Shifts: All the sectors in CSEZ work on night shifts but night shifts are normally allocated to male workers in CSEZ. It follows the Factories Act, 1948 which imposes a restriction on employment of women to work on night shifts. But female workers from Food and Agro and Miscellaneous sectors of CSEZ reported that they work on night shifts during peak times. While night shift for ladies was found common in IT/ITES sector in CSEZ. All the respondents, both male, and females reported that company would provide

transportation facilities to their place of stay when they work on night shifts. The highest occurrence of night shift takes place in Textile and Garments (53%) and Engineering Sector (45%). As per the Law 24 hours of rest has to be given to an employee who has worked on night shifts before their next shift. Few respondents of the Electronics Hardware and IT/ITES sector responded that after night shifts, they were not given 24 hours of rest. This indicates that many units in CSEZ are not following the directions of labour laws.

6.7.2.6 Number of Working Days: Normally an employee shall not be required to work on the first day of the week as per the Factories Act, 1948. CSEZ workers usually work for 6 days a week. The average working days in a month for Food and Agro, Electronics Hardware and Miscellaneous Sectors were 26 days. The average working days for engineering sector were 25 as many engineering units give off on second Saturday. And in IT/ITES sector many companies provide off on all Saturdays and few give a half day off on Saturdays hence the average working days in IT/ITES sector is 23 days in a month. Workers have conveyed that they have worked on Sundays and holidays too in order to meet their targets.

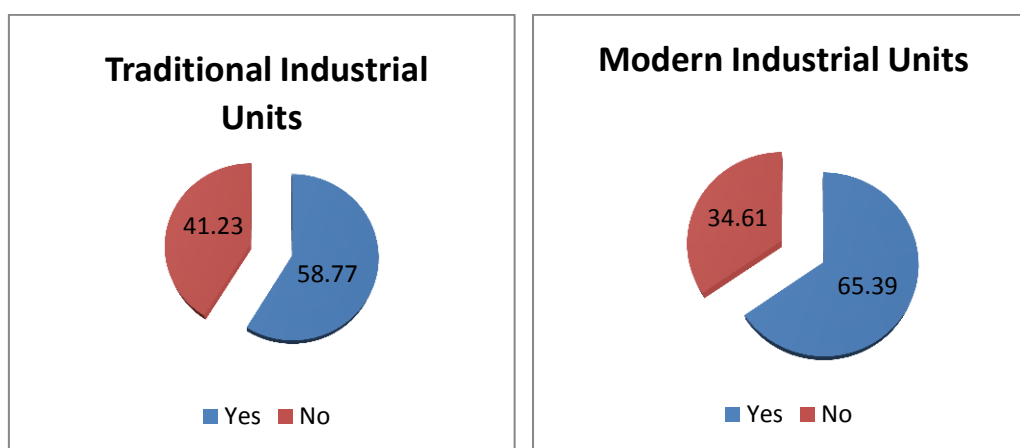
6.7.2.7 Overtime: Overtime normally refer to any form of work over the basic prescribed working hours by the labour law. As per the law, an adult worker shall not be required to work in a factory for more than 48 hours in any week or more than 9 hours in any day. But if the worker is willing to work for more than 8 hours, he can work provided he should be entitled to overtime. Irrespective of sectors, over time, is a common practice in CSEZ. Over time happens every day in most of the modern industrial units while it is seasonal in traditional industrial units which vary as per the production targets.

Table 6.17 : Percentage Distribution of Workers by Overtime

Working Overtime	Traditional Industrial Units		Modern Industrial Units		CSEZ Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Yes	67	58.77	274	65.39	341	63.98
No	47	41.23	145	34.61	192	36.02
Total	114	100	419	100	533	100

Source: Primary Survey

Altogether, 63.98 per cent workers of CSEZ work over- time; this practice is found more in modern industrial units (65.39%) than traditional industrial units (58.77%). Workers in the traditional industrial units have to do over time when there are busy seasons and targets to be met. Overtime is optional for workers. As the remuneration of contract and trainee workers are very less in CSEZ, they opt to take overtime to make additional income. But peak seasons demand, all CSEZ workers to work overtime to meet the deadlines and many employers particularly exert pressure on them to work overtime.



Source: Primary Survey

Figure 6.9 : Percentage Distributions of Workers working Overtime

A large proportion of workers in traditional industrial units, especially from Food and Agro, Textile and Garments workers reported that they work overtime. Among modern industrial units, Electronics Hardware employees reported the highest ratio of employees working overtime. A detailed report of overtime by various sectors is given in table 6.18.

Table 6.18 : Percentage Distribution of Workers working Overtime in various Sectors

Sectors	Male	Female	Sector Total
Traditional Industrial Units			
Food & Agro	73.33	83.33	78.78
Textiles & Garments	95.24	71.43	89.28
Miscellaneous	44.44	15.38	30.18
Modern Industrial Units			
Engineering	45.83	33.33	40.47
Electronics Hardware	87.07	64.71	84.21
IT/ITES	58.02	62.2	59.42

Source: Primary Survey

Textile and Garments, Electronics Hardware and Food and Agro sectors hold the first three positions respectively in conjunction with the overtime practices. It is also to be noted that Food and Agro and Textile and Garments sectors have the highest female participation in overtime workings. Miscellaneous and Engineering sector has the lowest overtime participation from workers. Only 15.38 per cent of female workers from Miscellaneous sector practice overtime in CSEZ.

The average monthly overtime hours by various sector is given in table 6.19. In traditional industrial units, workers of Food and Agro and Textile and Garments sectors were having the most hours of overtime. 36.2 and 33 were the

average hours of overtime for male and female workers in Textile and Garments sector while male workers of Food and Agro sector got 32.3 hours and female workers of the same sector got 30 hours of overtime in a month.

Table 6.19 : Monthly Average Hours of Overtime in Sectors

Sectors	Male	Female
Traditional Industrial Units		
Food & Agro	32.3	30
Textiles & Garments	36.2	33
Miscellaneous	18	11
Modern Industrial Units		
Engineering	17	12.5
Electronics Hardware	54	24.3
IT/ITES	44	28

Source: Primary Survey

Workers of IT/ITES and Electronics Hardware sectors of modern industrial units received the highest overtime hours in a month. The male workers of these sectors got 44 and 54 hours of overtime in a month respectively. Hence the above analysis represents that majority of the workers in CSEZ work overtime irrespective of their sector, gender or nature of the job.

6.7.2.7.1 Overtime Payments: Under section 59 of Factories Act, 1948, it is mentioned that where a worker works in a factory for more than 9 hours a day or more than 48 hours a week, he shall in respect of overtime work be entitled to receive wages at the rate of twice his ordinary wages. Working overtime was widespread in CSEZ and average hours of overtime varied in different sectors. The respondents reported that overtime is virtually a compulsory thing pertaining to the to the management's pressure as well as financial pressure faced by the workers which allow them to earn more than their basic wage through overtime allowances. Most of the IT/ITES companies set targets for

employees and they have to finish the tasks within the stipulated time. Around 60 per cent of IT/ITES employees responded that they have to work overtime in which 46 per cent reported that they were not getting any allowance for overtime. It is common that IT/ITES workers spent more than 1 hour daily as over time but only few of them are really getting paid for it in CSEZ. While a large proportion of workers from traditional industrial units like Food and Agro, Textile and Garments and Miscellaneous sector reported that they get twice their normal pay as overtime allowance. And the analysis also found that comparatively the percentage of double pay for overtime hours is found less in modern industrial units.

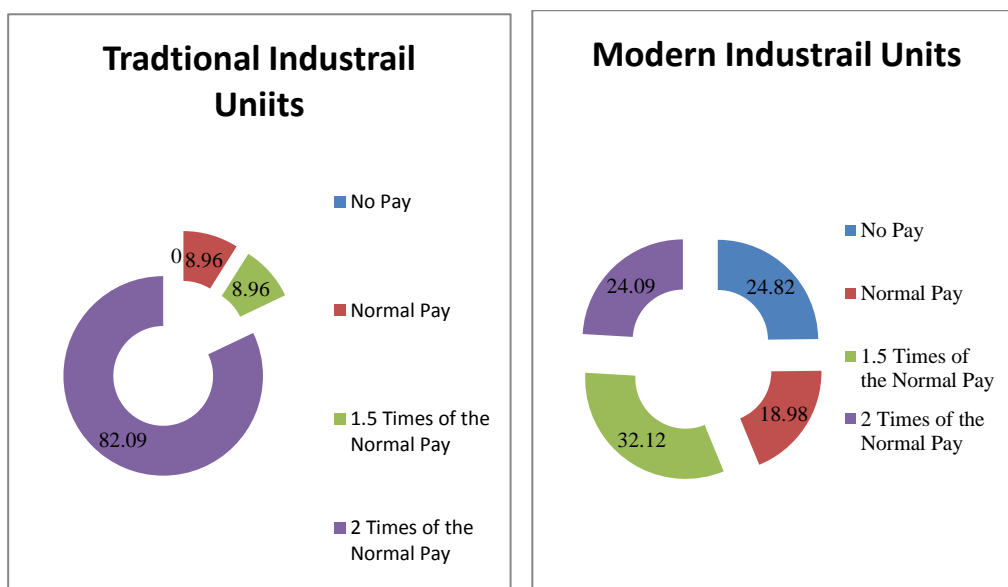
Table 6.20 describes that 84.62 per cent of workers in Food and Agro sector who work overtime receive double of normal payment for overtime, for Textiles and Garments it was 92 per cent and 62.5 per cent for Miscellaneous sector. No worker in the traditional industrial units reported that they get no extra pay for overtime. While 46.89 per cent of workers who work overtime in IT/ITES sector noted that they do not get any extra payment for overtime. 25.9 per cent workers from Electronics Hardware and Engineering responded that they get only normal payment for overtime. It is also clear from the table that ratio of workers who get double payment for overtime is higher in traditional industrial units. Traditional industrial unit employees also noted that the trade unions have interacted with the management to provide better overtime payments.

Table 6.20 : Percentage Distribution of Workers by Overtime Payment Earned

Sectors	No pay	Normal Pay	1.5 Times of the Normal Pay	Twice of Normal Pay	Sector Total
Traditional Industrial Units					
Food & Agro	0	15.38	0	84.62	100
Textiles & Garments	0	8	0	92	100
Miscellaneous	0	0	37.5	62.5	100
Modern Industrial Units					
Engineering	0	25.9	34.82	39.28	100
Electronics Hardware	0	25.9	34.81	39.29	100
IT/ITES	46.89	15.86	33.8	3.45	100

Source: Primary Survey

Figure 6.10 represents the comparison of percentage distribution of workers on overtime payment earned in traditional and industrial units and modern industrial units. There were no reports on 'no extra pay' for overtime work in traditional industrial units while 24.82 per cent of the modern industrial units workers reported that they were not given any payments for overtime. 82 per cent of the workers from traditional industrial units noted that they received double payment than the normal amount for overtime but there were only 24.82 workers of modern industrial units acknowledged that they get double pay. This observation indicates that units in the traditional industrial units tend to follow the labour laws in connection with the overtime.



Source: Primary Survey

Figure 6.10 : Percentage Distributions of Workers by various Overtime Payments earned

In order to further measure the overtime payments in both industrial units, the average score for overtime payment is calculated by giving scores to different categories of overtime payments, starting from ‘no pay’, ‘normal pay’, ‘1.5 times pay’ and ‘twice of normal pay’. Scores were given to each frequency in each class in ascending order from 1 to 4 that is 1 point is given to ‘no pay’ 2 points is given to ‘normal pay’ and so on. The score in each class is obtained by multiplying the number of frequencies in each class with the assigned score to the particular class. The total score is calculated by adding all the points in each class. To get the average score, the total score is divided by the number of persons working on overtime in each industrial units.

Table 6.21 : Average Score of Overtime Payments in Both Industrial Units

Overtime Payment Mode	Average Score			
	Traditional Industrial Units		Modern Industrial Units	
	Frequency	Score	Frequency	Score
No Pay	0	0	68	68
Normal Pay	6	12	52	104
1.5 Times of the Normal Pay	6	18	88	264
2 Times of the Normal Pay	55	220	66	264
Total Score		250		700
Average Score		3.73		2.55

Source: Calculated from Primary Survey

The average score for overtime payment is calculated by giving each point to frequencies in various classes of overtime payments which are given in table 6.21. The frequency of workers with ‘no pay for overtime in traditional industrial units and modern industrial units are 0 and 68 respectively, 1 point is given to this class. The total score for overtime payments obtained by traditional and modern industrial units are 250 and 700 respectively which is then divided by the number of workers who work overtime in each industrial units (67 workers in Traditional industrial units and 274 in modern industrial units). Hence the average score for traditional industrial units were 3.73 and modern industrial units were 2.55. This indicates that traditional industrial units in CSEZ provide better overtime payment packages and inclined to follow the existing labour laws than the modern industrial units. 68 workers of modern industrial units reported that they do not receive any payments for the overtime work which is a clear violation of section 59 of Factories Act, 1948.

6.7.2.8 Wages: Wages is one of the key factors in determining the job satisfaction and value of labour. Most of the workers in CSEZ reported that they receive wages in monthly mode, but very few contract employees from Food

and Agro and Miscellaneous sector reported that they have daily payment of wages. The Average wages received by workers in each sector is given in table 6.22.

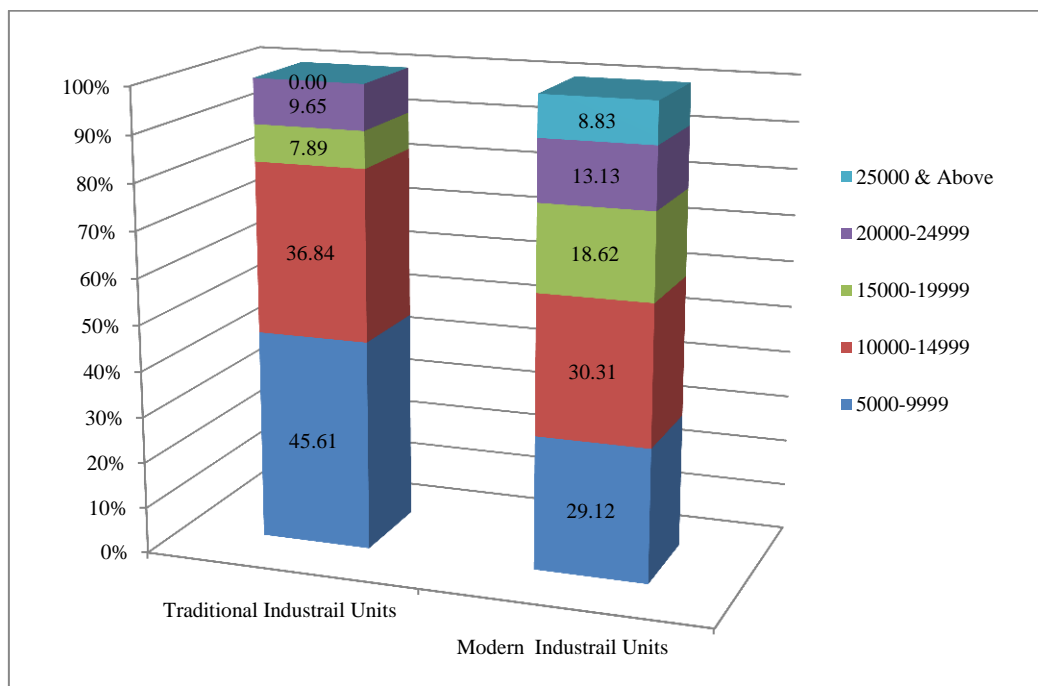
Table 6.22 : Average Wage of Workers in each Sector

Sectors	Average Monthly Wage
Food and Agro	10,227
Textile and Garments	12,424
Miscellaneous	10,235
IT/ITES	16,065
Electronic Hardware	11,672
Engineering	15,476

Source: Calculated from Primary survey, Values in Rupees

The Food and Agro and Miscellaneous sectors provide the lowest income to the workers in CSEZ. But many workers of these sectors also reported that they receive same or better wages that exist outside the zone for the same job. While the workers in Electronics Hardware sector responded that compared to the companies outside of CSEZ, wages they receive was very less, moreover a large proportion of them were working as contract employees and trainees. The trainee workers in this sector receive wages less than Rs.5000 out of it they have to pay accommodation and transportation fees. Most of these trainee workers opt overtime to earn extra income and they reported that this causes them stress and other health issues. Engineering and IT/ITES sectors of CSEZ provide the highest salary to workers. 48 per cent workers from Food and Agro, 53 per cent from Miscellaneous and 56 per cent from Electronics Hardware fall in the wage group of Rs.5,000- 9,999. This indicates that the proportions of workers who receive low wages are high in these sectors. Meanwhile, 30 per cent workers from IT/ITES, 24 per cent from Engineering and 32 per cent from Textile and Garments sector stated that they receive

monthly wage above Rs.20,000 these sectors have the highest ratio of workers having high incomes in CSEZ.



Source: Primary data

Figure 6.11 : Percentage Distributions of Workers in Various Wage Classes

Figure 6.11 provides the percentage of workers, who receive various wages in two industrial units, it has to be noted that 82 per cent workers of traditional industrial units fall in Rs 5,000-9,999 and in Rs 10,000-14,999 wage class, also 92 per cent of female workers in this category receive wages only less than Rs. 15,000. Moreover, only 9 per cent workers in traditional industrial units receive wages above Rs.20,000 and no female workers reported that they get wages above Rs.20,000 in traditional industrial units. Meanwhile, 59.43 per cent workers of the modern industrial units receive monthly wages below Rs. 15,000 and 22 per cent of workers get monthly wages above Rs.20,000, 25 per cent of female workers in this industrial units receive monthly wages above Rs.20,000 too. This indicates that most of the workers from traditional industrial

unit receive monthly salaries from low and mid-wage class and the ratio of workers receive mid and high wage class was more in modern industrial units.

The satisfaction levels of workers on their wage is calculated by collecting responses from workers with five-point scale starting from ‘very less’ to ‘very high’. It was noted in this analysis that although 96 per cent workers in Food and Agro sector receive wages less than Rs.15,000 per month, 45.5 per cent of them stated their satisfaction levels for salary earned was high or very high. And 93 per cent of workers from Textiles and Garments stated that their monthly salaries were moderate or high. While 83 per cent of Miscellaneous sector workers reported that their salaries are less or very less. During the survey, male workers from Miscellaneous sector complained that their salary is less than Rs.12,000 per month even though they were with the company for more than 10 years which shows the pathetic conditions of the workers in this sector. From modern industrial units, only 10 per cent workers from IT/ITES and 29 per cent from Electronic Hardware sectors responded that they receive ‘high’ or ‘very high’ wages.

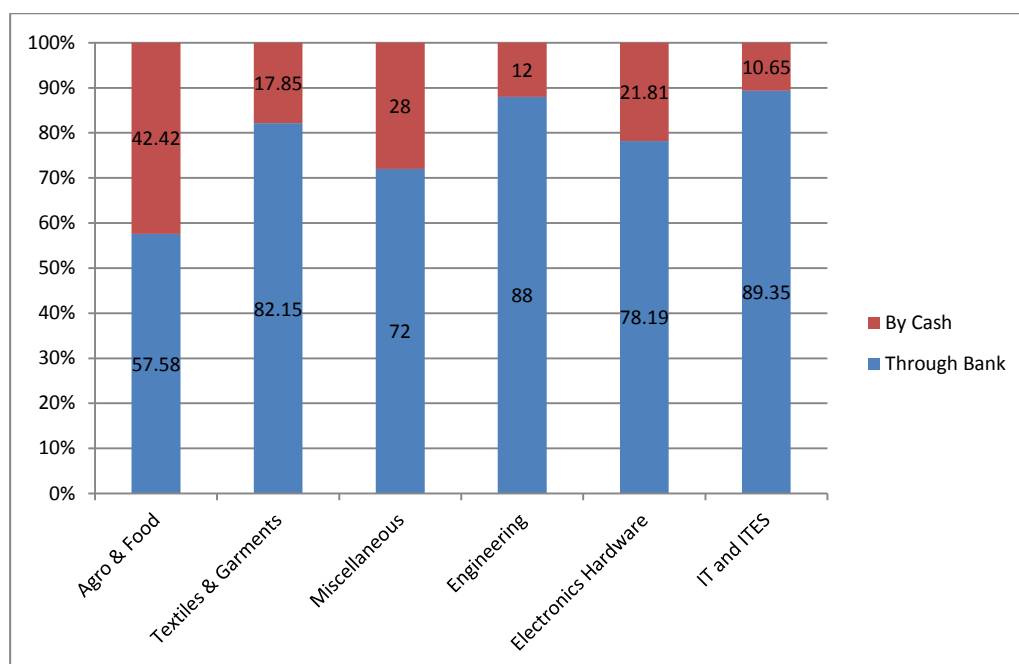
Table 6.23 : Percentage Distribution of Worker’s Preferences to Wages received

Rating	Traditional Industrial Units		Modern Industrial Units	
	Frequency	Percentage	Frequency	Percentage
Very Less	36	31.58	83	19.81
Less	21	18.42	145	34.61
Moderate	32	28.07	153	36.52
High	20	17.54	32	7.64
Very High	5	4.39	6	1.43
Total	114	100	419	100

Source: Calculated from Primary survey

In table 6.23, 50 per cent workers of traditional industrial units and 54.5 per cent employees from modern industrial units reported that they receive ‘very less’ or ‘less’ wages. While 22 per cent labour from traditional units stated that they receive ‘high’ or ‘very high’ wages but only 9 per cent reported the same in modern industrial units. Many engineering graduates working in IT/ITES and Electronics Hardware criticized the management as they were paid less than 5000 per month which is just enough to pay their education loans. Overall the satisfaction level of employees against monthly wages earned, stood favorable in traditional units even though their actual earnings are low compared to the modern units.

Data regarding the mode of salary paid was also collected from the employees. Majority of the respondents from all sectors except Food and Agro, reported that they receive salaries through banks. The company has provided salary accounts to most of the employees in the zone (Figure 6.12). 57.5 per cent of the workers in Food and Agro receive wages as cash; workers have to sign the salary vouchers in the company every month. The respondents reported that they are putting pressure on the management through trade unions to transfer the salary through banks. Meanwhile, many female employees of this sector noted that they prefer to get salary as cash than transferring through banks. Trainees and contract employees in Textile, Miscellaneous, Engineering, Electronics Hardware and IT/ITES receive salaries as cash payment.



Source: Primary Survey

Figure 6.12 : Percentage Distributions of Workers by the Mode of Salary Payments

To compare the levels of wage payments in both industrial units, the average score is calculated by providing points in frequencies to various wage classes. The lowest point is given to the lowest salary and higher points are given to the higher salary classes. The total score is calculated by adding the score of all wage classes. Further, the average score is obtained by dividing the total score in each category by the number of employees.

Table 6.24 : Average Score for Wage Received in both Industrial Units

Category	Scale					Total Score	Average Score
	5000-9999	10000-14999	15000-19999	20000-24999	25000 & Above		
Traditional Industrial Units	52	84	27	44	0	207	1.82
Modern Industrial Units	122	254	234	220	185	1015	2.42

Source: Calculated from the Primary data

The Average score for traditional and modern Industrial units are 1.82 and 2.42 respectively, indicating the average score for wages in modern units are higher than the traditional units. The prime reasons behind the advantage of modern units are the high wages provided for the experienced personnel in IT/ITES and Engineering sectors. The standard industry wages for traditional industrial units are much below than the modern industrial units.

6.7.2.9 Social Security Benefits: The Employees' Provident Funds and Bonus Act are applicable to every establishment engaged in any industry in which 20 or more persons are employed. All the units included in the survey were covered by these Acts. The study tried to evaluate the social security benefits provided to the workers in each industrial units. The survey of the CSEZ workers suggests that Textile and Garments and IT/ITES sector workers were provided with the highest Social Security benefits in the zone as the proportion of their employees were found more in the highest class of social security benefits. In Table 6.25 it is presented that, 42.86 per cent of Textile and Garments workers and 43.03 per cent of the IT/ITES workers were provided with social security benefits such as PF, ESI/Medical Insurance, Bonus, Gratuity and Life Insurance. 75.76 per cent

of Food and Agro workers also reported that they were given PF, ESI/Medical Insurance, Bonus and Gratuity. The percentage of workers with life insurance is very less (15.15%) in Food and Agro sector.

All the workers surveyed reported that they receive at least ESI and PF and the ratio of workers who were covered by only PF and ESI benefits are found more in Electronics Hardware, Engineering and IT/ITES sectors with 62.41 per cent, 30.95 per cent and 25.41 per cent respectively. The major reason behind this is because of the large proportion of trainees and contract workers in these sectors who were provided only with PF and ESI. While contract workers who have more experiences were given 'bonus' benefit too.

Table 6.25 : Percentage Distribution of Workers by Social Security Benefits received

Sectors	PF* & ESI**	PF, ESI & Bonus	PF, ESI/ Medical Insurance, Bonus & Gratuity	PF, ESI/ Medical Insurance, Bonus, Gratuity & Life Insurance	Total
Food & Agro	9.09	0	75.76	15.15	100.00
Textiles & Garments	17.86	0	39.29	42.86	100.00
Miscellaneous	13.21	28.30	32.08	26.42	100.00
Engineering	30.95	11.90	40.48	16.67	100.00
Electronics Hardware	62.41	19.55	8.27	9.77	100.00
IT and ITES	25.41	9.84	21.72	43.03	100.00

Source: Calculated from Primary Survey

*PF-Provident Fund, **ESI- Employee State Insurance

Many workers from Miscellaneous and Food and Agro sector stated that they were not covered with Life insurance benefits, but they admitted that most companies provide bonus and gratuity to them. On closer observation of the above analysis, it is evident that the proportion of workers who receive more social security benefits are found more in traditional industrial units.

Table 6.26 : Percentage Distribution of Workers by Social Security Benefits in both Industrial Units

Social Security Benefits	PF, ESI	PF, ESI, Bonus	PF, ESI/ Medical Insurance, Bonus, Gratuity	PF, ESI/ Medical Insurance, Bonus, Gratuity, Life Insurance
Traditional Industrial Units	15 (13.16%)	15 (13.16%)	53 (46.49%)	31 (27.19%)
Modern Industrial Units	158 (37.71%)	55 (13.13%)	81 (19.33%)	125 (29.83%)

Source: Primary Survey, Data above are in format - Frequency (Percentage)

The percentage distribution of workers with various social security benefits was displayed in table 6.26. It is evident that proportions of workers with more social security benefits were found more among traditional units.

The average score is calculated for social security benefits provided in two industrial units based on points given to frequencies in each class in ascending order from only 'PF & ESI' to 'PF, ESI/Medical Insurance, Bonus, Gratuity and Life Insurance' classes. The average score is calculated by dividing the total score by the number of workers in each industrial units.

Table 6.27 Average Score of Social Security in both Industrial Units

	Scale				Total Score	Average Score
	PF& ESI	PF, ESI & Bonus	PF, ESI/ Medical Insurance, Bonus & Gratuity	PF, ESI/ Medical Insurance, Bonus, Gratuity & Life Insurance		
Traditional Industrial Units	15	30	159	124	328	2.88
Modern Industrial Units	158	110	243	500	1011	2.42

Source: Calculated from Primary Data

The frequency of workers with only ‘PF and ESI’ benefits was 15 and 158 in traditional and modern industrial units respectively, 1 point was given to this class and the frequencies are multiplied with the points to get the score of this class. Scores of each class were calculated and this score was added to get the total score which was further divided by the number of workers in each industrial units to get the average score. The average score of social security in traditional industrial units was 2.88 and in modern industrial units it was 2.42, this reflects that on whole, traditional industrial unit employees were more benefited with social security benefits than the modern industrial unit.

6.7.3 Other Facilities

Facilities associated with the employment such as accommodation, transportation, rest, incentives, cultural activities and other facilities were studied among each industrial unit workers. The detailed analyses of these facilities are discussed in the next section.

6.7.3.1 Accommodation: It has to be noted that 70 per cent of the respondents were migrated from far off place to work in CSEZ. Few of them bought or constructed houses at the vicinity of the zone. But still, 61 per cent of the respondents reported they stay in hostels, rented houses or as paying guest. None of the workers reported that the company is providing accommodation facilities or bearing the accommodation expenses of them. The average numbers of workers stay in rented accommodation in each sector and their average rents were given in table 6.28.

Table 6.28 : Percentage Distribution of Workers staying in Rented Accommodation and Average Monthly Rent

Sectors	Staying in Rented House (%)	Average Rent (in Rupees)
Agro & Food	21.21	3329
Textiles & Garments	53.57	5416
Miscellaneous	37.73	2518
Engineering	40.48	5876
Electronics Hardware	70.68	2432
IT and ITES	71.00	4154

Source: Primary Survey

Electronics Hardware sector is employing a large number of young trainee and contract workers with very low salary, 71 per cent of its employees are staying in rented accommodations. Lots of hostels and paying guest facilities are available around the zone but only workers with better salary can afford it. During the survey, it was found that the hostels and paying guest facilities will cost from Rs 4,500- 6,500. Hence the young workers, especially trainees and contract works were not in a position to afford it so they prefer to stay in low budget accommodations. Many houses around CSEZ have constructed upper

levels with insufficient ventilation, kitchen and toilet facilities with tin or aluminum roofing. Most of them are living in tragic conditions, 6-8 persons were staying in a single room without cots or beds and they live in unhealthy circumstances. That is the reason for the low average rent of Rs. 2432 in Electronic Hardware sector. 37.73 per cent respondents from Miscellaneous sector are also staying in rented accommodations, mostly at inexpensive places. The situation of Miscellaneous sector workers was also found pathetic that the average wage of the sector was only Rs. 10,236 and the average rent was Rs. 2,518. As 30 per cent workers from this sector reported that they were the only working member in the family thus pointing towards the insufficient net income and financial burden of workers.

IT/ITES and Engineering sectors were the highest income earning sectors of CSEZ, with average monthly wages of Rs.16,066 and Rs.15,476 respectively and relatively their average rents were also high as they prefer better accommodation facilities. Moreover, only 84 per cent of respondents from IT/ITES sector responded that they have other income-earning members in families which reflect the economic stability of the workers of this sector.

6.7.3.2 Transportation: Only 36 per cent of respondents noted that companies provide transportation facilities. 85 per cent respondents of Engineering and 41 per cent of Electronics Hardware sector employees reported that companies provide transport facilities. But only 12 per cent from Food and Agro and 11 per cent from Miscellaneous sectors reported that company borne transportation was available during night shift and overtime work. Workers faced issues like missing the last bus, hiring auto rickshaw to travel, police checking and harms caused by stray dogs when they commute to their place of stay after working overtime.

6.7.3.3 Rest: Most workers reported that they have to sit or remain in standing posture throughout their work hours. The works carried out in the units require utmost concentration and sometimes physical efforts, which make them drained and fatigued. Respondents from Miscellaneous and Electronics Hardware reported that work requires physical efforts and those from IT/ITES noted that continuously focusing on the computer screens for longer hours make them exhausted. So adequate rest and breaks in between working hours are necessary to keep them physically and mentally fit. Most of the companies in CSEZ provide half an hour break for lunch, and many units provide 10-15 minutes breaks for morning and evening tea time. 32, 24 and 44 per cent of respondents reported that they were allowed to take breaks once, twice and thrice respectively, in a day.

Table: 6.29 Percentage Distributions of Workers by Rest Times

Sectors	Rest				Average Rest Time (in Minutes)
	Once	Twice	Thrice	Total	
Traditional Industrial Units					
Agro & Food	51.52	27.27	21.21	100.00	45
Textiles & Garments	28.57	0	71.4	100.00	65
Miscellaneous	43.40	18.86	37.74	100.00	40
Modern Industrial Units					
Engineering	0.00	11.90	88.10	100.00	60
Electronics Hardware	33.08	24.06	42.86	100.00	45
IT and ITES	34.84	27.46	37.7	100.00	55

Source: Primary survey

Many workers from Food and Agro (51.52%) and Miscellaneous (43.40%) sector described that they have a chance to rest in a working day. The meticulous and exhausting nature of works in these sectors, with fewer chances of rest, makes the workers more tired. A larger proportion of workers from Textile and Garments (71.4%) and IT/ITES (88.10%) sector were allowed to take two tea breaks and one lunch break in a day. Regarding the average resting time, modern industrial units tend to provide more time than traditional industrial units. In total, 42 per cent of workers from traditional units and 37 per cent from modern units have reported that they had only one chance to rest in a day. While 41 and 44 per cent workers from traditional and modern industrial units reported that they get three breaks in a day.

6.7.3.4 Incentives: Incentive plans are formalized approaches to contribute recognition and reward to employees in meeting pre-established objectives. These programmes motivate the workers to reach work goal, achieve the milestone or to meet production targets. During the survey, details regarding incentive programmes like performance interview, gifts and promotion prospects were collected. The results of the survey represent that IT/ITES sector employees are highly benefited by the incentive programmes, 48, 23 and 81 per cent respondents from IT/ITES respectively noted that they have performance incentives, gifts and promotion prospects. Also, 73 and 57 per cent respondents from Engineering and Textile and Garments sectors reported that they have promotion prospects.

Table 6.30 Percentage Distribution of Workers by Incentive Programmes

Sector	Performance Incentives		Gifts		Promotion Prospects	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Traditional Industrial Units	18	15.79	8	7.02	27	23.68
Modern Industrial Units	148	35.32	83	42.91	143	34.13

Source: Primary survey

The proportion of respondents who receive performance incentives, gifts and promotion prospects were found higher in Modern industrial units. The number of respondents benefited by incentive programmes was found very less in traditional industrial units like Food and Agro and Miscellaneous. These sector workers stated that they rarely got incentives for exceeding production targets and have hardly receive gifts like sweets/cakes and clothes for festivals occasion. This analysis depicts that incentive schemes to motivate workers were generally implemented by modern industrial units than traditional sectors.

6.7.3.5 Workplace Facilities: It is the responsibility of the management to provide adequate and appropriate facilities to the workers to carry out their duties effectively. The Factories Act, 1948, enlists the facilities which has to be provided by the management for the smooth operations of the industrial units. As per the Act, every factory where 150 workers or more are employed, the employer has to ensure facilities like restrooms, toilets, lunch rooms, drinking water, first aid facilities, protection from work-related hazardous, neat workplace, proper lighting and sufficient ventilation etc. are provided.

Table 6.31 : Percentage Distribution of Workers by Workplace Facilities in various Sectors

Workplace Facilities	Food & Agro	Textiles & Garments	Miscellaneous	TIU*	Engineering	Electronics Hardware	IT & ITES	MIU**
Working Environment								
Neat Workplace	100	89.29	69.81	83.33	100	87.97	89.34	89.98
Sufficient Workplace	87.88	85.71	79.25	83.33	85.71	92.48	77.46	83.05
Protection from Hazards	72.7	42.86	37.74	52	30.95	40.60	87.30	66.82
Sufficient Ventilation	81.82	100.00	43.40	68.42	92.86	84.96	77.46	81.38
Sufficient Light	90.91	100.00	81.13	88.60	88.10	93.23	96.31	94.51
Air-conditioned Workplace	93.94	53.57	9.34	44.73	81	78.95	93.85	87
Welfare Facilities								
Rest Rooms	100	82.14	81.13	86.84	100	53.38	61.89	63.01
Neat Toilets	63.64	82.14	58.49	65.79	90.48	21.80	85.66	65.87
Drinking water	93.94	100.00	96.23	96.49	100	94.74	90.57	92.84
Free Health Check Ups	27.27	42.86	67.92	50.00	0	8.27	29.10	19.57
Free Lunch	0	10.71	9.43	6.14	92.86	5.26	0.00	10.98
Free tea/snack	81.82	46.43	66.04	65.79	95.24	76.69	69.26	74.22
Rest Room for Women	81.82	82.14	66.04	74.56	11.90	53.38	37.70	40.10
Medical Facilities								
ESI	100.00	100.00	86.79	93.86	100	75.19	100	92.12
Medical Reimbursement	9.09	53.57	18.87	24.56	90.48	13.53	21.31	25.78
First Aid	87.87	89.28	72.70	81.71	95.12	59.39	75.40	72.31

Source: Primary Survey *TIU- Traditional Industrial Units, **MIU-Modern Industrial Units

A detailed review of the facilities provided at the workplace in CSEZ is given in the table. 6.31. Most of the respondents reported that units in CSEZ provide a neat workplace, especially workers from Food and Agro sector. Since they produce food products, neat and tidy workplace is of utmost importance in this sector. Few workers from IT/ITES sector reported that they were not provided with sufficient place to carry out their works. In relation to the protection from the Health Hazards, Textile and Garments, Miscellaneous sectors from traditional industrial units and Engineering and Electronics Hardware sector from modern industrial unit workers responded that they are prone to work-related accidents. All sectors except Miscellaneous reported that they work in properly ventilated factories, many workers from Miscellaneous working in Jute, Coir and Rubber units stated that the factories are not properly ventilated and they have to work in an unhealthy atmosphere filled with dust and fume. More than 90 per cent of respondents from Food and Agro and IT/ITES work in air-conditioned factories, while only 9 per cent workers from Miscellaneous report that they work in air-conditioned units. The production of Rubber, Jute, Coir, Plastic and Ceramic products are carried out in Miscellaneous sector and the structure of factories are not conducive for air conditioning.

Regarding the employee welfare facilities, restrooms were provided in all units but 38 per cent of the IT/ITES sector workers noted that they do not have provisions for restrooms. Respondents from Electronics Hardware sector complained that they do not have sufficient and clean toilet facilities. Survey reports show that free health checkups were provided more to traditional unit workers and engineering sector provides free lunch to its workers which this facility was rarely provided in traditional units. The provision of the restroom for women was found more among traditional industrial units.

From the analysis of the Facilities provided by the CSEZ units, it is evident that many instructions postulated by factories Act 1948 were followed in CSEZ units. But the survey also noted that few sectors have failed to comply with the directives, especially on toilets, female restroom, and first aid facilities. Electronics Hardware and IT/ITES sector were found to have failed considerably in providing restroom facilities to workers, especially for female workers.

6.7.3.6 Leaves: Permanent employees of CSEZ have an advantage over trainee and contract employees in the zone. Normally trainees are not permitted to take leaves and their salary will be deducted for the leave taken while contract workers were allowed to take limited number of leaves. From the survey, it was noted that permanent employees were eligible to take Casual Leave, Sick Leave, and Annual Leaves. Maternity Leave is provided to all the permanent female workers among all sectors. There were variations in the average annual leave issued by different sectors in the zone, which is 30 in Food and Agro, 26 in Textile and Garments, 20 in Miscellaneous, 32 for Engineering, and 22 in both Electronics Hardware and IT/ITES sectors.

6.7.3.7 Cultural Activities: Recently companies are promoting various cultural and other employee welfare activities to create an employee friendly atmosphere. These activities help the management by developing the productivity, loyalty, team building, creativity and retention of the employees. The study made an attempt to evaluate the extent of these activities in CSEZ units as most of the units exert severe pressure on workers to meet their targets. During the survey data was collected regarding various activities like Family Get together, Tours, Festival Celebrations, Sports Days and Cultural Activities organized by the units for creating a bond between employees and management. Only 8.63 and 17.6 per cent of the CSEZ respondents noted that they were given

chances for Family Get together and Sports days. Very few workers from Food and Agro and Electronics Hardware acknowledged that management conduct Get together and Sports Days.

Regarding Tours and Cultural Activities, 30 per cent CSEZ workers noted that companies arrange these activities. While the ratio of respondents who noted that companies conduct tours were found more in traditional units and the ratio of workers celebrate cultural activities were found more among modern industrial units. Employees have collectively or through trade unions approached the management to conduct tours while some workers responded that they organize one day tours with their own contributions.

Cultural activities are mostly conducted on company annual days and workers were given chances to showcase their talents. 17, 49 and 76 per cent respondents from Engineering, Electronics Hardware and IT/ITES sectors respectively reported that companies organize cultural events while only 21, 25 and 8 per cent workers from Food and Agro, Textile and Garments and Miscellaneous sectors responded that they celebrate cultural activities. Most of the CSEZ units organize festival celebrations by celebrating Onam and Christmas. 67 per cent respondents from CSEZ stated that they celebrate these festivals. The details of these activities in two industrial units were given in Table 6.32; it is evident from the table that relatively cultural activities were celebrated more by the modern industrial units. The sectors like Electronics Hardware and IT/ITES with a large proportion of young workers were active in organizing these activities in the zone.

Table 6.32 : Percentage Distribution of Worker by Cultural Activities in Units

Sector	Family Get - together	Tour	Festival Celebrations	Sports Day	Cultural Activities
Traditional Industrial Units	5 (4.39%)	37 (32.46%)	75 (65.78%)	11 (9.65%)	18 (15.79%)
Modern Industrial Units	41 (9.79%)	126 (30.07%)	282 (67.30%)	83 (19.81%)	142 (33.89%)
CSEZ Total	46 (8.63%)	163 (30.58%)	357 (66.98%)	94 (17.64%)	160 (30.02%)

Source: Primary Survey, Data above are in format - Frequency (Percentage)

6.7.4 Conditions of Work and Life

Many studies have critically evaluated the working conditions and labour relations that exist in Special Economic Zones. The practices of setting unattainable production targets and mental harassments by management were found common in SEZs. The contract and trainee workers in these zones, without much employment benefits, were mostly affected by these practices. Moreover, long working hours by physical exertion can lead to many health issues of the workers. The satisfaction level in the condition of work and life of workers were also found very low among zone workers. In the light of these arguments this section tried to understand the working conditions through various factors.

6.7.4.1 Work Pressure: Empirical Studies conducted by Murayama (2009), Aggarwal (2007) Mitra (2007) reports that SEZ workers are working under extreme pressure due to target deadlines, lack of job security and low wages.

During the survey, the question was asked to CSEZ worker whether they face any pressure at the workplace and 67.5 per cent of them reported that they face excessive pressure at work, while 37 per cent out of them stated that their family life is affected due to the work pressure. Only 12 per cent respondents from Food and Agro described that they feel pressure at work and 9 per cent out of them stated that their family life is affected by work pressure. This sector was found to be one sector where employees face least work pressure and even when faced it was seasonal.

Table 6.33 : Percentage Distribution of Workers by Work Pressure faced

Work Pressure Faced	Traditional Industrial Units (N=114)	Modern Industrial Units (N=419)	CSEZ Total (N=533)	Chi-square
Yes	56 (49.1%)	304 (72.6%)	360 (67.5%)	22.443**
No	58 (50.9%)	115 (27.4%)	173 (32.5%)	

Source: Primary Survey ** The difference is significant at 0.01 level.

Data above are in format - Frequency (Percentage)

49.1 per cent workers from traditional industrial units and 27.6 per cent workers from modern industrial units reported they face pressure at work. Chi-square test is conducted to analyze if there was any difference between the ratio of workers with work pressure in two industrial units and the difference was found to be relevant at 0.01 level. Hence it is evident that more number of workers in modern industrial units was affected by work pressure. The employees from modern industrial units face extreme pressure at work; the percentages of workers facing pressure from these sectors were Engineering (74%), Electronics Hardware (68.5%) and IT/ITES (74.5%). Major factors behind the work pressure was to finish projects in given time, pressure from

supervisors/managers, workload, lack of job security, lack of job satisfaction and working overtime with normal pay. The family life of modern industrial unit workers was also severely affected by the work pressure as, 59.5 per cent from Engineering, 42 per cent of IT/ITES and 31 per cent of Electronics Hardware employees who face work pressure reported so.

In total 49.1 per cent, workers from traditional industrial units admitted that they face pressure at work and 23.6 per cent out of them noted their family life was affected by work pressure. But the magnitude of this was found more severe in modern industrial units where 72.5 per cent of them face work pressure and 40.5 per cent of their family life was affected by work pressure.

6.7.4.2 Health Issues: Occupation related health hazards are major subject of concern related with Special Economic Zones. Kuasgo and Tzannatos (1998) reports health issues of SEZ workers in many Asian countries; Mansingh, et.al, (2012) reveals that despite of hazardous work environment in SEZs, the Development Commissioner’s office turns a blind eye towards it. The working condition in EPZs lead to health issues to many workers reports Abeywaedene, et.al, (1994) [106]. In the light of these studies, this research tries to analyze if the workers face any work related health issues.

Table 6.34 : Percentage Distribution of Workers with Health Issues

Health Issues	Traditional (N=114)	Modern (N=419)	Total (N=533)	Chi-square
Yes	51 (44.7%)	219 (52.3%)	270 (50.7%)	2.033 ^{NS}
No	63 (55.3%)	200 (47.7%)	263 (49.3%)	

Source: Primary Survey, NS → The difference is not significant. Data above are in format - Frequency (Percentage)

During the survey, it was found that 44.7 per cent of traditional industrial unit employees and 52.3 per cent modern industrial unit workers face health issues due to work. Chi-square test is performed to check whether any there was any variation between the number of workers with sickness in both sectors and the difference was found insignificant. Thus irrespective of the sectors, the workers in both industrial units were affected by work-related health issues.

Table 6.35 : Percentage Distribution of Workers with Major Health Issues

Health Issues	Traditional Industrial Units	Modern Industrial Units	CSEZ Total
Back pain	39.47	33.89	35.08
Asthma	15.79	0.72	3.94
Eye pain	14.04	41.29	35.46
Headache	26.32	49.64	44.65
Neck Pain	19.30	33.89	30.77
Fatigue	31.58	31.74	31.71
Leg Pain	32.45	18.38	21.38
Allergy	32.46	4.30	10.32
Skin Diseases	22	9.78	12.38
Blood Pressure	12.28	22.43	20.26

Source: Primary Survey

Respondents from all sectors reported that they face work-related health issues, sometimes workers have to work hard without availing enough breaks in order to meet production targets. Lack of job security and pressure from supervisors are also affecting the mental and physical health of the workers, especially the contract and trainee workers. If the targets are not met, the supervisors threaten the workers about not extending their contract period or terminating their service in the company. Workers of Food and Agro sector have to stand for long hours while working which cause them Back Pain (21%),

Fatigue (36%) and leg pain (39%). The cold temperature set in many units in this sector also creates health issues for workers. Workers from Textile and Garments sector face respiratory issues and headache due to the dust and chemicals used in the production process. The major health issues reported from this sector were headache (28%) allergy (32%) and skin diseases (42.85%) etc. The Miscellaneous sector workers reported that they had to work hard exerting a lot of physical efforts and were exposed to fume and dust at workplaces. They reported various health issues like back pain (56%), asthma, (30%), allergy (45%) and fatigue (41%) mainly due to heavy work, exposure to long hours in standing posture, exposure to heat, fume and dust.

In Engineering sector, workers stated they face headache (47%), neck pain (57%) eye pain and leg pain due to long hours of work in standing posture and the intense concentration required while working. Workers of Electronics Hardware were also found to be exposed to chemicals and fumes; this sector is one of the leading sectors in CSEZ that causes health issues to workers. A large proportion of its workers face back pain (38.34%), eye pain (43.6%), headache (46%), neck pain (38.34%) and leg pain (32%).

Employees of IT/ITES also suffer from eye pain (45%), headache (51%), fatigue, backache and pressure due long and tiring working hours. Working for long hours, concentrating on computer screen also created severe eye pain and headache to most of IT/ITES employees in the zone. The employees from call centers stated that using headphones for longer hours caused ear pain and hearing problems to them. Electronics Hardware and IT/ITES employees were found to be suffering from high blood pressure because of work pressure and lack of job security.

Overall, work-related health issues like respiratory issues, allergy and leg pains were found more among workers of traditional industrial units and issues caused by longer hours of concentration like headache, eye pain and blood pressure were found more among modern industrial unit workers.

6.7.4.3 Job Satisfaction: Job satisfaction is the level of contentment of the workers' feel about their job which can affect their productivity and performance. Higher levels of job satisfaction will result in improvements in productivity and loyalty of the employees. The feeling of respect and trust, working in a safe environment with good pay and opportunities for career growth would result in an increase in the job satisfaction of the employees. During the survey, various factors related to job satisfaction is evaluated among CSEZ workers, the responses of employees from each industrial sectors are given in table 6.36.

Point scale method was used to express the responses of the workers, the respondent's agreement on job satisfaction is categorized as "Strongly Agree, Agree, Neither, Disagree and Strongly Disagree which were respectively given 5,4,3,2, and 1 points. The frequencies in each scales were multiplied by respective points, these points in each scales were added to get the total score. The average score is obtained by dividing the total score by the number of respondents in each industrial unit.

Table 6.36 : Job Satisfaction of Workers in both Industrial Units

Factors	Category	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree	Total Score	Average Score
Work time is as per the law	TIU*	295	116	30	24	1	466	4.1
	MIU**	440	284	336	162	67	1289	3.1
Sufficient salary	TIU	135	144	33	52	14	378	3.3
	MIU	245	260	105	336	102	1048	2.5
Same salary for male and female workers	TIU	85	176	63	46	9	379	3.3
	MIU	710	724	129	82	12	1657	4.0
Cooperative management	TIU	170	164	48	24	11	417	3.7
	MIU	325	488	201	228	51	1293	3.1
High standard of job	TIU	135	164	45	42	10	396	3.5
	MIU	580	472	129	210	37	1428	3.4
Encouragement in work	TIU	185	116	54	42	9	406	3.6
	MIU	395	504	144	226	53	1322	3.2
Proper trainings	TIU	180	96	51	56	9	392	3.4
	MIU	505	248	459	126	40	1378	3.3
Promotion prospects	TIU	105	120	27	76	16	344	3.0
	MIU	360	352	135	242	93	1182	2.8
Work issues are properly addressed	TIU	125	148	63	36	13	385	3.4
	MIU	265	312	342	224	62	1205	2.9
I am happy at my work	TIU	190	172	45	28	4	439	3.9
	MIU	330	352	396	186	40	1304	3.1
My work place is good place to work	TIU	175	152	48	38	6	419	3.7
	MIU	590	528	258	128	19	1523	3.6

Source: Primary Survey, *TIU= Traditional Industrial Units, **MIU= Modern Industrial Units

The Average Score of the factors like 'Work time is as per the law', 'Sufficient Salary', 'Cooperative Management', 'Standard of Job', 'Encouragement at work', 'Trainings', 'Grievance redressal', 'Promotion Prospects' and 'Happiness about work and workplace' were found impressive among traditional industrial units. While the only factor was modern industrial

unit employees exceeded the traditional industrial unit employees was ‘The Same salary for male and female workers’.

Respondents from Textile and Garments and Food and Agro noted that the work timings in the units were as per the law, they have higher promotion prospects and the attitude of management was cooperative. While, many employees of the modern industrial units, especially from IT/ITES and Electronics Hardware sectors reported they had to usually work extra than the time directed by the law, the management is not very cooperative and their issues were not solved properly and also stated that they do not have job security as many of them were not permanent employees. Even though the salary levels of traditional industrial unit workers were found comparatively less than the modern industrial units, the satisfaction level of workers about the salary offered in the traditional units was found more satisfactory. Employees in Food and Agro and Textile and Garments units stated that they receive salary rates as per the industrial standards while many engineering graduates who began their career from modern industrial units reported that the wages they receive were below Rs.5000/-. Regarding the discrimination on the wage paid to the male and female workers in CSEZ, the modern industrial unit workers have reported a higher level of satisfaction than the traditional units. Female workers of Miscellaneous and Food and Agro sector stated that they face gender discrimination on wage payments as same wages were not paid to the male and female workers who doing the same job. While in IT/ITES sector most of the workers believe that there is no gender discrimination related to wages.

Traditional units provide sufficient training to its employees to perform their job as many workers in these sectors were not technically qualified. The nature of jobs in the modern unit demands skilled workforce and workers in

these sectors are technically qualified through vocational courses. Only the employees from IT/ITES described that the companies provide orientation to the trainees.

The above analysis narrates that traditional industrial unit employees tend to enjoy more job satisfaction, although the wage levels and other facilities provided to them were low. They expressed their contentment of sufficient salary as per the industrial standards, the attitude of the management towards them were favorable, their issues were properly addressed, sufficient training were given and they also reported that they were happy at their work. During the survey, it was also noted that workers from Miscellaneous sector of traditional industrial units and Electronics Hardware employees of modern industrial units expressed the highest dissatisfaction about their jobs especially on factors like insufficient salary, lack of cooperation from management, no promotion prospects and wage discrimination. Based on the Average Scores of each factor in table 6.34, Average job satisfaction score is calculated by adding all the factor values and dividing it by the number of factors. Hence the average score for traditional industrial units and modern industrial units were calculated as 3.53 and 3.17 respectively. This indicates that the job satisfaction levels of employees in traditional industrial units were found higher than the modern industrial units.

6.7.4.4 Change of Job: In order to understand the major apprehensions of the CSEZ workers in workplaces, a question was asked to the respondents what would be major reason to change their present job. Multiple choices were given such as low salary, poor working conditions, workload, temporary job, Health issues, lack of promotion prospects and lack of job satisfaction. The details were given in table 6.37.

Table 6.37 : Percentage Distribution of workers by Reasons for Change of Job

Reasons	Traditional Industrial Units		Modern Industrial Units		CSEZ Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Low Salary	38	33.33	237	56.56	275	51.59
Poor Working Conditions	18	15.79	35	8.35	53	9.94
Workload	28	24.56	132	31.50	160	30.02
Temporary Job	17	14.91	113	26.97	130	24.39
Health Issues	42	36.84	104	24.82	146	27.39
Lack of Promotion Prospects	37	32.32	147	35.08	184	34.53
Lack of Job Satisfaction	3	2.64	66	15.76	69	12.95

Source: Primary Survey

The major reason for the willingness for change of job among CSEZ workers was the low salary (51.59%) and lack of promotion prospects (34.53%). 56.56 per cent of workers from modern industrial units, especially from IT/ITES and Electronics Hardware stated the salaries offered to them were very less; these sectors were also characterized by the large ratios of contract and trainee workers without job security. Engineering, Electronics Hardware and IT/ITES employees expressed that they face heavy workload and issues associated with it. While health issues, low salary and lack of promotion prospects were the major reasons of traditional industrial unit employees for the job change. Workers from all sectors in these industrial units face health issues and Miscellaneous sector employees stated that their salaries were very low.

Different options were given to respondents to analyses if they want to work in the same company or within CSEZ or work outside CSEZ (Table 6.38). 54.39 per cent workers from traditional industrial units responded they wanted to continue working within CSEZ either in the same company or in other company. While only 35 per cent employees in modern industrial units reported that they wanted to work within CSEZ or with the same company. This denotes that more workers from traditional industrial units prefer to work within CSEZ. The proportion of workers who were willing to work in the same company was also higher in traditional industrial units. In other words, the workers in traditional industrial units were found more satisfied with their unit management. Female employees of CSEZ stated that they prefer to work in CSEZ because they feel safe due to better security facilities provided by the zone. 49.88 per cent employees of modern industrial units described their preference to work outside the zone because of higher wage possibilities. Employees of traditional industrial units (24.5%), especially from Miscellaneous sector preferred to find a new job in a new sector due to lack of substantial increase in salary and health issues. In total, the preferences of workers who wish to continue in the same company or any other company in CSEZ is high among traditional industrial unit workers. While workers (mostly contract and trainee worker) from modern industrial units preferred to find jobs outside the zone with job security and a higher salary.

Table 6.38 : Percentage Distribution of Workers with Job Change options

Job Change Option	Traditional Industrial Units (N=114)	Modern Industrial Units (N=419)	CSEZ Total (N=533)	Chi-square
Same Company Different Role	31 (27.2%)	43 (10.3%)	74 (13.9%)	40.501**
Same Job in Other Company in CSEZ	31 (27.2%)	104 (24.8%)	135 (25.3%)	
Same Job Out Side CSEZ	24 (21.1%)	209 (49.9%)	233 (43.7%)	
New Job in New Sector	28 (24.5%)	63 (15.0%)	91 (17.1%)	

Source Primary Survey ** The difference is significant at 0.01 level. Data above are in format - Frequency (Percentage)

Chi-square test is conducted to check if there was any significant difference among workers' preference for change of job options. The result was found as the differences were valid at 0.01 level of significance. The job change options of workers in both industrial units were significantly different if they were given a chance for change of job. More number of workers from traditional industrial units preferred to work within CSEZ and the number of workers who wanted to work outside CSEZ was more in modern industrial units.

6.7.5 Trade Union Activities: Trade union movements are important in any industries as they demand better wages, safer working conditions, reasonable hours of work and quality life for workers. In short, they strive to protect the interest of the working class. ILO's declaration on the Fundamental Principles & Rights at workplace defines 'freedom of Association and the effectual recognition of the Right to Collective Bargaining as an indispensable right to the workers'. Trade unions also facilitate effective communication between

management and workers and facilities job security and collective bargaining power (Parashar, 2016) [107].

Various trade unions are functioning within CSEZ like, CITU, INTUC, STU (Swathntra Thozhilali Union), CWU (CSEZ Workers Union) etc. The ratio of workers involved in the trade union activities (table 6.39) was found more among traditional industrial units (71%) than modern industrial units (36.75%). Units in the traditional sectors permit trade union activities while in modern industrial unit many workers declared that the management prevented them from joining trade unions or conducting any trade union activities. It is also to be noted that the Kerala State SEZ policy states that Special Economic Zones in Kerala are not exempted from the preview of Trade Union Laws. Moreover large proportion of workers from these units were contract or trainee workers, trainees were not allowed to join unions and only few contract workers who have long years of experiences in CSEZ were given a chance to partake in trade union activities. It was evident from the survey that many CSEZ workers were prevented from joining trade unions by the management although the SEZ Policy of the State permits trade union activities in SEZs.

Table 6.39 : Percentage Distribution of Workers by Membership in Trade Unions

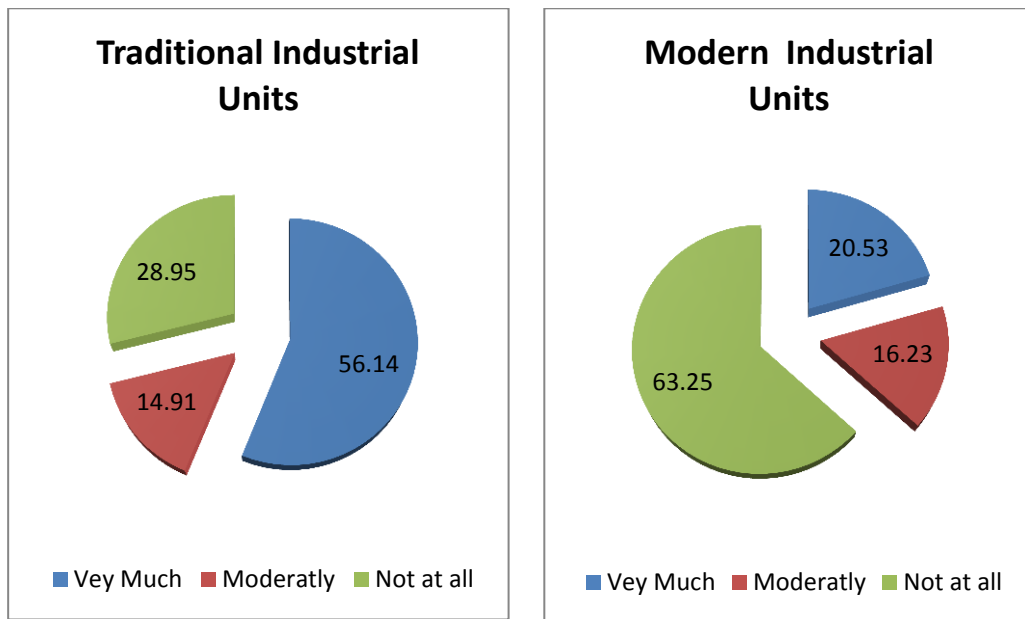
Member of Trade Union	Traditional (N=114)	Modern (N=419)	Total (N=533)	Chi-square
Yes	81 (71.1%)	154 (36.8%)	235 (44.1%)	42.767**
No	33 (28.9%)	265 (63.2%)	298 (55.9%)	

Source: Primary Survey, ** The difference is significant at 0.01 level.
Data above are in format - Frequency (Percentage)

Chi-square test is conducted to check whether there was any discrepancy between the proportions of membership in trade unions among both industrial units. The difference was significant at 0.01 level, indicating that there were differences in trade union membership in both industrial units.

During the survey, it was found that 56.15 per cent and 15 per cent of traditional industrial unit employees stated that they actively or moderately participate in trade union activities respectively, while the only 20.53 per cent and 16.23 per cent workers from modern industrial units reported the same. Moreover, 63 per cent workers of modern industrial units also reported that they were not at all participating in any trade union activities (Figure 6.13).

More than 60 per cent workers from all traditional industrial sectors such as Food and Agro, Textile and Garments and Miscellaneous were participating in trade union activity. Only 16 per cent workers from IT/ITES reported that they participated in union activities. IT/ITES sector constitute 47 per cent of CSEZ workers and the unavailability of this huge proportion of employees leave a large ratio of workers without trade union participation and thus becoming more vulnerable to the mistreatment of management. Workers reported that trade union leaders were focusing on this sector to extend the trade union membership.

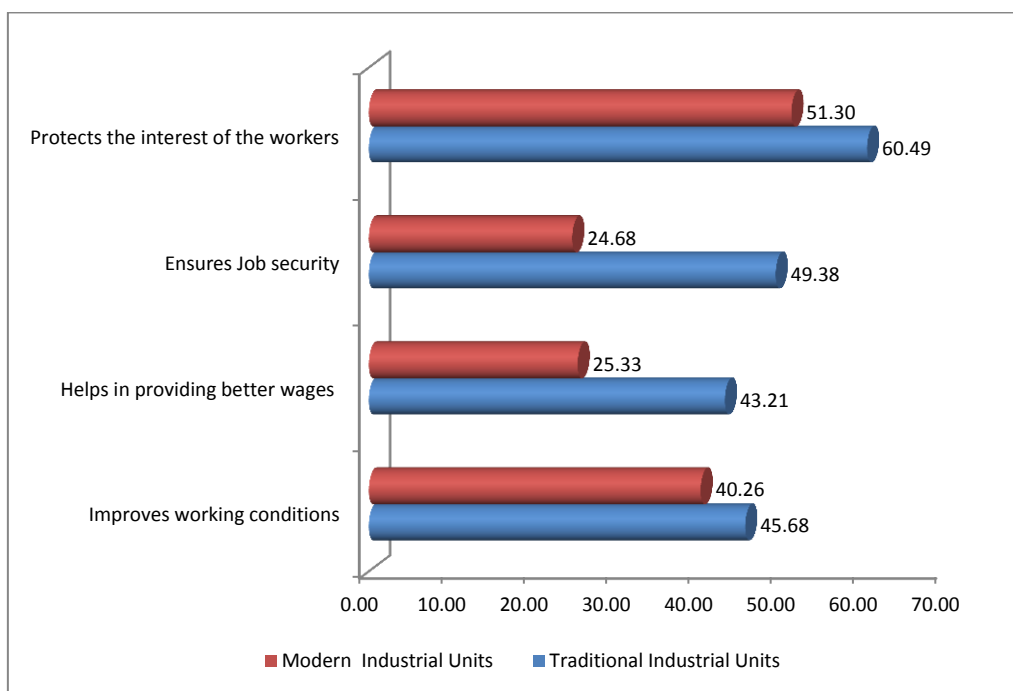


Source: Primary Survey

Figure 6.13 : Percentage Distribution of Workers by Participation in Trade Union Activities

Various choices were given to the respondents who were members of trade unions as to how trade unions have influenced their careers. Multiple choices were given to the workers such as, ‘improves working condition’, ‘help in providing better wages’, ‘ensure job security’ and ‘protects the interest of the workers’. More than 40 per cent workers from both industrial units reported that trade unions help in improving their working conditions. Traditional unit workers reported that trade unions interacted with the management in ensuring protection against health hazards, neat toilet facilities, availing bonus and ensuring work timings as per the law. Modern Industrial unit employees noted that they were trying for negotiations with management through unions in ensuring permanent employment status to the existing contract employees.

CSEZ employees believe that trade unions help them in providing better wages, 43.21 and 25.33 per cent workers from traditional and modern industrial units respectively expressed that trade union's interactions with the management have improved their collective bargaining power with regards to wages.



Source: Primary Survey

Figure 6.14 : Percentage Distribution of Workers Preference of Trade Unions Influence on Work

Altogether, more than 50 per cent workers from both sectors stated that trade unions protect the interest of the workers in CSEZ. Job security for CSEZ workers was also ensured through trade unions. Workers who were trade union members from all sectors in traditional industrial unit unanimously reported that trade unions strive in ensuring job security. The above analysis indicates that trade union membership helps the workers in maintaining a better working environment, especially for traditional industrial unit workers in CSEZ.

Table 6.40 : Relation between Trade Union Membership and Job Security

Job Security	Traditional (N=81)	Modern (N=154)	Total (N=235)	Chi-square
Yes	40 (49.4%)	38 (24.7%)	78 (33.2%)	14.613**
No	41 (50.6%)	116 (75.3%)	157 (66.8%)	

Source: Primary Survey, ** The difference is significant at 0.01 level.

Data above are in format - Frequency (Percentage)

Table 6.40 represents that 49.4 per cent workers of traditional industrial units who were members in trade union agreed that trade union membership ensures job security in the zone. While only 24.7 per cent workers from modern industrial units who have trade union membership noted that trade union membership ensures job security. Chi-square test is performed to evaluate if there was any significant difference between job security and trade union membership in both industrial units. The difference was significant at 0.01 level which shows that there was considerable difference in job security and trade union participation in both sectors.

The membership in trade union always strengthens the collective bargaining power, ensures job security, facilitates better working conditions and protects the interest of the workers. Based on the participation levels of the employees in trade unions, Average Score is calculated to evaluate which industrial units workers enjoy better working conditions. Various points from 3 to 1 was given to each scales in descending order that is 3 points were given to the scale ‘very much’ and 2 points were given to scale ‘moderately’ and so on. Frequencies in each scale were multiplied with points and scores in all scales were added together to get the total score. The total score is divided by the number of workers in each industrial unit to get the average score.

Table 6.41 : Average Score of Industrial Units by the Levels of Participation in Trade Unions

Sectors	Very Much	Moderately	Not at all	Total Score	Average Score
Traditional Industrial Units	192	34	33	259	2.27
Modern Industrial Units	258	136	265	659	1.57

Source: Primary Survey

Table 6.41 represents the various level of participation of workers in trade union activities. A large number of workers from modern industrial units fall under 'not at all' scale. While more than 70 per cent workers from traditional industrial units expressed that they participate in trade union activities. Hence the average score of participation in trade union activities for traditional industrial unit worker were higher than the modern industrial units, indicating that trade union activities were more active among traditional units and the benefits of unionization were more favorable for its workers in the form of better working conditions, job security and protection of workers interest.

6.7.6 Consolidated Average Score

To understand the working conditions and labour standards in Cochin Special Economic Zone, various analyses were conducted in this chapter. The CSEZ employees were categorized into Traditional industrial units and Modern industrial units. The study has evaluated the wages, overtime payments, social security benefits, facilities, job satisfaction and trade union membership of the employees in both industrial units to understand which units provide better labour standards and working conditions. The consolidated average score of these factors is given in Table 6.42.

Table 6.42 : Consolidated Average Score

Factors	Traditional Industrial units	Modern Industrial units
Over time Payment	3.75	2.55
Wages	1.82	2.42
Social Security	2.88	2.42
Job Satisfaction	3.53	3.17
Trade Union Membership	2.27	1.57
Combined Average Score	2.85	2.43

Source: Calculated from Primary survey

Out of the five factors analyzed, the wage was the only factor where the average score was higher in modern industrial units than traditional units. The average score for all the other factors like, overtime payments, social security, job satisfaction and trade union membership etc. were found high in traditional units. The overtime payments procedures existing in traditional units were found comparatively better as 82 per cent of the workers reported that they receive double payments for overtime as directed by the labour law but only 24 per cent workers from modern industrial units reported they receive double payments for overtime. A higher ratio of workers was among the traditional industrial units that were rewarded with more social security benefits. A large proportion of modern industrial unit workers were provided only PF and ESI facilities. Traditional unit employees were also benefited by employee welfare facilities provided by the management like neat toilet, restrooms, drinking water, health checkups, medical facilities and restroom for women. Although the wage rates were low in traditional units, the job satisfaction levels of workers were found higher among this sector. The ratio of workers with trade union membership, which facilitate the collective bargaining power and labour rights, was much

higher in the traditional industrial units. Hence combining all these average scores, traditional unit workers score is higher than the modern industrial units. The traditional unit workers draw fewer wages and their nature of the job is not as good as modern industrial unit workers but in total, these employees were found to be more satisfied with the monetary aspect and other facilities provided to them.

Summary

The study on the direct employment generation and the working conditions of Cochin Special Economic Zone reveals that CSEZ has contributed considerably on the volume of employment opportunities to workers from the inter-state and intrastate region, ranging from unskilled labour to technically qualified personnel. A shift of employment generation was evident in the study from traditional industrial units to modern industrial units. Currently, IT/ITES and Electronics Hardware are the major employment generating sectors of the zone. Although Gem and Jewelry is the highest export generator of the zone, employment opportunities created in the sector is very few. In 2013-14 the total employment in the sector was only 78, as per the official records of the zone authorities. But during the survey it was noticed that a large number of unaccounted workers on daily wages were working in this sector, they were not provided, labor contracts and any employee welfare benefits. Many of them were reported to live in pathetic conditions and companies were exploiting them without providing sufficient wages and other benefits. The female participation in CSEZ workforce was also dropped from 51 per cent to 31 per cent during the period 2000-2014, the reason being, increased employment opportunities in the modern industrial units in recent times. The female participation ratio of CSEZ is higher than the national levels but it was found to be far below than the State level. While comparing the employment generation of CSEZ with other Central

Government owned SEZs in India, it was ranked 5th and CSEZ was ranked 1st with regard to labour productivity.

In the analysis to examine the working conditions and labour welfare measures in CSEZ industrial units, it was found that workers with higher age groups and married were found more in traditional industrial units and more ratios of young, unmarried and highly educated workers were found among modern industrial units. Larger proportion of workers in traditional industrial units was permanent and thus benefited by employee welfare schemes and social securities. It was unfortunate that even though the ratios of contract and trainee workers were high in modern industrial units, they were not benefited by many welfare provisions envisaged by the labour laws of the country. CSEZ acted as a platform for the majority of the workforce to find their first job and CSEZ equipped them with various skills and knowledge to carry out the jobs properly. The ratios of workers with high educational qualifications were found more among modern industrial units due to the nature of jobs. But the social security benefits and overtime payments were fairly implemented by the traditional industrial units. A clear breach of the existing labour laws was evident among modern industrial units in conjunction with these benefits.

The averages wages were found higher among modern industrial units as these units demand highly qualified personnel. It has also to be noted that many trainee workers in these units were given incompetent salaries and they reported their discontent about the same. Regarding the work-related facilities, better working environment and facilities were provided in modern industrial units but the employee welfare facilities and medical facilities were better implemented by the traditional industrial units. Workers from both industrial units reported that they face work-related health issues. Problems like respiratory issues,

allergy and leg pains were found more among workers of traditional industrial units and issues caused by longer hours of concentration like headache, eye pain and blood pressure were found more among modern industrial units. The modern industrial unit workers face more work pressure and many of them reported that their family life was affected due to work pressure. The study also noted that traditional industrial unit employees tend to enjoy more job satisfaction, although the wage levels and other facilities provided to them were low. They expressed receiving sufficient salary as per the industrial standards. The attitude of the management towards them was favorable and their issues were being properly addressed. Also sufficient training was provided and have reported that they were happy at their work.

The ratio of workers with trade union membership is found more among traditional industrial units indicating a better collective bargaining power. Further these workers reported that trade union membership has benefited them in the form of better working conditions, job security and protection of their interest. Various factors on working conditions and labour rights were analyzed in the study and can be safely concluded by stating that traditional industrial units provide better employee management and provide better working conditions along with employment benefits than modern industrial units. A clear breach of labour laws and Kerala SEZ Policy were also reported among modern industrial units during the study.

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QUALITY OF THE INFRASTRUCTURE FACILITIES IN COCHIN SPECIAL ECONOMIC ZONE

- 7.1 *Facilities Provided by CSEZ*
- 7.2 *Quality of Basic Infrastructure Facilities*
- 7.3 *Supply of Essential Facilities*
- 7.4 *Social Infrastructure*
- 7.5 *Other Facilities*
- 7.6 *Administrative Facilities*

Special Economic Zones are established as a robust mechanism for the creation of a globally competitive business environment for generation of economic activities. Lack of infrastructure facilities is one of the main constraints faced by many countries, in creating a competitive business environment especially among developing countries. In order to serve the purpose of adequate infrastructure facilities which is a crucial element for any export-oriented activity, better quality infrastructure facilities are provided within Special Economic Zones than Domestic Tariff Area. The infrastructure facilities include real estate, hospital, water, power, telecommunication, and roads (Farole, 2011). The EXIM policy of 2000, incorporated the concept of Special Economic Zones in India, the objective of which was to make Special Economic Zones an engine of economic growth via attracting domestic and foreign investment, generating additional employment opportunities and to

create world-class infrastructural facilities backed by attractive export promotion packages with minimal possible regulations.

Hence the introduction of Special Economic Zone was an effort to confront the poor infrastructure facilities, complex procedures and formalities and bureaucratic hassles that existed in the country. These structural blockages affected the investment climate negatively by increasing time and cost of production. The zones are normally provided with better facilities and business environment to foreign and domestic investors, which will create spillover effect to the rest of the economy in long run. Since countrywide infrastructure development and implementation of structural economic reforms are expensive and time consuming process due to various economic and political reasons, the establishments of industrial enclaves like Special Economic Zones were considered as a vital strategic tool for fueling the process of industrialization. So it is acknowledged that the SEZs are instrumental in developing local and regional infrastructure facilities, which in turn are necessary for the overall economic development of the nation.

The SEZ rules defines 'Infrastructure' as facilities needed for development, operation and maintenance of a Special Economic Zone, which includes industrial, business and social amenities like development of land, roads, buildings, sewerage and effluent treatment facilities, solid waste management facilities, port, including jetties, storage tanks and interconnecting pipelines for liquids and gases, inland container depot or container freight station, warehouses, airports, railways, transport system, generation and distribution of power, gas and other forms of energy, telecommunication, data transmission network, information technology network, hospitals, hotels, educational institutions, leisure, recreational and entertainment facilities, residential and business complex and water supply, including desalination plant,

sanitation facility (SEZ Rule Amendments, July 2010) [108]. Studies report that although the Indian EXIM policy was export-friendly, lack of adequate infrastructure facilities and ineffective operational blockages hindered the economy to reap the full benefits of SEZ scheme hence scholars suggested for the provision for better facilities in SEZs (Shah, 2009; Kundra, 2000).

The Special Economic Zones are updated version of Export Processing Zones, SEZ provides not only facilities for production and manufacturing purposes but also envisages residential, business and recreation facilities along with social infrastructures like education, health care and cultural facilities to support the smooth operation of the zones. These activities are also eligible for tax and duty exemptions.

Earlier studies on the quality of the infrastructure facilities provided by the Special Economic Zones in India are limited. Studies conducted by (Aggarwal 2004), (Malar 2009) suggested government must focus on creating conducive environment by rapidly developing modern and world-class infrastructure within zones denoting there is still scope for improvements in the infrastructure facilities provided by the SEZs in India. In the light of these arguments, this study tries to observe the quality of the infrastructure facilities provided by the Cochin Special Economic Zone. Twenty per cent units, which were functioning in CSEZ for more than 10 years were selected for data collection. Interview method is used to collect data about various infrastructure facilities provided by the zone. 24 units were selected from different sectors for data collection. Various facilities such as, Basic infrastructure, Social infrastructure, Recreational facilities and Administrative support from the zone authorities, which has to be provided by the zone, under the SSEZ Rule were analyzed in this chapter. Detailed analyses of these elements were given in the next section.

7.1 Facilities Provided by CSEZ

CSEZ offers Standard Design Factory Floors and plots of land for buildings in various sizes. The land is available only on lease for 15 years. Factory buildings are in single-storeyed format and in the multi-storeyed format with 5 floors and are furnished with ramps and as well as cargo lifts. CSEZ has own integrated water supply system with 1.5 million liters per day capacity. The water is drawn from the nearby river and treated at the facility provided within the zone, at international standards. The zone also owns a one million liter per day capacity Common Effluent Treatment plant for all sewage and effluents let out from all units. CSEZ's power distribution system is based on a 25MVA/110/11KV dedicated substation and the zone also owns 1000 line 5ESS state-of-art telephone exchange linked to the national network connected through optical fiber cable. VSNL's 15 Gbps International Gateway Exchange has been installed within CSEZ through which optical fiber cable connections are available to all units. Private telecommunication operators also provide telephone and internet connections within the zone. CSEZ also provides video conference facilities to the units which can be used on payment of services charges (CSEZ website: <http://www.csezauthority.in>).

State Bank of India and IndusInd bank branches with ATM and SWIFT facilities operates in the zone. To permit the units to obtain all parcels free of duties from abroad, a foreign post office functions in CSEZ. A special customs unit is deployed in CSEZ to monitor and facilitate the transactions of the units. A canteen and ESI Dispensary facilities are also provided by the zone for the welfare of the employees.

7.2 Quality of Basic Infrastructure Facilities

The basic infrastructures are the facilities and services that directly benefit the process of production in an economy. As per the SEZ Rules, the zones should provide various infrastructure facilities to the units, these facilities provided by the CSEZ were evaluated in this study. The basic infrastructure facilities necessary for the smooth operation of the zone is studied in this section. Unit's levels of satisfaction on various basic infrastructure facilities like, roads, street lights, signals/signage, quality of the buildings/processing areas, sewage lines, parking etc. were analyzed. CSEZ units were given five-point scales to express their level of satisfaction on each facility. Unit's responses are given in table 7.1.

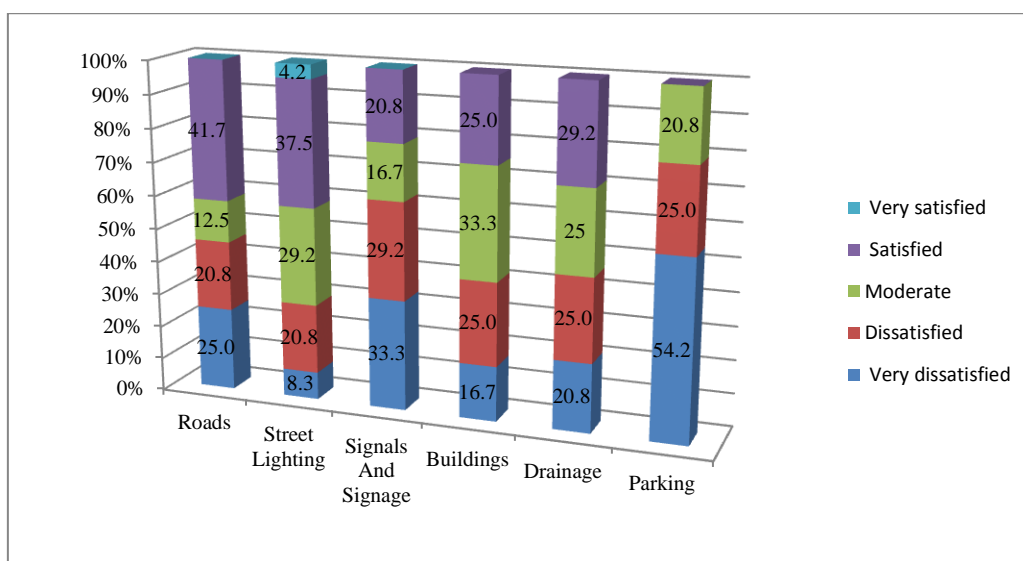
Table 7.1 : Percentage Distribution on the Levels of Satisfaction about the Quality of Basic Infrastructure Facilities provided by CSEZ

Basic Facilities	Very Dissatisfied	Dissatisfied	Moderate	Satisfied	Very Satisfied
Roads	25.0	20.8	12.5	41.7	0.0
Street Lighting	8.3	20.8	29.2	37.5	4.2
Signals and Signage	33.3	29.2	16.7	20.8	0.0
Processing Area/Buildings	16.7	25.0	33.3	25.0	0.0
Sewage Lines/ Drainage	20.8	25.0	25.0	29.2	0.0
Parking	54.2	25.0	20.8	0.0	0.0

Source: Primary Survey

CSEZ Units responded that the basic infrastructure facilities provided by the zone have to be improved. 45 per cent respondents were not satisfied with the quality of the roads within the zone. And 29 per cent units noted that the

street lighting facilities were also not satisfactory. The unit managers reported that the roads were not maintained properly. Further few of them also described that the street lighting facility was inadequate to properly light up all the places inside the zone. Regarding the signage which provides directions to various complexes and units, only 37 per cent zone units reported it is moderate or satisfactory. Many units, especially from IT/ITES sector, complained about the quality of the Standard Design Factories. During the interview, units noted that CSEZ authorities failed to maintain the neatness and quality of the buildings over the period of time. Although the companies maintain the neatness and quality of the office spaces provided to them, the common areas like staircase and corridors were not properly maintained by the authorities. As the zone evolved over time by employing more workers, the units reported that the parking facilities were quite insufficient. Units from all sectors expressed their concern about the absence of sufficient parking facilities within the zone. Only 20 per cent were satisfied with the existing parking facilities within the zone.



Source: Primary Survey

Figure 7.1 : Percentage Distributions on the Levels of Satisfaction about the Quality of Basic Infrastructure Facilities provided by CSEZ

In table 7.1, the percentage of respondents who reported that they were ‘very satisfied’ or ‘satisfied’ with basic facilities provided by the zone was found relatively low. Only facilities like quality of roads and street lighting were reported as the most satisfactory among all the basic facilities. 79 per cent respondents noted that they were dissatisfied with the parking facilities within the zone. 4.2 per cent of CSEZ units responded they were ‘very satisfied’ with the street lighting facility in the zone which was the only facility among basic facilities where units opted for ‘very satisfied’ point scale.

7.3 Supply of Essential Facilities

CSEZ owns an electricity substation, water supply system, telephone exchange and internet connectivity systems to provide the basic facilities in order to carryout production process smoothly in the zone. Electricity, water supply, telecommunication and internet facilities are the prerequisites for any enterprise within CSEZ. The satisfaction levels of the units were collected in relation to these facilities supplied by the zone. The preferences of the respondents are presented in table 7.2.

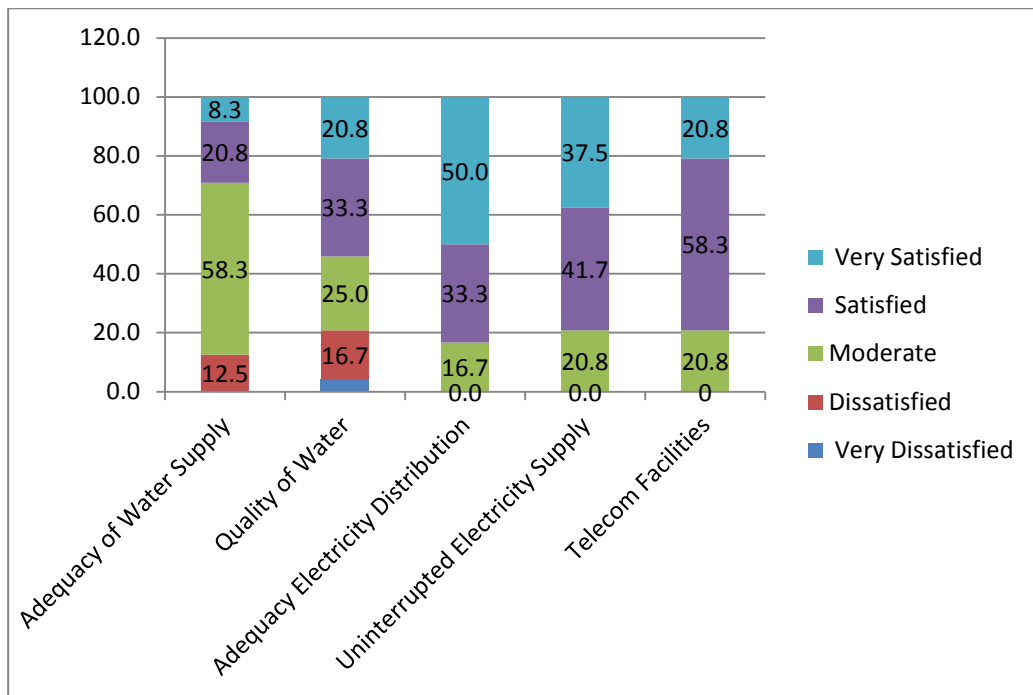
Unlike the preferences of the units on basic infrastructure facilities given in table 7.1, regarding the supply of essential facilities, the unit’s preferences were found mostly satisfactory. Only 12.5 per cent units expressed ‘dissatisfaction’ on adequate water supply in the zone. Few units from Food and Agro sector noted that the supply of the water was inadequate to carry out their production process. 54 per cent of the units reported that the quality of the water supplied by the zone authorities were ‘satisfactory’ or ‘very satisfactory’.

Table 7.2 : Percentage Distribution on the Levels of Satisfaction about the Quality of the Essential Facilities provided by CSEZ

Facilities	Very Dissatisfied	Dissatisfied	Moderate	Satisfied	Very Satisfied
Adequacy of Water Supply	0.0	12.5	58.3	20.8	8.3
Quality of Water	4.2	16.7	25.0	33.3	20.8
Adequacy of Electricity Distribution	0.0	0.0	16.7	33.3	50.0
Uninterrupted Electricity Supply	0.0	0.0	20.8	41.7	37.5
Telecom Facilities	0.0	0.0	20.8	58.3	20.8
Internet Facilities	0.0	0.0	0.0	25	16.7

Source: Primary survey

No units have reported that they were ‘dissatisfied’ with regard to the facilities like adequacy of electricity supplied or about the uninterrupted electricity supply. The interruption in eccentricity supply occurs rarely due to unavoidable maintenance in the power supply system. Prior information will be passed to the units in case of any maintenance in the power distribution. The telecommunication facilities provided by the zone were found satisfactory in the survey. Many units in CSEZ use internet facilities provided by the private companies, only 41.7 per cent units covered under the survey were using internet connections provided by the zone. All the respondents noted that the internet facility provided by the zone was satisfactory.



Source: Primary survey

Figure 7.2 : Percentage Distributions on the Levels of Satisfaction about the Quality of the Essential Facilities provided by CSEZ

From figure 7.2, it is evident that the preferences of the CSEZ units on various essential facilities provided by the zone was ‘moderate’ or above. Only 12.5 per cent and 16.7 per cent units were dissatisfied with the adequacy of water supply and quality of the water supply within the zone. Those were the only facilities where units expressed their dissatisfaction among these essential facilities. Overall, most of the units were satisfied in relation to the water supply, electricity supply, internet and telecommunication facilities in CSEZ. Only 41 per cent units were using the internet facilities provided by the zone, hence it is not displayed in figure 7.2.

7.4 Social Infrastructure

The SEZ Rules also list out provisions for social infrastructure in Special Economic Zones in India. The Special Economic Zones are a larger variant than Export Processing Zones. SEZs are virtually industrial townships that support infrastructures such as housing, hospitals, roads, education institutions, ports and telecommunication, hotels, leisure and entertainment units and residential industrial commercial complex etc. These social infrastructures are essential in creating sustainable communities and the provision of social infrastructure is fundamental in ensuring the workers are safe, healthy and productive within the zones. The satisfaction levels of units on various social infrastructures are given in table 7.3.

Table 7.3 : Percentage Distributions on the Levels of Satisfaction about the Quality of the Social Infrastructure provided by CSEZ

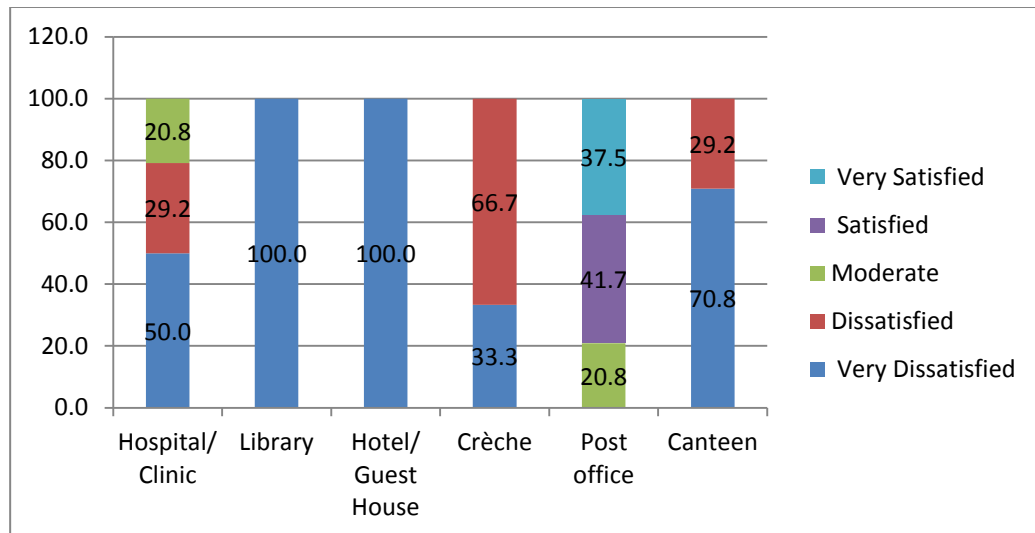
Social Infrastructure	Very Dissatisfied	Dissatisfied	Moderate	Satisfied	Very Satisfied
Hospital/ Clinic	50.0	29.2	20.8	0.0	0.0
Library	100.0	0.0	0.0	0.0	0.0
Hotel/ Guest House	100.0	0.0	0.0	0.0	0.0
Crèche	33.3	66.7	0.0	0.0	0.0
Post office	0.0	0.0	20.8	41.7	37.5
Canteen	70.8	29.2	0.0	0.0	0.0

Source: Primary Survey

The units in CSEZ mostly expressed 'dissatisfaction' on most of the social infrastructure provided by the zone. 79 per cent of the units noted that the quality of the clinic within the zone was dissatisfactory and 100 per cent units

responded that there were no provisions of library and guest houses within the zone. The crèche and canteen facility provided by the zone were also reported as dissatisfactory. While 79.2 per cent units stated that the quality of the post office inside the zone was satisfactory which was the only social infrastructure facility where no units expressed dissatisfactions. Although crèche and canteen facilities were available within the zone, managers noted that the quality and the maintenance of these facilities were dissatisfactory.

Although all these facilities are expected to be in a Special Economic Zone, CSEZ does not provide facilities like library and guest houses or any other accommodation facilities. The post office in CSEZ where units can receive all parcels duty-free from abroad was the only social infrastructure where the units expressed ‘satisfaction’ with regards to its performance among social infrastructure. Hence it was found that there are scope for improvements in the social infrastructure facilities within CSEZ.



Source: Primary Survey

Figure 7.3 : Percentage Distributions on the Levels of Satisfaction about the Quality of the Social Infrastructure provided by CSEZ

7.4.1 Recreational Facilities

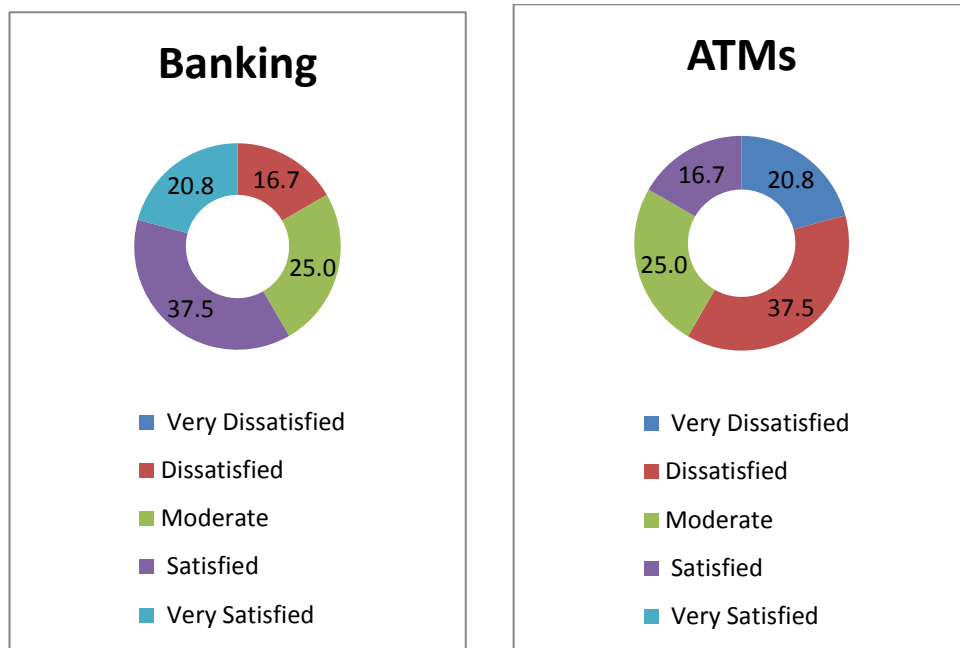
Most of the employees in the zone reported that they face severe pressure at work in meeting deadlines. The provision of recreational activities can reduce the work pressure and improve the productivity of the workforce. The SEZ Rules provide directives to establish leisure, recreational and entertainment facilities, during the interview, the unit managers were asked about the quality of various recreational facilities within the zone. Unit's preferences related to various recreational facilities such indoor game facilities, play grounds, gymnasium and common employee restrooms etc. were collected during the interview. But none of these facilities were available within CSEZ. Unit's strongly expressed their concern on not having any indoor game facilities and common employee restrooms within the zone.

7.5 Other Facilities

The other facilities provided by the zone for the smooth functioning of the units were also evaluated in the study. The SEZs are providing various facilities which are not normally available outside the zone to attract investors and in ensuring better business ambiance. Unit's preferences on the quality of banking, safety, waste management and maintenance facilities were discussed in this section.

7.5.1 Banking Facilities

Presently State Bank of India and IndusInd bank operate in CSEZ; these branches provide ATM and SWIFT facilities units in the zone. The managers were asked about the quality of the banking facility in CSEZ, Regarding the facilities provided by the banks, only 16.7 per cent reported they were dissatisfied with the support received from the banks, the major reason behind it was the issues related to the opening salary accounts for the workers with low income. 83.3 per cent units reported that the facilities provided by the banks were moderate or above.



Source: Primary Survey

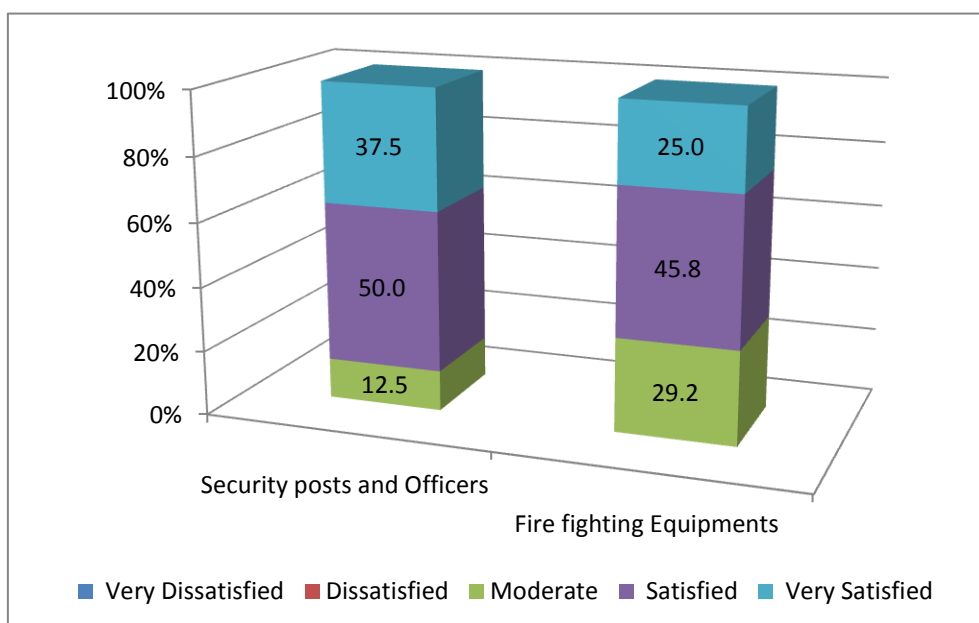
Figure 7.4 : Percentage Distributions on the Levels of Satisfaction about the Quality of the Banking Facilities provided by CSEZ

The availability of ATM facilities in CSEZ was found mostly dissatisfactory by majority of the units. 58 per cent units reported they were either ‘very dissatisfied’ or ‘dissatisfied’ with the ATM facilities in the zone. CSEZ do not maintain ATMs within the zone premises, the ATMs are only available near to the bank branches which are located outside the zone. No units reported that they were ‘very satisfied’ with the ATM facilities within the zone.

7.5.2 Safety Facilities

As per the SEZ Act 2005, the land area falls within the zone has to be delimited especially the processing area should be fully fenced by boundary wall or wire and all the gates should be guarded by the security personnel. The entire zone is fenced with boundary wall. CSEZ has two main gates and both gates were guarded by the security officers. Sufficient security cameras were also

installed in major places the zone and security officers do patrols within the zone to ensure the safety of the zone. During the interview, most of the units reported that they were satisfied with the security posts and availability of officers. 87 per cent units reported that they were 'satisfied or 'very satisfied' with the security facilities provided by the zone.



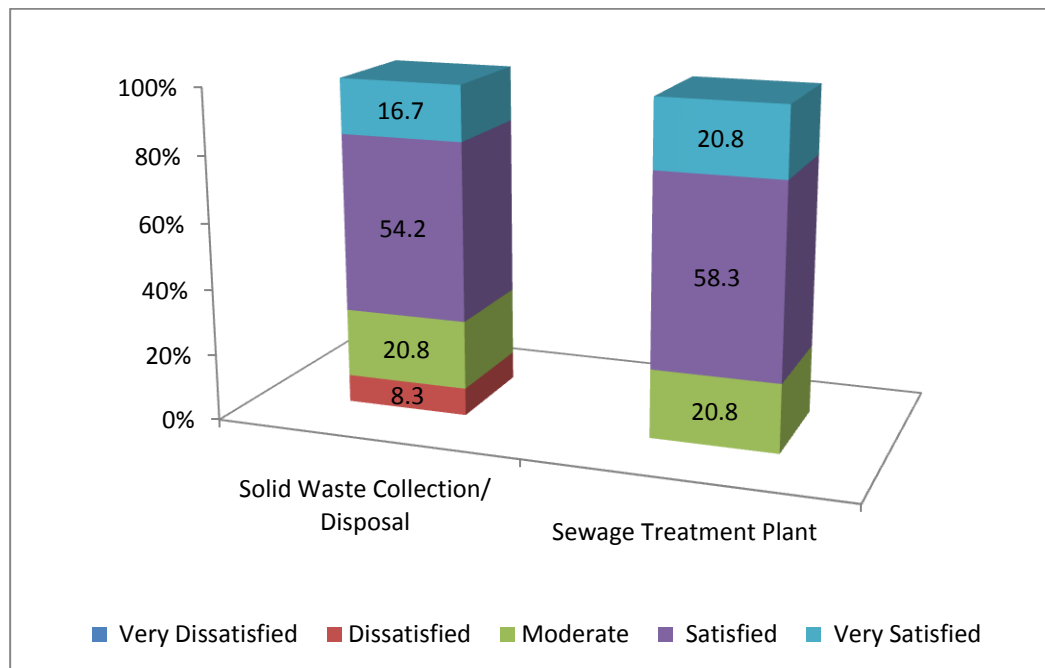
Source: Primary Survey

Figure 7.5 : Percentage Distributions on the Levels of Satisfaction about the Quality of the Safety Facilities provided by CSEZ

Data regarding the availability of the firefighting equipment were also collected during the interview with the units. Units reported that zone authorities have installed sufficient firefighting equipment like fire extinguishers, sprinklers, and fire blankets etc. in all buildings. Most of the units reported satisfactory feedbacks regarding the safety and firefighting facilities within the zone.

7.5.3 Waste Management

CSEZ has common effluent treatment facility for all sewage let out from units and it is mandatory that all units should send their sewage to the treatment plant. The zone also owns an incinerator for the disposal of solid waste within the zone. The quality of these facilities was assessed from unit's perspective. Only 8 per cent units reported that they were dissatisfied with the collection and disposal of solid waste within the zone. They noted that sometimes units have to keep solid wastes for many days due to the incompetency of the waste collection system. Other than this, most units reported that the solid waste collection and disposal system works satisfactorily in CSEZ.



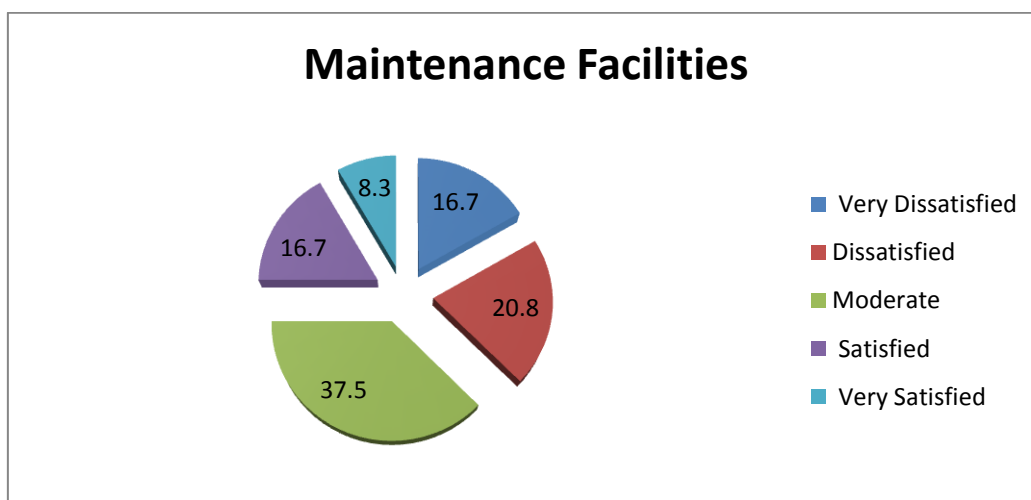
Source: Primary Survey

Figure 7.6 : Percentage Distributions on the Levels of Satisfaction about the Quality of the Waste Management Facilities provided by CSEZ

CSEZ units also mentioned that the quality of the sewage treatment plant in the zone was also functioning at satisfactory levels. No units reported ‘dissatisfaction’ in relation to the sewage treatment mechanism in the zone.

7.5.4. Maintenance Facilities

The overall maintenance facility of the zone is managed by KITCO, all the infrastructure facilities are monitored and maintained by this consultancy. The interview result on the quality of the maintenance services in the zone shows mixed responses from the units. 37 per cent of the units responded that they were ‘very dissatisfied’ or ‘dissatisfied’ with the maintenance facilities carried out within the zone. They noted that the issues were not timely fixed, the quality maintenance of the buildings and other facilities were poor etc. While 37.5 per cent units described that the maintenance of the zone facilities was ‘moderate’. A large ratio of units reported the quality of the maintenance facilities was dissatisfactory indicating the need to improve the maintenance facilities provided by the zone. Many units also reported that instead of KITCO, zone authorities should approach other service providers to ensure better maintenance services in CSEZ.

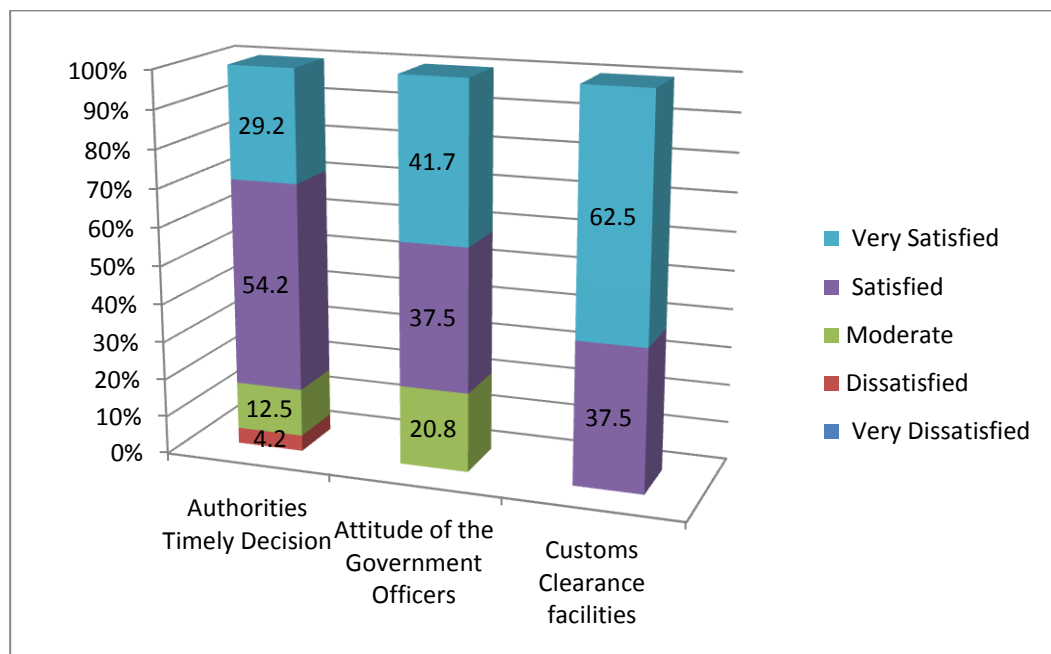


Source: Primary Survey

Figure 7.7 : Percentage Distributions on the Levels of Satisfaction about the Quality of the Maintenance Facilities provided by CSEZ

7.6 Administrative Facilities

One of the major establishing objectives of SEZ is to ensure an investment-friendly hassle-free business environment, free from all bureaucratic bottlenecks. SEZs offer single window clearance system for approvals and a special customs unit is deployed within CSEZ to facilitate the transaction of goods. A supportive administrative mechanism and process are very vital for the success of any economic activity. This study tried to evaluate the quality of the administrative facilities provided by the CSEZ authorities.



Source: Primary survey

Figure 7.8 : Percentage Distributions on the levels of Satisfaction about the Quality of the Administrative Facilities provided by CSEZ

Questions were asked to units regarding the CSEZ authority’s timely decisions and the attitude of the CSEZ authorities. The Units responses to these questions were found favorable towards the administrative facilities provided by the zone. Only 4.2 per cent reported that they were ‘dissatisfied’ with the CSEZ

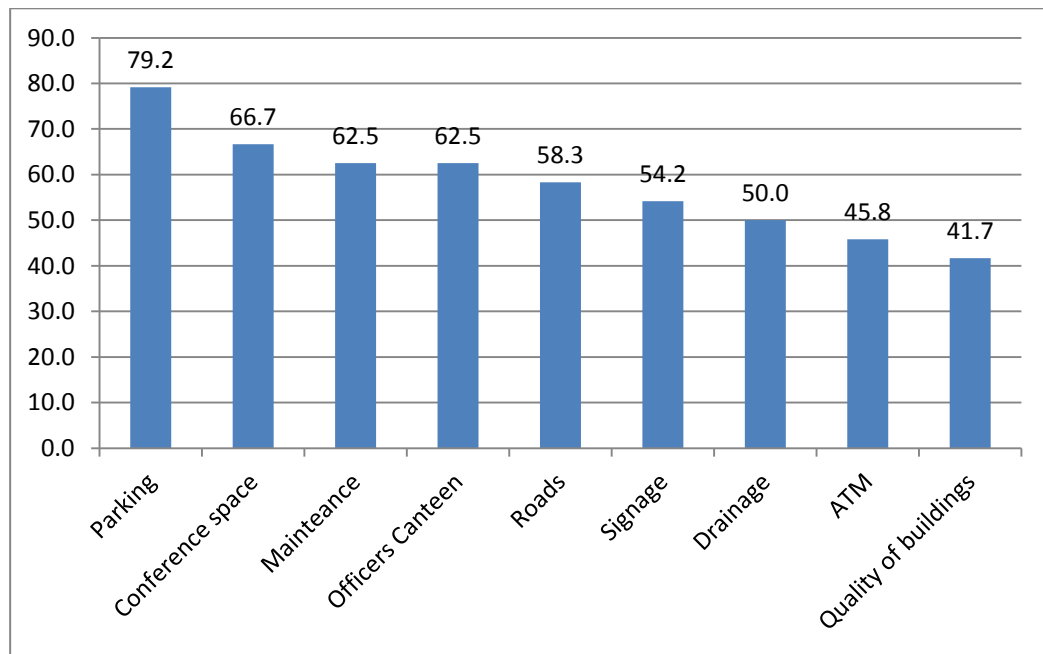
authority's capability to take timely decisions related to the business operations. But 84 per cent units noted that they were 'satisfied' or 'very satisfied' with the time taken by the authorities in making various decisions. They also stated that the CSEZ officials were completely aware of the SEZ policies and their attitude towards the units was also found good. 79 per cent respondents noted they were 'satisfied' or 'very satisfied' with the attitude and cooperation of the CSEZ authorities. Another advantage within the zone is the deployment of special customs unit, exclusively to monitor the transactions of the CSEZ units. Questions were asked about the quality of the customs clearance mechanism in CSEZ. The report of the units indicates that 62.5 per cent units were found 'very satisfied' with the customs clearance process of the zone. Rest 37.5 per cent of the units noted that they were 'satisfied' with the customs clearance system of the zone, no units reported they were 'dissatisfied' with the quality of the customs clearance mechanism of the zone.

7.7 Need for Improvements

The units in CSEZ reported that the administrative support, customs clearance, and supply of essential facilities like electricity, water, telecommunication etc. within CSEZ were remarkably good. They also noted various other facilities of CSEZ like the ease of doing business inside a Special Economic Zone, low cost of infrastructure such as rent and electricity charges, low operational cost due to economies of scale, better labour management, restricted activities of trade unions and the conducive atmosphere for small and medium business enterprises are also found attractive in CSEZ.

Units were asked to mention the areas where they want to make further improvements by the CSEZ authorities for a better business environment. Suggestions came up for quality improvements on several facilities provided by

the zone. Most of the units reported against the basic facilities such as parking, quality of roads and buildings, signals and signage, and drainage etc. 79.2 per cent of the CSEZ units responded that they wish to see improvements in the parking facilities inside the zone. And 66 per cent units demanded provisions of common meeting place for officers and unit managers within the zone to conduct various meetings. Many units were not satisfied with the maintenance facilities provided by KITCO within the zone, they reported they have to make several calls and reporting to fix problems occurring in the premises.



Source: Primary survey

Figure 7.9 : Percentage Distributions of Unit’s Preferences on the need for Improvements in the existing Infrastructure Facilities in CSEZ

62.5 per cent units also noted that the quality of the existing canteen facility is poor and the unit managers rarely go there. They strongly suggested for construction of an officer’s canteen within the zone and 45.8 per cent units suggested implementing ATM facility inside the zone premises for easy access

rather than going to the administrative block to withdraw cash. Many units (41.7 %) noted that the quality of the Standard Design factories was not properly maintained, suggesting the authorities to conduct timely maintenance of the buildings.

Other than these, units also recommended for improvements in the hospital/clinical facilities in CSEZ, provision for recreational facilities and the government's interference to reduce the traffic blocks in the main highways leading to the zone. In short, the units were found satisfied with the supply of essential facilities and the administrative facilities of the zone while they suggested quality improvements on the basic infrastructure facilities provided by the zone.

Summary

This chapter tried to evaluate the quality of the infrastructure facilities provided within the Cochin Special Economic Zone. The establishing objectives of SEZs are to attract foreign and domestic investment through providing various incentives, better business environment, and world-class infrastructure facilities. CSEZ commenced its first export in 1986 and since then the zone has remarkably contributed towards the economic spectrum of Kerala economy. The basic infrastructure development took place due to the setting up of CSEZ in areas like roads, water, electricity supply, telecommunication facilities which has also resulted in the regional development of the CSEZ vicinity.

The units reported that in the initial years, CSEZ was the best place to do business activities in Kerala as the authorities had provided factory buildings/plots in various sizes along with electricity, water, and telephone connection. Not to mention, availing these facilities for a business enterprise

outside the zone three decades back especially the telephone connection was considered as an irksome task. Units appreciate the ease of availing permits to establish business units in CSEZ and the support from the Development Commissioner's office. The single window clearance mechanism, the special customs units deployed in CSEZ and the other economies of scale make the zone a better place to do business. The rent of buildings/land, charges for electricity and water, internet was also reported relatively low within the zone. The limited access of trade union leaders to the zone due the general belief that trade unions were not allowed within SEZs were also reported in favor of CSEZ. In short, the administrative mechanism, the supply of essential facilities, safety and waste management facilities provided by the zone were reported as comparatively better by the CSEZ units.

Since the zone started operations in the 1980s, most of the buildings provided by the zone are relatively old and the structure and plan of buildings and the other infrastructure facilities of the zone were designed as per the standards existed three decades ago. The SEZ concept envisages a modern business environment with world-class facilities, but CSEZ has limitations in providing these facilities due to land and other budgetary constraints. Many units expressed their opinion that the ambiance of CSEZ is no different from any industrial estate. The vision of the government to set up Export Processing Zone in the 1980s was only to increase the export and employment opportunities. But over the time, SEZs were evolved into highly advanced segregated areas for advanced business operations along with provisions for residential complexes, schools, hotels and other amenities. While CSEZ has limitations in offering all these facilities and transforming into highly advanced business cluster due to the underlying principles of its establishment and land constraints. Still, there is scope for further improvements in providing several facilities in the zone. The

renovation of the existing canteen, crèche and clinic facilities is possible as many units noted that the quality of these facilities were pathetic. A portion of the existing canteen can be converted as an officers dining area since many unit managers suggested for an officers canteen. The quality maintenance of the roads and signage were the other area where the zone authorities should focus for quality deliverance.

The provision of social infrastructures such as library and conference hall can be considered by the CSEZ management. The installation of ATM facility within the SEZ premises would be much helpful to the units and employees as its setup does not require much land. More parking facilities was another concern where CSEZ needs to focus as the establishment of more units in the zone resulted in more employment and this requires more parking space accordingly. Many units were not satisfied with the maintenance facilities provided by KITCO. Hence the authorities should take necessary actions to provide better maintenance service to the units.

Overall, most of the units in CSEZ noted that they continue to do business within the zone due to the availability of many facilities under one roof and the ease of doing business. The authorities can provide quality business opportunities if they could deliver better maintenance of the existing infrastructure facilities and install new social and recreational facilities within the budgetary limits.

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Chapter - 8

CONCLUSION

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- 8.1 Background and Structure of the Study*
- 8.2. Major Findings*
- 8.3 Contributions of the Study*
- 8. 4 Limitations and Scope for Further Research*
- 8.5 Policy Implications*
- 8.6 Conclusion*

The establishment of Special Economic Zones has boosted the economic growth with regard to increased foreign direct investments, export growth, development of infrastructure, increase of employment opportunity and better administrative and clearance mechanism. At the same time, the SEZs regime has triggered immense controversies too. Critics argue that the formal approval of SEZs have generated regional imbalances in the country as industrial states were mostly benefited by the zone approvals. The large-scale land acquisition especially agricultural land and farmer displacements have invited criticism from various sectors. Concerns were raised on the ground that SEZ exports have ignored the traditional exports from the country and have focused on non-traditional products. Thus the traditional sectors were not benefited by any of the incentives provided by the zones. The sectoral concentration of the SEZs exports were mostly from IT/ITES and pharmaceutical sector. Another argument raised against the zones were that the employment and export of the SEZs were actually limited as the units operating outside the zone are attracted by the incentives provided by the zones and shift their operations to SEZs. So

the exports and employment generated by the SEZs were actually a shift from Domestic Tariff Area to SEZ rather than additional generation of these.

The quality of the working conditions provided within the zones is also a serious issue to be addressed. The SEZ legal frameworks are actually silent about the labour laws governing labour relations in Special Economic Zones and the labour policies were not amended. But in reality, upon a closer evaluation of the SEZ policies implemented by many state governments in India, it is evident that the policies were altered to promote exports and investments. In the race to produce quality products at low costs so as to compete in the global market, the zone compromises on the quality of working conditions and the labour benefits. Many critics argue that zones are exploiting the working class through poor working conditions, the absence of trade union, lack of job security and too many low skilled jobs. Studies strongly demanded policy restructuring to protect the welfare of the working class. The empirical evidence depicts that the infrastructure and other facilities provided were not of high standards as expected. These arguments invite a serious debate about the export performance, employment generation, working conditions and quality of the infrastructure facilities provided by the SEZs. This study is an attempt to evaluate these critical arguments in the context of Cochin Special Economic Zone.

8.1 Background and Structure of the Study

An evaluation of the performance of the Cochin Special Economic Zone is carried out in this study. Many incentives as well as other facilities were provided to the zone units for operating within the SEZ to accelerate exports. The export performance of the zone is analyzed to understand how far it was successful in achieving its primary objective of export promotion. In order to have an authoritative information, sector-wise export data was collected from

2000-01 to 2013-14 from the office of the Development Commissioner of CSEZ. Although the researcher tried to source the sector-wise employment and export data of the other Central Government SEZs in India using Right to Information Act, adequate data was received only from Madras Special Economic Zone and Vishakhapatnam Special Economic Zones. Hence the sector-wise export performance of the CSEZ is compared with these two zones only. The export performance and export growth of CSEZ were compared with other Central Government zones in the country. In order to analyse the performance of various sectors with CSEZ, sector-wise export performance of CSEZ was also carried out in the study. The SEZ policy was introduced in 2000, and to check if this policy had a positive result against the old Export Processing Zone policy, the exports of CSEZ in these two regimes were also analyzed in the study. Indexes such as Revealed Comparative Advantage Index and Net Export Index were used to understand the competitiveness of various sectors.

The direct employment generation of CSEZ is analyzed in the next section of the study. The sector-wise employment generation, sector-wise employment growth and the shift of employment generation among sectors were also studied in this sector. The data was collected from the office of the Development Commissioners of various zones in the country to compare the employment generation trends of the Central Government zones in India. Sector-wise employment data could not be availed from many of the zones, limiting the possibility to conduct the sector-wise comparison of the employment generation in various zones. The female work participation in CSEZ is studied to observe the findings of many empirical studies that SEZ employment opportunities are mostly favoring female workers. Working condition that exists within CSEZ is also evaluated in this section. The sectors were divided into two as modern industrial units and traditional industrial units

on the basis of the nature of the production process, skills required and the nature of the outputs. The stratified random sampling method is used to collect primary data from CSEZ workers about the working conditions and other employee welfare measures existed in CSEZ. The sample size constituted five per cent of the total workers in CSEZ. Various factors such as employment benefits, conditions of work, job satisfaction and trade union membership etc. was evaluated in this section.

The SEZ Act envisages better infrastructure facilities and business environment to foreign and domestic investors in Special Economic Zones. The quality of the infrastructure facilities offered in CSEZ, from unit manager's perspective was studied in the next section. Twenty per cent units with minimum working experience of ten years in CSEZ are selected as sample. Interview method was used to collect data from these units. Quality of basic infrastructure, supply of essential services, social and recreational facilities, Administrative support and other facilities offered by CSEZ was studied in this section.

8.2 Major Findings

The findings are divided into three categories such as export performance, employment and working conditions, and the quality of the infrastructure facilities in CSEZ. The significant findings that emerged from this study is described under the following subheadings.

8.2.1 Export Performance of CSEZ

The study signifies improvements of CSEZ's export performance over the study period of 2001-01 to 2013-14. CSEZ reported a substantial acceleration in its export growth rates than Indian SEZ exports during 2004-05,

2007-08, 2008-09, and 2011-12. CSEZ achieved the highest export growth rate of 348.31 per cent in 2007-08 which was the highest ever growth rate of exports by any government-owned SEZs in India. When the Indian exports fluctuated during the world recession in 2008-09 and 2009-10, the Indian SEZ and CSEZ exports reported high growth rates, mainly due to the diversified markets.

The highest share of SEZ export in Indian export was reported as 29.14 per cent in 2012-13, and 11.72 per cent was the maximum share of CSEZ export in Indian SEZ exports in 2008-09. This reflects that both Indian SEZs and CSEZ considerably contribute to the overall exports of the country. From 2007 to 2010 CSEZ reported remarkable improvements in its export growth rates in conjunction with all India SEZ exports. The contribution of all India SEZ exports towards total Indian exports has also improved remarkably during the study period. Its contribution ratio has exploded after the implementation of SEZ Act in 2005. The increase in SEZ investments due to incentives and other packages offered by the SEZ Act was the major reason for this.

While analyzing the export performance of each central government zones in India, the highest CAGR over the study period was generated by Cochin Special Economic Zone followed by Madras SEZ and Noida SEZ respectively. And the highest mean values of exports were reported by SEEPZ and CSEZ during the same period with Rs. 10056 and Rs.8692.8 crores respectively. CSEZ has significantly contributed in the export generation of government SEZs in India. During the earlier period of the study, exports from SEEPZ SEZ have constituted the major portion of Indian SEZ exports, consisting up to 60 per cent and it maintained the position of chief contributor till 2006-07. And Noida SEZ was the second highest export contributing SEZ during the same period. But CSEZ become the highest contributor of export in

2008-09 with 11.72 per cent export share and continued its position of highest contributing zone among other government zones till 2012-13. It is also to be noted that central government zones altogether contributed more than 85 percent of Indian SEZ exports until 2004-05. Later, the enactment of SEZ Act in 2005 attracted a large number of private investors to SEZ operations and those SEZs turned to contribute the major share of SEZ exports from India. By 2013-14 the share of Central Government zones in total Indian SEZ exports reduced to 9 per cent. During the study period, the highest export growth rate was registered by CSEZ in 2007-08 with 348.31 per cent. CSEZ and MSEZ were the only zones that reported 8 years with consecutive positive export growth rates and the growth rates of CSEZ was much higher than MSEZ for 6 years.

To conduct a micro level analysis of the CSEZ performance, sector-wise export performance of zone was evaluated. The average annual growth rate of exports from CSEZ was 53 per cent during the study period. The sectors like Gem and Jewelry, IT/ITES and Food and Agro have registered the highest average annual growth during the study period with 258, 56 and 52 per cent respectively. Gem and Jewelry maintained continuous export growth throughout the years except in 2013-14. The gigantic export growth rates of the sector have elevated CSEZ as the highest export generating SEZs among all central government zones in the country during 2008-09 to 2012-13. Although, Food and Agro sector reported high average annual growth rates due to significant increase in exports in few years, it produced a fluctuating export growth pattern throughout the study period. Moreover, the export values of the sector were relatively lower hence the high export growth rate of the sector did not bring much favorable results on CSEZ total exports. The other four sectors, namely Engineering, Miscellaneous, Textile and Garments and Electronics Hardware produced average annual growth rates of 24, 20, 17 and 11 per cent respectively.

The annual growth rates of Engineering sector was mostly positive but the exports values of this sector were relatively low. The Miscellaneous sector, experienced variations in export growth rates during the first half of the study. Later, the high export value generated by this sector along with considerably large export growth rates, have resulted favorably on CSEZ exports. The higher export values of the Electronics Hardware sector in the initial phase along with high export growth rates have also positively influenced the CSEZ export performance. Textile and Garment sector produced negligible export growths as the export value and growth rates were relatively smaller than other sectors. And the performance of the sector has decreased considerably during the last period of the study. In short, sectors like Gem and Jewelry, IT/ITES, Miscellaneous and Electronics Hardware with high export generations have contributed more towards the CSEZ exports.

It is also to be noted that, during the early years of the study, Electronics Hardware and Miscellaneous sector contributed 51.87 and 29.16 per cent of CSEZ export respectively, which was more than 80 percent of the total zone exports. Form 2007-08 onwards, the Gem and Jewelry sector started contributing the major portion of the CSEZ exports by generating the value of Rs. 3824.43 crores and providing 82.22 per cent of the zone exports. In the following years, the sector contributed more than 90 per cent of CSEZ exports until 2012-13. The high-value additions on gem and jewelry products are the major reason behind this development.

CSEZ made remarkable progress in the export values during the SEZ regime than EPZ regime because of the increased investment in CSEZ after 2000. The SEZ policies and incentives have attracted investments and boosted exports. To avail the incentives and tax benefits, more units started operations in

CSEZ during the SEZ regime, especially after the enactment of SEZ Act, 2005. The units in CSEZ have increased from 49 in 2000 to 82 in 2007 and export growth rates escalated from 49 per cent in 2005-06 to 348 percent in 2007-08. Hence conversion of Cochin zone from EZP to SEZ has benefited the zone in remarkably improving the export values. Also, there was a shift in the export contributions from traditional industrial units to modern industrial units during SEZ regime.

To evaluate the export competitiveness of sectors in Cochin Special Economic Zone with respect to total exports of the country, Revealed Comparative Advantage Index (RCAI) was used in this study. The analysis reveals that Electronics Hardware, Gem and Jewelry and Miscellaneous sectors enjoyed comparative advantage than other sectors in the zone. CSEZ enjoyed comparative advantage in Electronics Hardware and Miscellaneous sectors during the early period of the study, later Gem and Jewelry sector also achieved comparative advantage in the exports from CSEZ. Comparative advantage index values of Gem and Jewelry were much below than the Electronic Hardware sector due to the larger proportion of gem and jewelry exports from India. Food and Agro and Gem and Jewelry sectors in CSEZ enjoyed higher comparative advantage than MSEZ and VSEZ during the study period of 2005-06 to 2013-14.

Net Export Index analysis was also used in the study to analyze the export performance of CSEZ. The index represents the degree of specialization of a SEZ in exporting a particular commodity. Miscellaneous, Textile and Garments and IT/ITES sector registered high Net Export Index values in the first years of the study period, denoting a comparative advantage in exporting the products from these sectors in relation to the total CSEZ exports in real

terms. From 2003 onwards, Gem and Jewelry sector registered high index values and remained in the lead position on Net Export index values along with IT/ITES and Miscellaneous sectors. Later, during the last phase of the study, it was only IT/ITES and Gem and Jewelry sectors that reported comparatively high Net Export Index values than other sectors. In short, Gem and Jewelry and IT/ITES sector produced the highest Net Export Index value among all other sectors during the study period. To further evaluate the pattern of export of particular sectors in CSEZ, the Net Export Index values of the zone was compared with MSEZ and VSEZ. The Net Index values generated by IT/ITES and Gem and Jewelry sectors by all zones were comparatively better than other sectors. CSEZ's Gem and Jewelry sector reported outstanding Net Export Index values and high comparative advantage. Also, the Net Export Index values of IT/ITES sector from CSEZ was relatively better than other zones.

The net foreign exchange earnings by each sector of the zone were also calculated in the study as foreign exchange earnings was another major focus behind the establishment of SEZs. The analysis revealed that Electronics Hardware and Miscellaneous sectors were the leading exchange earners in the first half of the study period, while Gem and Jewelry and IT/ITES became the leading exchange earners of the zone during the second half of the study period. The major portion of exchange earnings during the latter phase was contributed by Gem and Jewelry sector, this reveals the prominence of this sector in CSEZ. The foreign exchange earning capacity of CSEZ was incredible when compared with other SEZs in South India. CSEZ has clearly outperformed the other zones in terms of foreign exchange earnings with a clear margin in most of the years. CSEZ reported commendable export performance during the study period, its comparison with other zones denotes that supremacy of this zone over other

SEZs in many areas. Although the contribution pattern of the sectors has changed over the years, the export growth rates were not compromised in CSEZ.

8.2.2 Direct Employment in CSEZ and Working Conditions

Another major establishing objective of Special Economic Zones is the creation of employment opportunities. Empirical studies reported that SEZs were successful in generating employment opportunities, irrespective of the region. But there were arguments raised against the quality of the working conditions that prevailed within the SEZs. So this study tried to analyze the direct employment generation and the working conditions existing in CSEZ. By 2013-14, CSEZ employed 7227 male and 3267 female workers with the aggregate figure of 10,494 workers. Traditional Industrial sectors like Food and Agro, Miscellaneous and Textile/Garments were the leading employment providers of the zone in the initial years of the study period. Until 2005-06, these sectors continued to be the major employment providers, employing altogether 55.72 per cent of the total workforce of CSEZ. During 2006-07, IT/ITES sector emerged as the highest employment provider of the zone by employing 37.02 per cent of the total workforce and maintained its position throughout the study period. In 2013-14, this sector provided employment opportunities to nearly half of the workforce in CSEZ by employing 46.91 per cent of the zone workforce. Electronics Hardware was the second highest employment provider in the zone in 2014-13 with 24.80 per cent of employment share. With regard to the average annual employment ratio, IT/ITES sector registered the highest rate during the study period with 29.09 per cent. Although Gem and Jewelry sector ranked as the highest export value generator of CSEZ, the employment contribution of the sector was the lowest. During the survey, the researcher noticed that the number of workers in Gem and Jewelry sector, given in the reports from the CSEZ authorities were lesser than the actual

workers in the sector. The practice of employing unrecorded contract workers without any job contracts or employment benefits was found in these units.

Since its inception, the employment pattern of CSEZ has considerably changed. During the early periods of CSEZ, the demand for casual workers was high since a major portion of the zone products were from traditional industrial units like Food and Agro, Textile and Garments and Miscellaneous sectors. Even until 2005-06, the number of workers in traditional industrial units surpassed the modern industrial units. But after the enactment of SEZ rules, more number of modern industrial units launched their operations in CSEZ and massive recruitments took place among them. As a result, the employment composition of the zone shifted towards the modern industrial units. From 2006-07 onwards, the modern industrial units were providing more than 60 per cent of the total employment in the zone.

CSEZ maintained employment growth at 8 per cent compound annual growth rate (CAGR) from 2000-01 to 2013-14. Sectors like IT/ITES and Electronic Hardware achieved CAGR of employment at 23.14 and 11.41 per cent respectively over this period. The highest annual growth rates of employment were also reported by these sectors in CSEZ. Women participation in the total workforce of Cochin Special Economic Zone contradicts the general belief that Special Economic Zones employ more female workers and helps them in the process of empowerment. The women work participation ratio in CSEZ has dropped from 51.3per cent in 2000-01 to 31.1per cent in 2013-14. As CSEZ evolved over time with more number of modern industrial units, the women work participation in CSEZ has considerably decreased. Food and Agro, and Miscellaneous sectors of CSEZ achieved the highest female work participation ratio during the study period. It is also noted that Textile and

Garments sector was characterized by employing more women workers in its total workforce comprising up to more than 90 per cent in the early years of the study. Later this ratio has plummeted to 22 per cent in 2013-14. The female work participation ratio of CSEZ was found considerably higher than the national level but it was much lower than the Kerala State's female work participation ratio.

Out of the seven Central government-owned SEZs in India, in terms of employment generation, SEEPZ SEZ in Mumbai and Madras SEZ ranked first two positions with the mean value of 87,338 and 37,514 employees for the study period from 2005-06 to 2013-14. Cochin SEZ achieved only fifth rank in employment generation with 8,431 employees during the same period. An immense growth was noted in the employment generation of all SEZs after the implementation of SZE Act, 2005. With regards to the labour productivity of the zones, the FSEZ and NSEZ were the leading zones in the country during the first years of the study period. From 2008-09, CSEZ emerged as the zone with highest labour productivity primarily due to the massive production from Gem and Jewelry sector. This sector of CSEZ contributed more than 90 per cent of the total zone export volumes but employed only 1 per cent of the total employment. This phenomenon of Gem and Jewelry sector and the high-value addition of its products are the reason behind the highest labour productivity of CSEZ among other Indian zones.

To analyze the working conditions in the zone, the sectors were categorized as traditional industrial units and modern industrial units. The working conditions and other employment benefits were evaluated in both industrial units. Workers with higher age categories were found more among traditional industrial units as 64.4 per cent of its workers were above the age of

35 years while the ratio of young workers were found more in modern industrial units as 60 per cent workers in these industrial units were under the age of 30 years. It is also to be noted that 69 per cent of females working in modern industrial units were below 30 years of age, supporting many empirical studies that women workers in SEZs are normally young workers with poor bargaining power hence subject to exploitations. During the survey it was found that 50 per cent of the total CSEZ workers were married, subsequently, 82.46 per cent of the workers in traditional industrial units were married while only 39.6 per cent of the modern industrial unit employees were married. These data indicates that more number of young and fresh workers was employed in the modern industrial units, especially in IT/ITES and Electronics Hardware sectors.

Modern industrial unit's employees were found more educated than the traditional industrial unit's employees. The nature of job performed in the modern industrial units requires high skill and technical know-how than the traditional industrial units. Hence the workers with vocational training or engineering backgrounds were mostly recruited among modern industrial units. There has been a shift in CSEZ employment and export volumes proportion towards modern industrial units over the years which show that, as the SEZ evolve over time, units move upward in the value chains, this has reflected in educational attainment of the CSEZ workers. The study also found that 70 per cent workers of CSEZ migrated from various places; interstate migration was also reported among zone workers.

The study also noticed that traditional industrial units were providing more permanent jobs than modern industrial units. The proportion of permanent employees in traditional units was 72.81 per cent and in modern industrial units, it was only 45.82 per cent. In the case of contract and trainee employees,

modern industrial units were found in employing more trainees and contract workers. Sectors such as IT/ITES and Electronics Hardware were employing the maximum number of contract and trainee workers in the zone. The ratio of contract works in all sectors of CSEZ other than the Food and Agro was found much higher than the ratio of contract workers in Kerala State. The higher ratio of contract and trainee workers in CSEZ indicate that even though CSEZ is providing large employment opportunities, the units hesitate to provide permanent employment status to these workers to keep their costs at lower levels. Hence the employment benefits were not fully enjoyed by most of the workers in the zone.

CSEZ was found instrumental in providing entry-level employment opportunities to workers and later equipping them with skills and experiences as 65 per cent workers reported that they entered the labour market for the very first time through SEZ jobs. During the initial years of the zone operations, it was mainly dominated by traditional industrial units but as the zone evolved, units moved upward in the value chain demanding more skilled and qualified workforce. More than 95 per cent of the workforce in modern industrial units responded that they were either skilled or semi-skilled workers while the same ratio was only 63 per cent among the traditional industrial units. Hence the ratio of skilled workers was found more among modern industrial units.

The workers also reported that 63.98 per cent workers in CSEZ worked overtime; this practice is found more in modern industrial units (65.39 %) than traditional industrial units (58.77 %). The Factories Act, 1948, states that where a worker works in a factory for more than 9 hours in a day or more than 48 hours in a week, he shall in respect of overtime work be entitled to receive wages at the rate of twice his ordinary wages. Working overtime was

widespread in CSEZ and average hours of overtime vary among sectors. The ratio of workers with 'No Payment' for the overtime work was found more in IT/ITES sector in CSEZ. The study found that a clear breach of the Factories Act, 1948 occurred in CSEZ sectors by not paying twice of the normal pay for the workers, especially among modern industrial units. The practice of overtime payments was fairly implemented by the traditional industrial units.

The average wages received by the modern industrial unit's employees were higher than the traditional industrial unit employees. Workers of Food and Agro and Miscellaneous sectors of traditional industrial units were reported in receiving the lowest wages in the zone and the highest wages was received by the employees working in IT/ITES and Engineering sectors from modern industrial units. Meanwhile, the satisfaction level of employees against monthly wages received stood favorable to traditional units even though their actual earnings were low compared to the modern units. Regarding the social security benefits, the number of workers who receive only ESI and PF were found more among the modern industrial units and the workers that benefited with more social security benefits were found more in traditional industrial units. The reason for the high ratio of workers with less social security benefits in modern industrial units was due to the large proportion of contract and trainee workers among these units.

Various facilities offered to the employees were also evaluated during the study, facilities like protection from health hazards, proper ventilation, air-conditioned workplace etc. were more provided among modern industrial units. While welfare facilities like rest room, drinking water, free health checkups, restroom etc. and, medical facilities such as, ESI and first aid provisions etc. were provided more by the traditional industrial units. From the analysis of the

facilities provided by the CSEZ units, it is evident that many instructions postulated by Factories Act, 1948 were followed in CSEZ units. But the study also noted that modern industrial units have failed to comply with the directives of the law especially at providing facilities like toilets, female restroom, and first aid. Electronics and Hardware and IT/ITES sector failed to provide restroom facilities to workers, especially for female workers.

Normally the workers in CSEZ face work pressure due to various reasons, 67.5 per cent of the total CSEZ workers reported that they face excessive pressure at work and 37 per cent out of them stated that their family life is affected due to the work pressure. 72 per cent of respondents from modern industrial units explained that they face pressure to finish projects in given time from supervisors/managers. Excessive workload, lack of job security, lack of job satisfaction and working overtime with normal pay were the other major factors behind their work pressure. 40.5 per cent workers of modern industrial units reported that their family life was affected by the work pressure. While only, 49.1 per cent, workers from traditional industrial units admitted that they face pressure at work and 23.6 per cent out of them noted their family life was affected by work pressure. The workers of IT/ITES and Electronics Hardware sectors reported that they face extreme pressure at work.

Respondents from all sectors reported that they face work-related health issues, sometimes workers have to work hard without taking rest in order to meet production targets. Lack of job security and pressure from supervisors were also affecting the mental and physical health of the workers, especially the contract and trainee workers. During the survey, it was found that 44.7 per cent of traditional industrial unit employees and 52.3 per cent modern industrial unit

workers face health issues due to work. Back pain, headache, and eye pain were the most common health issues faced by the CSEZ employees.

The job satisfaction of the workers based on various factors were analyzed in the study, the satisfaction levels of traditional industrial unit workers were found impressive on factors like, 'Work time is as per the law', 'Sufficient Salary', 'Cooperative Management', 'Standard of Job', 'Encouragement at work', 'Trainings', 'Grievance Redressal', 'Promotion Prospects' and 'Happiness about work and workplace'. Even though the salary levels of traditional industrial unit workers were found comparatively less than the modern industrial units, the satisfaction level of workers regarding the salary offered in the traditional units was more satisfactory. Employees in Food and Agro and Textile and Garments units stated that they receive salary rates as per the industrial standards while many engineering graduates from modern industrial units reported they receive wages below Rs.5000/- only. This denotes that traditional industrial unit employees tend to enjoy more job satisfaction, although the wage levels and other facilities provided to them were low. They expressed that they receive sufficient salary as per the industrial standards and the attitude of the management towards them was also favorable.

The major reason for the willingness for a change of job among CSEZ workers was the low salary (51.59%) and lack of promotion prospects (34.53 %). 56.56 per cent of workers from modern industrial units, especially from IT/ITES and Electronics Hardware reported the salaries offered to them were very less; these sectors were also characterized by the large ratios of contract and trainee workers without job security. Engineering, Electronics Hardware and IT/ITES employees expressed that they face heavy workload and issues associated with it. While health issues, low salary and lack of promotion

prospects were the major reasons of traditional industrial unit employees for the change of job. 36 per cent workers of traditional industrial units and 24 per cent from modern industrial units noted that the reason for a job change would be health issues related to their jobs.

In relation to the options given to the CSEZ workers to change job, 54.39 per cent workers from traditional industrial units responded they wanted to continue working within CSEZ either in the same company or in other company within CSEZ. While only 35 per cent employees in modern industrial units reported that they wanted to work within CSEZ or within the same company. This denotes that more workers from traditional industrial units prefer to work within CSEZ. The proportion of workers who were willing to work in the same company was also higher in traditional industrial units. In other words, the workers in traditional industrial units were found more satisfied with their unit management. 49.88 per cent employees of modern industrial units described they prefer to work outside the zone because of higher wage possibilities outside. Employees of traditional industrial units (23.68%), especially from Miscellaneous sector preferred to find a new job in a new sector due to lack of substantial increase in salary and also due to various health issues. In total, the preferences of workers who wish to continue in the same company or any other company within CSEZ is found high among traditional industrial unit workers.

The ratio of workers involved in the trade union activities was found high in traditional industrial units (71%) than modern industrial units (36.75%). Units in the traditional sectors permit trade union activities while in modern industrial units, many workers noted that the management prevented them from joining trade unions or conducting trade union activities. It is also to be noted that the Kerala State SEZ policy states that Special Economic Zones in Kerala

were not exempted from the preview of Trade Union Laws. CSEZ employees believe that trade unions help them in providing better wages, 43.21 and 25.33 per cent workers from traditional and modern industrial units respectively expressed that trade union interactions with the management help them to receive higher wages. Workers also noted that job security for CSEZ workers was ensured through trade union membership. Hence, the membership in CSEZ trade union strengthens the collective bargaining power, ensures job security, facilitates better working conditions and protects the interest of the workers.

The study has evaluated the wages, overtime payments, social security benefits, facilities, job satisfaction, and trade union membership of the employees in both industrial units to understand which unit provides better labour standards and working conditions. The consolidated average score of these factors was 2.85 for traditional industrial units and 2.43 for modern industrial units. The average score for factors like overtime payments, social security, job satisfaction and trade union membership etc. were found high among traditional industrial units. The overtime payments procedures were found comparatively better in traditional units as 82 per cent of the workers reported that they receive double payments for overtime as directed by the labour law. Higher ratio of workers was found in traditional industrial units workers in relation to more social security benefits. Traditional unit employees were also benefited by employee welfare facilities provided by the management like neat toilet, restrooms, drinking water, health checkups, medical facilities and restroom for women. Although the wage rates were low in traditional units, the job satisfaction levels of workers were found higher among this sector. The ratio of workers with trade union membership, which facilitate the collective bargaining power and labour rights, was found much higher in the traditional industrial units. Hence combining all these average scores, traditional unit's

score was higher than the modern industrial units. These results show that better working conditions and better employee welfare benefit measures exist among traditional industrial units than modern industrial units.

8.2.3 Quality of Infrastructure Facilities in CSEZ

Special Economic Zones are established as a mechanism to improve the quality of infrastructure facilities exists in an economy. To promote hassle-free economic activities the SEZs were provided with world-class infrastructure and facilities along with fiscal incentives. The quality of the infrastructure facilities provided in Cochin Special Economic Zone was evaluated in this study. The interview results with the unit managers in CSEZ represent that the basic infrastructure facilities provided by the zone have to be improved. 45 per cent respondents were not satisfied with the quality of the roads within the zone. And 29 per cent units also noted that the street lighting facilities were not satisfactory. The quality of the buildings and signals/signage system within the zone was also not very satisfactory. Units from all sectors unanimously noted that the parking facility of the zone has to be improved. Hence, the overall quality of the basic infrastructure facilities provided by the zone was not found satisfactory in the study.

In relation to the supply of essential facilities to carry out the production process in the zone, the quality of the supply of facilities such as electricity supply, water supply, telephone and internet connectivity systems of CSEZ was evaluated. Most of the units reported satisfaction with regard to these facilities. Only 12.5 per cent units expressed 'dissatisfaction' on adequate water supply in the zone. No units reported that they were 'dissatisfied' in relation to the facilities like adequacy of electricity supply or the uninterrupted electricity supply. Telecommunication and the internet facilities provided by the zone were also found satisfactory from the unit manager's feedbacks.

The provision social infrastructure facilities are also envisaged by the SEZ rule, 2006, such as housing, hospitals, roads, education institutions, hotels, leisure and entertainment units and residential, industrial, commercial complex etc. The responses of units on social infrastructure within CSEZ were found mostly dissatisfactory in the study. 79 per cent of the units noted that the quality of the clinic within the zone was dissatisfactory and units reported that there were no provisions of library and guest houses within the zone. The crèche and canteen facility provided by the zone were also reported as dissatisfactory. Social infrastructure such as library and guest houses or other accommodation facilities were listed out by the SEZ Rules, but these facilities were not at all provided by CSEZ due to land and budgetary constraints.

SEZs normally designed with provisions for recreational facilities for the employees to reduce their work pressure and to improve the productivity. Unit's preferences related to various recreational facilities such indoor game facilities playgrounds, gymnasium and common employee restrooms etc. were collected during the interview. But the units reported that none of these facilities were available in the zone. Units suggested for implementing facilities such as indoor game facilities and common employee restrooms etc. within the zone.

Unit's preferences on the quality of banking, safety, waste management, maintenance facilities were also evaluated in the study. 83 per cent units reported that the facilities provided by the banks were moderate or above. While 58 per cent units reported they were either 'very dissatisfied' or 'dissatisfied' with the ATM facilities in the zone. There are no ATM facilities available within the CSEZ premises. In connection with the safety facilities offered by CSEZ, 87 per cent units reported that they were 'satisfied or 'very satisfied' with the security facilities provided by the zone. And 70 per cent units were

found satisfied with the installation and maintenance of various firefighting equipment within the zone. The ratio of units was found very high, who were 'satisfied' or 'very satisfied' with regard to the solid waste management and sewage treatment procedures of the zone. The maintenance facility of the zone was managed by KITCO and during the study, unit managers expressed that the quality of the maintenance service was not very satisfactory. Many units suggested for opting other consultancy for the proper maintenance of the zone.

Another major attractive factor of Special Economic Zone is the hassle-free business environment. The Development Commissioner and his office are in full control of the zone. The administrative support from this office is very crucial in determining the success of a zone. Unit's preference on the quality of the administrative support from CSEZ Development Commissioner's office is collected in the study. 84 per cent units reported that they were 'satisfied' or 'very satisfied' with the time taken by the authorities on various decisions making. 79 per cent respondents noted they were 'satisfied' or 'very satisfied' with the attitude and cooperation of the CSEZ authorities. No units reported that they were 'dissatisfied' with the support from the administrative staff of CSEZ. 62.5 per cent units reported that they were 'very satisfied' with the customs clearance process of the zone. Rest 37.5 per cent of the units noted that they were 'satisfied' the same facility. Hence the administrative support provided from CSEZ found excellent according to the reports of the units operating in CSEZ.

Altogether, facilities like, administrative support, customs clearance, and supply of essential facilities like electricity, water, telecommunication etc. within CSEZ were remarkably good. Low cost of infrastructure, ease of doing business and better labour management were also reported as the facilities that

drive business in CSEZ. The units also noted further improvements needed on basic facilities such as parking, quality of roads and buildings, signals and signage, drainage etc. Hence there is scope for improvements on various facilities and services provided by the zone.

8.3 Contributions of the Study

The present study covers the export performance, employment generation, working conditions and the quality of various infrastructure facilities provided by the Cochin Special Economic Zone. This kind of study is unique as these areas of the CSEZ were not covered in other studies. Evaluation of the export performance of various sectors of the zone and comparing the export performance of CSEZ with other Central Government SEZs in India was looked into. Performance of the zone in two policy regimes like Export Processing Zone and Special Economic Zone were also analyzed in the study. Finally, the study evaluated the sector-wise export performance of CSEZ using Revealed Comparative Analysis Index and Net Export Index, also the sector-wise comparison of these index values was made against the index values of other selected SEZs in India. The export competitiveness of various sectors in CSEZ with other SEZs was established through these index value analysis. The Net Foreign Exchange earnings of selected zones were also evaluated in the study to understand the foreign exchange earning capacity of the SEZs, the analysis found that CSEZ has clearly outweighed other selected zones in the country. This could be summarized that CSEZ has commendably contributed to the total exports generation of the country.

The exploration of the direct employment generation of the CSEZ indicates that although the employment generation of the zone was not as great as many other SEZ in India, it was successful in absorbing a large volume of the workforce in Kerala. It was noted in the study that in the race to produce

competitive products at low costs, the working conditions and employee welfare measures of the zone were compromised. An exploitation of the working class was found in CSEZ units, especially among the modern industrial units. The large ratio of contract and trainee employees in CSEZ workforce poses a serious threat to the welfare of the workforce within the zone. The study also found that various labour laws which are applicable to Special Economic Zones were not implemented properly in CSEZ.

The assessment on quality of many infrastructure facilities provided by CSEZ found to be insufficient or outdated. Quality of various basic and social infrastructure facilities was found as not meeting the expectations of the investors in the zone. This calls for proactive measures from the government and authorities for the better performance of the zone.

8.4 Limitations and Scope for Further Research

The present study is confined to the time period of 2000-01 to 2013-14 only. Sector-wise data on exports and employment of Cochin Special Economic Zone were not completely available from its inception. Unit level data of CSEZ units were also not available to conduct micro level analysis. Although the researcher tried to collect the data from all SEZs owned by the Central Government, adequate data was not received from many SEZs. The sector-wise employment and export performance analysis can be conducted if these data is available. There is further scope for a comparative analysis of the quality of infrastructure facilities provided by the different SEZs in India. Also a study can be performed to compare the employment profile, structure and working conditions of CSEZ units with enterprises operating outside the zone in Kerala. The indirect employment opportunities created by CSEZ is not analyzed in the present study, there is further scope for evaluating this aspect of the zone.

8.5 Policy Implications

It is beyond question that SEZ has a vital role to play in the current stage of Indian economic development. The present study observed various aspects of Cochin Special Economic Zone and put forth various suggestions and policy implications as follows.

- A proper data bank has to be maintained by the government, covering all significant micro-level data of all Special Economic Zones in the country. Presently SEZs does not have a proper database about various economic aspects. Also the data received from various sources on the performances of zones had many discrepancies.
- The sectoral concentration of CSEZ exports on few sectors has to be avoided by allowing improvements on the export generation of various sectors in CSEZ. The reliance on few sectors can cause damages on the zone's performance as per the fluctuations in the international demand. Diversified product basket and diversified markets have to be maintained by zone to avoid this fluctuation.
- Special consideration should be given for multi-product SEZ like Cochin SEZ to protect and promote various traditional exports from the State of Kerala since the zones are given special incentives and other facilities.
- Focus need to be given to promote industries which deliver both higher export values and employment generations. It was found that the leading export generating sector of the zone was the lowest in relation to employment generation.
- The present SEZ policies to promote investment and exports have caused deterioration in the working conditions and labor welfare in the zone. SEZ Act limited the control of Labour Commissioner's powers within SEZ premises by transferring the powers of the Labour Commissioner to

the Development Commissioner. The inspections of the Labour Commissioner have to be ensured in the zone the Development Commissioner has to focus on the revenue generation of the zone. Else there are chances for labour issues to be left out unattended.

- Proper implementation of the Labour Legislations has to be ensured by the government in SEZs. Although, all the labour laws are applicable in SEZs as per the SEZ Act and Kerala State SEZ policy, a clear breach of these laws were found in CSEZ Units. It must also be noted that the welfare of the workers is the sole responsibility of the government, therefore, it should take action against the non-compliance of labour laws in SEZ.
- The practice of employing large number of contract employees was found in CSEZ, especially among modern industrial units. These employees were not provided with most of the employment benefits and minimum wages directed by the Labour Legislations in the country. Special focus has to be given by the government authorities to prevent these practices.
- The CSEZ administration should focus on increasing the productivity of its workforce by providing better working conditions by ensuring job security, sufficient wages, unionization and social security benefits. This will inculcate a sense of loyalty and confidence in the workforce which will reflect on the productivity of the workforce.
- There are apprehensions on the drop of female workforce in CSEZ as the zone evolved from traditional industrial units to modern industrial units. Measures have to be maintained to ensure the proper participation of females in CSEZ workforce.

- The quality of many basic infrastructure facilities are outdated or not properly maintained by CSEZ. Also, lack of many social and recreational infrastructure facilities within the zone was also reported by the units. Proper maintenance of the basic infrastructure facilities and the implementation of social and recreation facilities within the budgetary and space constraints of CSEZ would help the zone to provide better business ambience. The quality maintenance of existing facilities such as canteen, crèche, and clinics and implementing multi-level parking facilities within the zone will be helpful in improving the business ambience of the zone.

8.6 Conclusion

Needless to say that Cochin Special Economic Zones has been playing a crucial role in generating additional economic activities at the State and National levels. The export and employment generation objectives of the SEZ should not result in compromising the quality of the working conditions within the zone. The adoption of innovative policies by the zone management to diversify the product basket would result in consistent export growth and employment generations in CSEZ. Better management of the available facility by CSEZ authority will boost the confidence of investors both at domestic and international levels. The absence of job satisfaction and job security among the workforce will eventually impact the labour productivity of the zone workers. The growth of various economic aspects along with the quality working conditions and employee welfare should be envisaged by the management.

CSEZ has the potential to deliver competitive products at low cost due to various reasons but it should never pose a threat to the wellbeing of the workforce. The restructured policies to promote economic activities through

balancing the interest of the investors and employees should be implemented in Special Economic Zones. A proper maintenance of the current infrastructure facilities and the addition of necessary facilities will bring a more competitive nature to the zone. CSEZ has potential to achieve more of its establishing objectives if it can deliver diversified products while ensuring quality working conditions to the workforce, better management and maintenance of the infrastructure facilities of the zone.

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- Madras Special Economic Zone: <http://www.mepz.com>
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4. Educational Qualification (Specify whether Passed (P) or Failed (F)) in the respective boxes

- Primary Upper Primary High School
Vocational Course Plus two/ Pre-degree Degree
Post- Graduation Others(Specify)

5. Native place _____

II) Employment Particulars

1. Name of the firm in which you are employed? _____

2. What is your job designation? _____

3. Is this your first job? Yes No

4. Nature of employment

- Permanent Part Time
Contract Seasonal
Trainee Other.....(specify)

5. Which category of work you do?

- Skilled Semi-skilled Unskilled

6. If skilled, how did you acquire your skill?

- Vocational Course Company training
Learnt on the job Any other _____ (specify)

6. Working hours per day are from _____ to _____

7. Do you have shift system in your company? Yes No

8. Do you work on shifts: Yes No

9. If yes, do you have to work on night shifts? Yes No

10. Night shifts are applicable to?

- Men only Women only Both women and men

11. How many night shifts you serve in a week?
 Nil One Two Three other.....(specify)
12. Time durations of shifts? _____Hrs.
13. No. of working days _____days per month
14. Do you have overtime system in your company? Yes No
15. Do you work overtime? Yes No
16. The occurrence of overtime? Often Seldom Never
17. How many hours of overtime work you usually do? _____ Hrs per day/ per week/ per month (Tick)
18. If yes, specify the allowance you receive for overtime work

Overtime Pay Type	Tick
Normal pay	
1.5 times of normal pay	
Double the normal pay	
No extra pay	
Any other system (Specify)	

19. System of wage payment
 Daily Weekly
 Monthly Seasonal
20. Total wage you receive per month
 Below 5000 5000-10000 10000-15000
 15000-20000 20000-25000 Above 25000
21. How do you rate the monthly wage you get?
 Very Low Low Moderate
 High Very high

22. How do you receive your salary?
 Credited to bank Cheque Payment Cash in Hand
23. Do you have a salary account? Yes No
24. Do you have any other working member in family? Yes No
25. Have you been provided with social security measures such as any below, (Tick whichever applicable)

Type	Tick
PF	
Gratuity	
Bonus	
Medical Insurance	
Life insurance	
Others (specify)	

26. Does your firm provide any incentive scheme? 01

	Yes	Sometime	No
Performance based incentives			
Gifts			
Promotion Prospects			

III) Working Conditions

1. Does your firm provide accommodation facility? Yes No
 If No, you stay in, Own House Rented House Hostel
 Paying Guest Other _____(Specify)
2. Monthly rent you pay for accommodation: Rs. _____ Per month
3. Does your company pay rent? Yes No
4. Does your company provide transportation facility?
 Yes No Only during night shifts

5. If transportation is not provided at night how do you commute to your place of stay?
- Bus Auto Walk
 Two wheeler Car Other
6. Specify, if you have encountered any problem when the transportation facility is not provided by the company?
-
7. How many times you get rest in between work in a day?
- None Once
 Twice Thrice
8. Choose the time of rest in a day?
- Nil Half an hour One hour
 More than one hour Other _____(specify)
9. Indicate your response to the quality of the working condition in the firm by ticking the appropriate box

Item	Yes	No	Sometimes (Specify When)
Free lunch			
Free Tea/ Snacks			
Rest Room			
Work place is neat and clean			
Adequate Working space			
Protection from health hazard			
Safe sanitary facilities			
Drinking water facility			
Adequate ventilation facilities			
Sufficient lighting arrangements			
Air conditioned			
Free health check ups			

Item	Yes	No	Sometimes (Specify When)
Sufficient First Aid facilities			
ESI			
Medical Reimbursement			

10. How many leaves you can avail in a year? _____

11. Choose leaves you are eligible for:

Leave Name	Yes	No
Casual		
Sick		
Other annual		
Maternity		
Other Maternity		
Any other _____ (Specify)		

12. Does your company provide opportunity for: (Tick whichever applicable)

Family get-together Picnics Festival celebrations

Sports day Cultural activities

13. Are you being stressed due to work pressure? Yes No

14. Is your family life affected by the work pressure? Yes No

15. Do you think you developed any of these chronic health problems due to work? (Tick whichever applicable)

Back Pain		Astama		Eye strain	
Head Ache		Stress		Fatigue	
Leg pain		Muscle Pain		Spondylitis	
Allergy		Any other		Others (specify)	

IV) Job Satisfaction

1. Indicate your personal response by selecting appropriate options (tick)

	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
Number of working hours is as per law					
Wages are as per general industry standards					
Men and women workers of the same category get the same wage					
Management is co operative					
Quality of work is high					
Work is appreciated					
Regular trainings are given					
Promotion prospects are available					

	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
Labour issues are properly addressed					
I am happy at my job					
My work place is a good place to work					

2. Would you like to change your Job to
 Same Company in different Role Same Job Out Side CSEZ
 Same Job in Other Company in CSEZ . New Job in New Sector
3. What will be the reasons for leaving the present job? (tick whichever applicable)

Poor Pay		Temporary Job	
Poor working conditions		No promotion prospects	
Too much work		No Job satisfaction	
Health issues		Any other	

4. Do you think that the wage you get in CSEZ is higher than the wage given outside the zone for same job?
 Yes No

V). Trade Union Activity

1. Are you a member of a Trade Union? Yes No
2. If yes, name the trade union you are enrolled in
 CITU BMS
 INTUC Other----- (Specify)

3. Indicate your personal response to your participation in Trade Union activities (Tick)

Very Active Moderately Active Not at all Active

4. Indicate your personal response by selecting appropriate options if you are a member of Trade Union (tick whichever applicable)

Options	Yes	No
Joined as it bargains with the management to improve the working conditions		
Joined as it ensures high wage		
Joined as it protects the interest of the workers		
Joined as it assures job security		

4. Mention something good about the company

5. Mention something you would like to change in the company

Interview Schedule Administrated to the Unit Managers in CSEZ

I am a research scholar at the Department of Applied Economics, Cochin University of Science Technology, and my topic of the research is ‘An Economic Evaluation of Special Economic Zones: A Study on Cochin Special Economic Zone in Kerala’. I am conducting a survey of the CSEZ unit managers with regard to the quality of various infrastructure and other facilities provided by the CSEZ. The purpose of the survey is to evaluate the quality of the facilities and infrastructure of CSEZ from firm’s perspective. I solicit your support and cooperation in filling this questionnaire. Your responses will be kept confidential. The information provided by you will be used only for academic purposes. Thank you for your cooperation in this study.

Sincerely Yours,

Vinod K.U
Research Scholar
Department of Applied Economics

Please tick the appropriate boxes and add your comments where relevant:

1. How long has been your firm operational in the CSEZ? _____ Yrs
2. What all features attract you to do business with CSEZ (Tick whichever applicable)

Sl. No	Facility	Tick
1	Tax Benefits	
2	Infrastructure and Facilities	
3	Easy Clearance Mechanism	
4	Foreign Direct Investment Opportunities	
5	Any other (Specify_____)	

3. Please indicate your response to the quality of the Basic infrastructure facilities within CSEZ (Tick)

<i>Basic Facilities</i>	Very Dissatisfied	Dissatisfied	Moderate	Satisfied	Very Satisfied
Roads					
Street Lighting					
Signals and Signage					
Processing area/Buildings					
Sewage Lines/ Drainage					
Sewage Treatment Plant					
Parking					

4. Please indicate your response to the quality of the supply of essential services facilities within CSEZ (Tick)

Essential Services	Very Dissatisfied	Dissatisfied	Moderate	Satisfied	Very Satisfied
<i>Water</i>					
Adequacy of Water					
Water Purifier					
Quality of Water					
<i>Electricity</i>					
Adequacy Electricity Distribution					
Uninterrupted Electricity Supply					
<i>Other</i>					
Telecom Facilities					
Internet Facilities					

5. Please indicate your response to the quality of the social utility facilities within CSEZ (Tick)

Social Utilities	Very Dissatisfied	Dissatisfied	Moderate	Satisfied	Very Satisfied
Hospital/ Clinic					
Library					
Hotel/ Guest House					
Crèche					
Post office					
Canteen					

6. Please indicate your response to the quality of the recreational facilities within CSEZ (Tick)

Recreational Facilities	Very Dissatisfied	Dissatisfied	Moderate	Satisfied	Very Satisfied
Play Ground					
Indoor Game facilities					
Gymnasium					
Employee Rest Room					

7. Please indicate your response to the quality of the other facilities within CSEZ (Tick)

Facilities	Very Dissatisfied	Dissatisfied	Moderate	Satisfied	Very Satisfied
<i>Banking</i>					
Functioning of Banks					
ATMs					
<i>Safety</i>					
Boundary Wall					
Security posts and Officers					
Fire Fighting Equipment					
<i>Waste Management</i>					
Solid Waste Collection/ Disposal					
Sewage Treatment Plant					

8. Please indicate your response to the quality of the Administrative facilities within CSEZ (Tick)

Administrative facilities	Very Dissatisfied	Dissatisfied	Moderate	Satisfied	Very Satisfied
Authorities Timely Decisions					
Attitude of the Government Officers					
Customs Clearance facilities					
Maintenance Facilities					
Any other (Specify)					
Any other (Specify)					

9. Do you suggest any other feature that can be added to improve the quality of the CSEZ infrastructure?
10. Which of the above mentioned facilities you find most outstanding.
11. Mention if you faced any problems while functioning within CSEZ.
12. Any other suggestions.

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LIST OF PUBLICATIONS

- “Significance of Free Economic Zones: A Study from International Perspective”, in the journal titled International Journal of Trade and Global Business Perspectives, (ISSN: 2319-9059), Volume 5, December 2016.
- “Export Performance of Special Economic Zones in Kerala: A Case Study of Cochin Special Economic Zone”, in the journal titled Journal of Current Studies, (ISSN: 2277-2707) Volume 06, Issue No-1, Ernakulum, December- 2016
- “Impact of Technology On Female Employment: Evidences from Cochin Special Economic Zone”, in the book titled Technology for Women empowerment, Issues and Challenges. Edited by Dr. Meera Bai M, (ISBN: 978-81-8387-539-4), Serial Publications, New Delhi, 2012, PP 261-244.
- “Role of Self Help Groups in Promoting Value Addition of Agro-Products in Kerala”, Engendering Agriculture Development: Emerging Perspective, Issues, Challenges and strategies. Edited by Dr. P. Sundara Raj (ISBN: 978-81-906512-3-3), Novel Corporation, Chennai, December 2011, PP.84-102.
- Presented paper on “The Existence of Gender Discrimination at Workplace: A Case Study from Cochin Special Economic Zone” at two day National Seminar on “Prevalence of Modern Slavery among Marginalized Women and Children in India: Cause and Consequences” organized by Women’s Studies Center, Cochin University of Science and Technology on 15th -16th December 2016.

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