Veeranjaneya Printers & Tonners Association

Printing Cluster Tirupati
Andhra Pradesh

Detailed Project Report-DPR

for

Establishment of Common Facility Centre

Towards the Fulfillment of Requirement of Micro and Small Enterprises

Cluster Development Programme of Ministry of Micro, Small and Medium Enterprises

Submitted to: The Office of the Development Commissioner (MSME)

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1.Executive Summary

Commercial printing refers to a collection of services, such as layout designing, binding, composition and press productions, used to transfer the artwork and text onto paper and cards. The commercial printing process utilizes a variety of materials such as flyers, brochures, books, posters, magazines, newsletters, and transactional bills and statements. It plays an essential role in producing large displays, which aids in attracting consumers with attractive designs. Consequently, it is widely used in the packaging, food and beverage, pharmaceuticals, and publishing industries.

India represents one of the largest commercial printing markets in the Asia Pacific region. The market is primarily driven by the development of innovative printing technologies by the manufacturers. They have started focusing on introducing engineered products with a reduced carbon footprint, higher energy efficiency, and better resistance to chemicals such as solvents and cleaners. The market is further propelled by the use of commercial printing to its cost-effectiveness and better print quality as compared to smaller printers. Apart from this, commercial printing is also crucial in the e-commerce industry, especially in the production of brochures, pamphlets and leaflets. Moreover, the transition to digital technology has also provided a positive impact on the market growth.

Printing and Print – Packaging industry in India is growing; people are taking keen interest in this key industry now. There are more than 36 printing institutes some of these giving even post-graduate education. Every year more than 3500 new printing engineering graduates joins the industry, while still much more get on the spot training in the print shops. Printing especially Packaging printing is now one of the industry. It is said that since 1989 the growth of the Printing coupled with Packaging Printing industry is over 14%. Today, India is fast becoming one of the major print producer & manufacture of printed paper products for the world markets. The quality standards have improved dramatically and immense production capacities have been created. Some printers have won recognition by winning prizes at international competition for excellence in printing. The value of the print industry across India was over 225 billion Indian rupees in 2021. This was further expected to exceed 250 billion rupees by 2024, indicating a compound annual growth of around 3 percent.

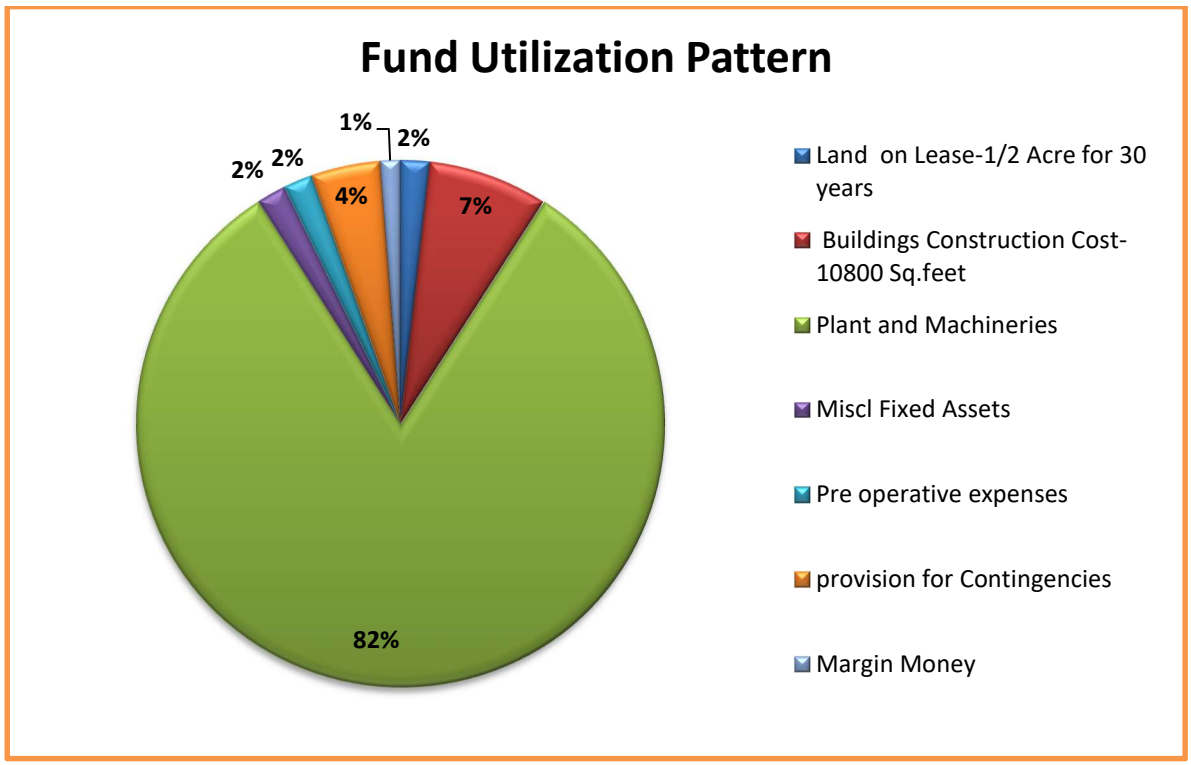
The **Printing Cluster Tirupati** which is situated in the **City of Tirupati** is one such printing cluster which is providing services to the customers, industries and is an important part of the printing industrial sector in the region. The Cluster has **92 units employing more than 500 people directly** and nearly **3000 people indirectly** having a **turnover of Rs. 6440 Lakhs.**

In order to flourish in the ever changing market and trends the industry has to take up necessary up gradations and has to embrace newer technologies to face the market challenges. Majority of the micro industries are not able to embrace newer technologies due to their financial constraints, as a result they are suffering in terms of loss of market share, and reduced profit margins etc. In order to overcome these kind of adversaries the Government can provide the printing cluster units with necessary and strategic technological interventions in the form of Common Facility Center, which will be equipped with crucial machineries which the cluster units can make use to correct and enhance their production capabilities.

This Diagnostic Study is conducted by Intaglio Technical and Business Services and **Detailed Project Report (DPR) is prepared by IntaGlio Technical and Business Service**. The DSR and DPR suggest the hard interventions for the cluster. The total project cost for the establishment of CFC is estimated as **Rupees 2519.26 Lakhs** with GoI Grant of **Rupees 1763.48 Lakhs**, Govt. of Andhra Pradesh Grant of Rupees **377.89 Lakhs** and SPV contribution of Rupees **377.89 Lakhs**. The Project is considered to be need based and support worthy.

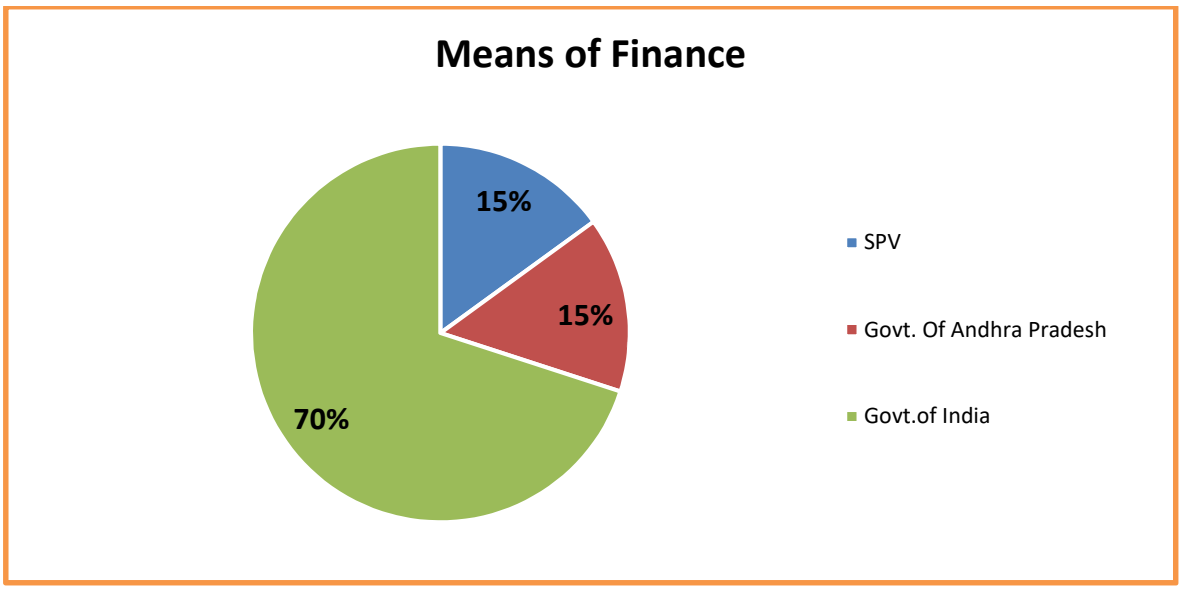
2.Project Cost and Means of Finance

Sl. No.	Project Components	Amount in lakhs	% of Project Cost
1	Land Cost 0.5 Acres for 30 years Lease	45.00	1.79%
2	Buildings-10800 Sq. Feet	183.83	7.30%
3	Plant and Machineries	2062.94	81.89%
4	Miscl Fixed Assets	45.00	1.79%
5	Pre-operative expenses	45.00	1.79%
6	Provision for Contingencies	106.82	4.24%
7	Margin Money	30.67	1.22%
	Total Project Cost	**2519.26**	**100.00%**



3.Means of Finance

Sl. No.	Means of finance	Amount in Rs. lakhs	percentage of Project Cost
1	SPV	377.89	15%
2	Govt. Of Andhra Pradesh	377.89	15%
3	Govt. of India	1763.48	70%
	Total	**2519.26**	**100%**



4.Technical Consultant and CDA/CDE-Agency

The SPV Company has appointed **"IntaGlio Technical and Business Services"** for conducting Diagnostic Study and for the preparing DPR for the proposed Project. The Consultant has prepared this report by gathering the information from various sources such as internet, Journals and from the information provided by the cluster members. This report has been validated by the cluster members. **The Consultant and his company will be the technical advisor/CDA/CDE during implementation of the project.**

5.Proposed Interventions

Hard Interventions

The Detailed Project report recommends the following hard interventions

I. Pre-Press Equipment and Machines

- CFC with Design Studio with Licensed Software for Graphics Designing, Photoshop Editor etc.
- CFC with Computer to Plate making unit
- CFC with Infra-Red Screen Curring Machine
- CFC with Screen Exposing and Drying Machine

II. Advance Printing Technology Setup

- CFC with Multi color offset Printing Machine
- CFC with Large Size Screen Printing Machine
- CFC with Fabric Printing Machine
- CFC with Eco-Friendly Cloth Banner Printing Machine
- CFC with Digital Press for photo albums and brochures

III. Post Press Equipment and Machinery

- CFC with Fully Automatic Programmable Cutting Machine
- CFC with Automatic Case Maker Machine
- CFC with Perfect Binding Machine
- CFC with Album Case Making Machine
- CFC with Joint Forming Machine
- CFC with Automatic Thermal Lamination Machine
- CFC with Automatic Folding Machine
- CFC with Spot UV Printer and Embossing Machine
- CFC with Automatic Die-Cutter Machine

IV. Skill Development and Training Setup

V. Environmental Section

- Roof Top Solar power captive power generation System
- Rain water Harvesting Setup

6. Summary of Financial Analysis

Some of the Important Financial Ratios

The project is financial viable with the following ratios

a) IRR 26 %
b) NPV (2468.84)
c) Breakeven Point 40 %
d) ROCE 36%

The ratios with sensitivity of 5% reduction in revenue:

a) IRR 24 %
b) NPV 2328.13
c) Breakeven Point 41 %
d) ROCE 33 %

The ratios with sensitivity of 10 % reduction in revenue:

a) IRR 22%
b) NPV 2187.41
c) Breakeven Point 43 %
d) ROCE 31%

7. Comparison between Expected Ratios as Per MSE-CDP Guidelines and Achievable Ratios

Sl. No.	Particulars	Expected Ratios As Per MSE-CDP Guidelines	Achievable Ratios By The Project
1	Internal Rate of Return- IIR	Above 10%	26 %
2	Net Present Value- NPV	Need to be Positive	(2468.84)
3	Breakeven point	Below 60%	40%
4	Return on Capital Employed-ROCE	Above 25%	36%
The ratios achievable by the CFC project are according to MSE-CDP guidelines			

8.Implementation schedule

Planning Timeline	Months																	
Tasks	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Constitution of Purchase Committee																		
Tendering of Civil Building Work																		
Installation of Electrical Setup																		
Construction of Building																		
Machinery Tendering																		
Arrival of Machinery																		
Erection of Machinery																		
Commissioning																		
Commercial Usage																		

The implementation schedule is calculated for 18 months from the date of grant of final approval of the project by the Govt. of India. The commercial activities will start from the 17th month.

9. Expected Outcome

Area	Present Scenario	After Intervention
Units	92 units	150 units
Products	Only customer specific products or service to the customers with low or medium quality demand	Marketable products like labels, dairies etc. And service to the high quality and high resolution printing demands
Market	Established local and domestic Regional market	Enhanced market growth, access to Export Market
Employment	Direct = 500 Indirect = 3000	New Direct = 800 New Indirect = 5000
Exporting units	Nil	15 unit
Turnover of cluster	Rs. 64.40 Crore (2018-2019)	Rs. 100 Crores Within 3 years of CFC
Training	No such facility present in the cluster region	Training center with necessary infrastructure and faculty at the CFC.
Workforce	Skilled by experience	Skilled workforce quality upgradation and ready to be observed by the industry.
Profit	Low profit margins	Improvement in profit margin by 25% to 30%

Table of Content

Chapter 1

Brief Overview of the Cluster

Sl. No.	Particulars	Details
Cluster Details		
1	Name of the cluster	Printing Cluster Tirupati.
2	Name of the SPV	Veeranjaneya Printers And Tonners Association Tirupati
3	Age of the cluster	60 years
4	Address of the cluster Registered Office	13-06-589 Peddakapu layout Tirupati District Andhra Pradesh
5	Geographical spread	10 Kms radius
6	Total Units in the Cluster	92 Micro Units (100% Micro)
7	Total Employment Direct/Indirect	Direct= 500, Indirect= 3000 Men= 350 (70%) Women= 150 (30%)
8	Type of Cluster	Horizontal in Evolution with Majority of Small Scale Units
9	Products of the cluster	Business cards Print, Text Books, Magazines Print, Pamphlets Print Journals Print, Wedding cards Print, Labels Print, Letter heads Print, Hotel menus Print, Calendars Print, Receipt books Print, ID Cards Print, Packaging Material, Dairy, T-Shirt and Wedding Albums.
10	Technology used in the cluster	The Cluster Members are using Traditional Methods mostly offset Printing Machinery and Screen Printing Technology, Single/Two Colour Printing, Drum type and Plate type Press based Impression Printing Methods.
11	Average Turnover of the cluster	Rs. 64.40 Crores
12	Market Domestic/Export	Domestic Market : Tirupati District and Neighboring Districts Indirect Export: by means of Printed Packaging Products
Unit Details		
1	Total Number of units	Total Units = 92

2	Micro units	100%
3	Small Scale	0
4	Scale of Investment in each unit	Rs. 10 Lakhs to 50 Lakhs (Average)
5	Average Employment per unit	5 employees
6	Average annual turnover/unit	Rs. 70 lakhs
7	No. of units doing Export	Direct Export: Nil, Indirect Export: by Means of Printed Packaging Products
SPV Details		
1	Name of the SPV	Veeranjaneya Printers And Tonners Association Tirupati
2	Nature of SPV	Open type
3	Number of SPV Members	57
	Number of Non SPV Members	35
4	Total Board Of Directors	5
Raw Material Requirement and Raw Material Availability		
1	Average Raw material required/unit/Annum	Printing Paper of Different Type Kraft Paper, Handmade and Other Decorative Paper
2	Average Raw material requirement	Total Cluster requirement = 2000 Tons /Annum
3	Raw material available at the cluster	Paper Manufacturing Industries in Bangalore Dealers Network :Bangalore and Chennai
Other Information		
	Specialty Of The Cluster	The cluster products have huge market demand in the local market as the cluster location is known to be educational hub of the state. Majority of the text books are published in the cluster region for the state. The cluster is strategically located at the centre of few of the major cities.

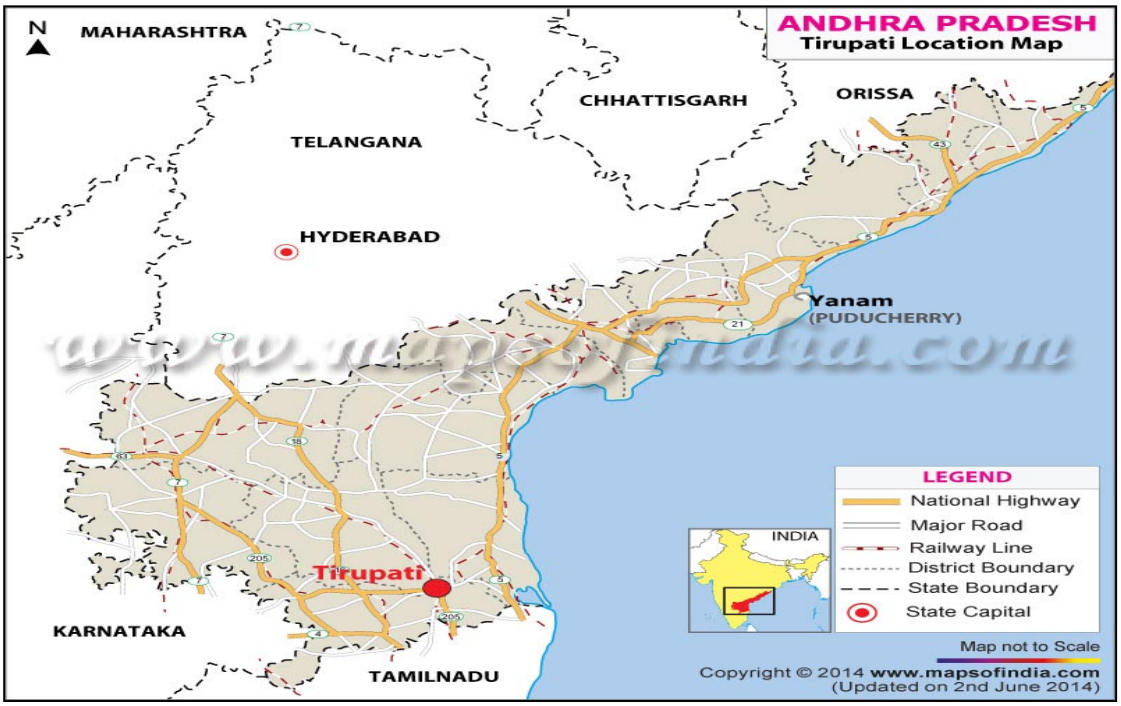
Diagnostic Study Findings & Recommendations	
Major Problems	❖ The cluster units lack modern CTP Processing technology ❖ The Cluster lack high resolution Mulit Colour printers ❖ The cluster units lack variable data printing technology. ❖ The cluster lack modern finishing and post press machining Facilities. ❖ There is very little product diversification and value addition taking place due to lack of modern equipment. ❖ The cluster products are unable to meet market quality requirements and parameters. ❖ The Cluster lack Training facility for upgrading the skills of the cluster entrepreneurs and work force. **The DSR recommends the Establishment of CFC for the Cluster.**
Proposed Hard Interventions	**CFC Interventions** ❖ Common Facility Center with computer to Plate Making Facility. ❖ Common Facility Center with high resolution Multi Colour offset printer. ❖ Common Facility Center with advance variable printing facility. ❖ Common Facility Center with Post Press Finishing Machines. ❖ Common Facility Center with Marketing and Display center. ❖ Common Raw Material Bank. ❖ CFC with Training, and Design facility.
Soft Intervention Activities in the Cluster	The Cluster has Completed the Soft Intervention Activities in Association with MSME DI Hyderabad. The Cluster Members are well Educated and are prepared to take up Hard Interventions. The Diagnostic Study Recommends Hard Interventions for the Cluster

Chapter 2

Tirupati District Profile

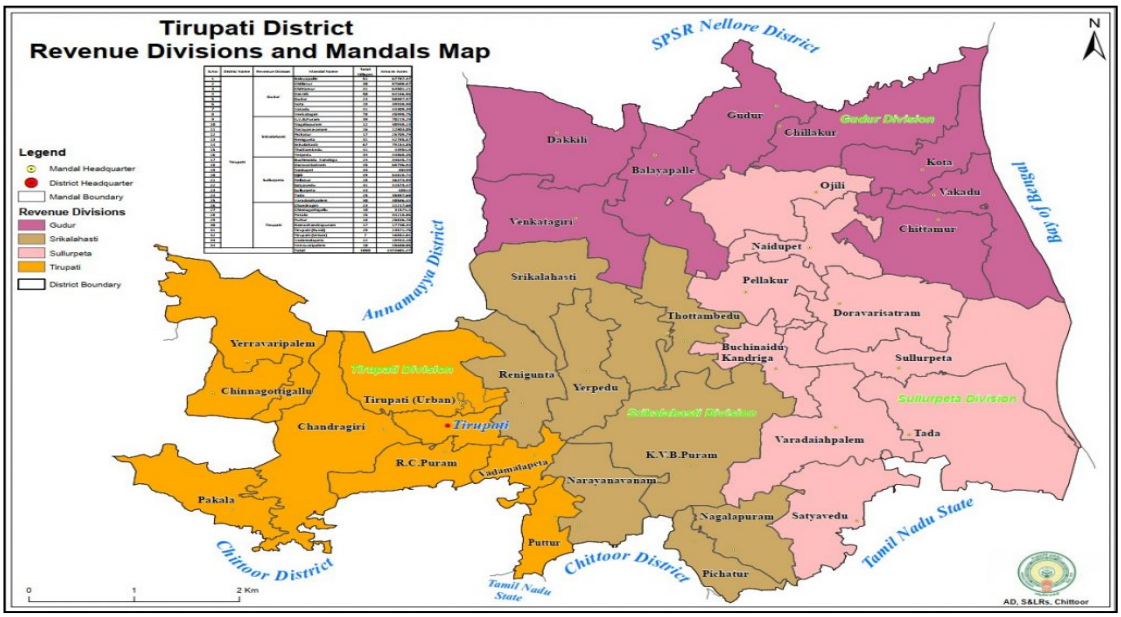
2.1 Introduction

Tirupati district is one of the twenty-six districts in the Indian state of Andhra Pradesh and one of the eight districts in the Rayalaseema region of the Andhra Pradesh state. The district headquarters is located at Tirupati city. Tirupati district is known for its numerous historic temples, including the Hindu shrine of Tirumala Venkateswara Temple, Sri Kalahasteeswara temple and many others. Tirupati district was once the part of Larger North Arcot district of Madras Presidency and subsequently become the part of Chittoor district of Andhra Pradesh until carved out as the seperate district in 2022, and is referred to as the "Spiritual Capital of Andhra Pradesh". It is located at a distance of 150km from Chennai and 250km from Bangalore and 415km from Amaravati. It is one of the eight Swayam vyaktha kshetras (Self-Manifested Temples) dedicated to Vishnu. Tirupati is a municipal corporation and the headquarters of Tirupati (urban) mandal, Tirupati (rural) mandal, and the Tirupati revenue division.



The district is also home to Satish Dhawan Space Centre (formerly Sriharikota Range), a rocket launch centre located in Sriharikota and operated by Indian Space Research Organisation (ISRO). The river Swarnamukhi flows through Srikalahasti and joins with the Bay of

Bengal in this district. Industries include groundnuts and paddy fields. The district is an educational hub and has central and state universities and institutes including IIT Tirupati, Sri Venkateswara University, National Sanskrit University, IISER Tirupati. The district is home to Sri City, one of the leading special economic zone (SEZ) in India with total investments of 4 billion USD and over two hundred companies from 28 countries.



It is the 7th most urban agglomerated city in the state, with a population of 459,985 in 2011 and around 704,615 in 2021. As of 2011 census, it had a population of 287,035 making it the 9th most populous city in Andhra Pradesh. It is the second biggest city in Rayalaseema after Kurnool. For the year 2012–2013, India's Ministry of Tourism named Tirupati as the "Best Heritage City". Tirupati has been selected as one of the hundred Indian cities to be developed as a smart city under Smart Cities Mission by Government of India.

Civic Administration

Tirupati Municipal Corporation (TMC) oversees the administration of the city. Tirupati was constituted as a municipality on 1 April 1886; it was upgraded to a second grade municipality on 1 October 1962, to a first grade municipality on 12 December 1965, to special grade municipality on 13 February 1970, and to selection grade municipality on 7 October 1998. Tirupati Municipality was upgraded to a municipal corporation on 2 March 2007. The area of the municipal corporation at the time of formation was 16.59 square kilometres (6.41 sq mi). While, at present the area of the city is 27.44 square kilometres (10.59 sq mi). Tirupati has been ranked among the top ten cleanest cities in India as per Swachh Survekshan 2022 report.

Tirupati Urban Development Authority (TUDA) is the urban planning authority. It was constituted in the year 1981, with Tirupati town and 89 villages under its jurisdiction. In 2008, it included Srikalahasti, Puttur and 69 surrounding villages. At present TUDA covers an area of 1,211.51 km2 (467.77 sq mi).

2.2 Environment

2.2.1 Geography

Tirupati is located at 13.65°N 79.42°E in the Tirupati district of Andhra Pradesh state in southern India. Tirupati lies at the foot of Seshachalam Hills of Eastern Ghats which were formed during Precambrian era. One of its suburbs, Tirumala, which is the home to Sri Venkateswara Temple, is also located within the hills. Tirupati Urban agglomeration includes Tirupati (City) and census towns Akkarampalle, Avilala, Cherlopalle, Mangalam, Perur, Settipalle, Thummala gunta (part), Timminaidupalle, Tiruchanur, Tirupati (NMA). Tirupati is surrounded by Srikalahasti towards the east, Puttur towards the south, Puthalapattu towards the west and the Seshachalam hills towards the north.[citation needed] Swarnamukhi River originates in Chandragiri Hills and passes through the Tirupati City before reaching Srikalahasti in the east.

2.2.2 Geology

At the 12 km (7.5 mi) point on the Tirupati – Tirumala ghat road, there is a major discontinuity of stratigraphic significance that represents a period of remarkable serenity in the geological history of the Earth. This is referred to as Eparchaean Unconformity. This unconformity separates the Nagari Quartzite of the Proterozoic from the granite of the Archean,. In 2001, the Geological Survey of India (GSI) declared the Eparchaean Unconfirmity to be one of the 26 "Geological Monuments of India".Silathoranam, a natural arch and a distinctive geological feature, is located in the Tirumala Hills at a distance of 1 km (0.62 mi) from Tirumala Venkateswara Temple. The Arch measures 8 metres in width and 3 metres in height and is eroded from quartzite of Cuddapah Supergroup of Middle to Upper Proterozoic (1600 to 570 Ma) by weathering agents like water and wind.

2.2.3 Flora and fauna

Sri Venkateswara National Park is a national park and biosphere reserve which is part of Seshachalam Hills. The total area of the park is 353 km2 (136 sq mi). The park is home for about 1,500 vascular plant species belonging to 174 families. Some of the rare and endemic plant

species like red sanders, Shorea talura, Shorea thumburggaia, Terminalia pallida, sandalwood, Syzygium alternifolium, and Psilotum nudum occur in this region. Cycas beddomei, a species of cycad in the genus Cycas, is found only in the Tirumala Hills.

About 178 species of birds from this national park have been identified which includes the globally threatened yellow-throated bulbul, grey-fronted green pigeon, critically endangered Oriental white-backed vulture, large hawk-cuckoo, blue-faced malkoha, yellow-browed bulbul, Indian scimitar-babbler and Loten's sunbird. Among predators the leopard is quite common, along with the wild dog. Among reptiles, the most interesting species is the gliding lizard, found in some deep forested valleys. Another important reptile of this national park is the golden gecko.

Established in 1987, Tirupati Zoo or Sri Venkateswara Zoological Park is a zoo located at Tirupati and is Asia's largest zoo, with an area of 5500 acres. It is built on the concept of Hindu mythology. It exhibits only animals that are mentioned in the ancient epics like Ramayana, Mahabharatha, and Panchatantra. The enclosures are named based on Indian mythology. It hosts a wide range of animals such as deer, monkeys, lions, tigers, bears, elephants, peafowl, grey pelicans, marsh crocodiles, and starred tortoises.

Sri Venkateswara Gosamrakshana shala is a home for cattle received as a donation (Godanam). It was established in 1956 by TTD and renamed to S.V. Gosamrakshana Shala in 2004. It is located at Chandragiri Road, Tirupati. It is maintained by Tirumala Tirupati Devasthanams based on the funds received under the Sri Venkateswara Gosamrakshana Shala Trust. Activities of the trust include providing a good environment, management, and feeding for the cattle. The milk and its products produced here are used by TTD for daily rituals at Sri Venkateswara Temple and other TTD temples.

2.3 Climate

Tirupati has a tropical wet and dry climate, designated Aw under the Köppen climate classification. In winter the minimum temperatures are between 18 and 20 °C (64.4 and 68.0 °F). Usually summer lasts from March to June, with the advent of rainy season in July, followed by winter which lasts until the end of February. The city experiences heavy rainfall in November during the northeast monsoon season. The highest rainfall in 24 hours was on 16 November 2015, during the 2015 South India floods, with 219 millimetres or 8.62 inches. Cyclones commonly hit the Coast of Nellore, and bring heavy rain to the city.

Climate data for Tirupati													
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °C (°F)	35.6 (96.1)	39.5 (103.1)	43.0 (109.4)	44.2 (111.6)	45.0 (113.0)	45.2 (113.4)	40.6 (105.1)	40.0 (104.0)	43.1 (109.6)	37.8 (100.0)	34.8 (94.6)	34.3 (93.7)	45.2 (113.4)
Average high °C (°F)	30.0 (86.0)	33.1 (91.6)	36.8 (98.2)	39.2 (102.6)	40.3 (104.5)	37.9 (100.2)	35.9 (96.6)	35.0 (95.0)	34.9 (94.8)	32.8 (91.0)	30.2 (86.4)	29.0 (84.2)	34.6 (94.3)
Average low °C (°F)	18.8 (65.8)	19.9 (67.8)	22.8 (73.0)	26.2 (79.2)	28.0 (82.4)	27.3 (81.1)	26.1 (79.0)	25.7 (78.3)	25.2 (77.4)	23.7 (74.7)	21.8 (71.2)	19.9 (67.8)	23.8 (74.8)
Record low °C (°F)	12.9 (55.2)	11.9 (53.4)	14.2 (57.6)	20.0 (68.0)	20.4 (68.7)	21.5 (70.7)	20.7 (69.3)	21.8 (71.2)	21.7 (71.1)	16.5 (61.7)	15.0 (59.0)	13.5 (56.3)	11.9 (53.4)
Average rainfall mm (inches)	17.6 (0.69)	5.1 (0.20)	5.2 (0.20)	15.9 (0.63)	58.5 (2.30)	77.0 (3.03)	117.3 (4.62)	127.3 (5.01)	131.7 (5.19)	205.2 (8.08)	249.1 (9.81)	116.2 (4.57)	1,126.1 (44.33)
Average rainy days	1.1	0.6	0.5	1.1	2.8	5.0	7.9	7.7	7.0	9.0	9.4	4.8	56.9
Average relative humidity (%) (at 17:30 IST)	55	45	37	37	38	45	51	52	56	65	69	65	51

2.4 Demographics

As of 2011 Census of India, the Tirupati city municipal corporation had a population of 287,035. The total population constitute, 145,977 males and 141,058 females — a sex ratio of 966 females per 1000 males, higher than the national average of 940 per 1000. There were 24,643 children are in the age group of 0–6 years.

Religions in Tirupati (2011)[35]		
Religion		Percent
Hindus		92.82%
Muslims		6.05%
Christians		0.74%
Other or not stated		0.39%
Distribution of religions		

It had an effective literacy rate (7+ copulation) of 87.55%. The urban agglomeration had a population of 459,985, of which males constitute 231,456, females constitute 228,529 — a sex ratio of 987 females per 1000 males and 41,589 children are in the age group of 0–6 years. There are a total of 356,558 literates with an effective literacy rate (7+ population) of 85.22%.

2.5 Culture

2.5.1 Festivals

The city celebrates all major Hindu festivals which includes Sankranti, Ugadi, Krishna Janmashtami, Maha Shivaratri, Ganesh Chaturthi, Deepavali, Rama Navami, Kartik Poornima etc. Srivari Brahmotsavam is a nine-day event, celebrated during the months of September–October, the temple of Tirumala witness lakhs of devotees. During this festival, the processional deity Malayappa of Venkateswara Temple, along with his consorts Sridevi and Bhudevi, is taken in a procession in four mada streets around the temple on different Vahanams. Tirupati also celebrates a carnival named as Tirupati Ganga Jatara, held during second week of May every year. This is a week long festival where Gangamma (Grama Devatha) is worshiped. The tank behind the temple of Padmavathi Temple, Tiruchanur has Padma Pushkarini, where Chakra Snanam will be held on last day of Annual Padmavathi Brahmotsavams (Panchami Teertham). It will witness lakhs of Devotees taking a dip in the holy waters.

Vaikunta Ekadasi, the day on which it is believed that Vaikunta Dwarams will be opened and the most important Vasihnavite festival, is celebrated in Tirumala and Tirupati with grandeur. Rathasapthami is another festival,

celebrated during February, when Venkateswara's processional deity (Malayappa) is taken in a procession around the temple on seven different vahanas from early morning to late night.

Sri Krishna janmastami also known as Gokulashtami is celebrated with great fervor at Tirupati. The Lotus Temple belonging to International Society for Krishna Consciousness (ISKCON) will be illuminated with lamps and paintings displaying themes from Srimad Bhagavatham. The celebrations include offering prayers to Sri Krishna, Utlotsavam, Annamayya Kirtana alapana, Geetha Parayanam etc. On this day 'Gokulashtami Asthanam' will be held at Tirumala Venkateswara Temple. TTD will also celebrate the janmastami at Sri Venkateswara Gosamrakshana Shala where prayers will be offered to cows, horses and elephants. The Maha Shivaratri and Kartik Poornima are the most auspicious occasions celebrated in Kapila Theertham.

2.5.2 Cuisine

Tirupati is world-famous for Tirupati Laddu. It is the prasadam at Venkateswara Temple, Tirumala.

Tirupati Laddu had got Geographical indication tag which entitles only Tirumala Tirupati Devasthanams to make or sell it.

2.5.3 Arts, crafts and architecture

Tirumala Tirupati Devasthanams established Sri Venkateswara Museum, one at Tirumala and the other at Tirupati. It has a wonderful collection of Tirupati temple architecture and historical artefacts, such as ancient weaponry, pooja items and idols. It has a comprehensive photo gallery that gives a unique insight into the Tirupati region's culture and traditions. It also boasts a meditation centre. In 1988–89 Archaeological Survey of India had established an Archaeological Museum in the Chandragiri fort at Chandragiri. It exhibits rich collection of stone and metal sculptures of Hindu gods and other cultural vestiges retrieved from other historical places like Gudimallam, Gandikota and Yaganti. It also includes galleries for medieval weaponry swords and daggers, coins and paper documents

2.5.4 Utility services

Electricity to the city is distributed by Andhra Pradesh Southern Power Distribution Company Limited (APSPDCL), headquartered at Tirupati. The city mostly depends on groundwater for its needs, though it also gets water from Telugu Ganga canal and Kalyani dam. There are five dams in the vicinity: Kalyani Dam, Papavinasanam Dam, Gogurbham Dam, Pasupudara Dam, Kumaradara Dam, Akasa Ganga. all in the Tirumala Hill ranges. Of these dams Papavinasanam, Gogurbham, Pasupudara, kumaradara, and Akasa Ganga completely cater the water needs of Tirumala and Venkateswara Temple while 49% of Kalyani Dam water is being supplied to Tirumala and remaining water will be supplied to Tirupati.

Tirupati falls under the Tirupati Telecom District of the Bharat Sanchar Nigam Limited. BSNL is planning to establish 27 Wi-Fi hotspots in the city. The city also had a Regional Passport Seva Kendra(PSK). PSK-Tirupati will
cover Prakasam, Nellore, Chittoor, Kadapa, Kurnool and Anantapur districts of Andhra Pradesh and will come under Visakhapatnam Passport Office.

The city ranked sixth in India among the 200 cities that competed during Swachh Survekshan – 2018 conducted by Ministry of Urban Development, Government of India, and the Central Pollution Control Board (CPCB) of India. According to the National Urban Sanitation Policy, the city was ranked 117th in the country in 2009–10, with a total of 39.363 points. As a part of 'Swachh Tirupati', Tirupati Municipal Corporation has started household waste segregation programme. As of May 2015, 150 Tonnes of waste is being collected per day from households within the municipal limits. The city is the 11th most cleanliest city with 66 points in the cleanliness scorecard published by Union Tourism Ministry of India.

2.5.5 Healthcare

Tirupati is a medical hub with major hospitals situated in its vicinity. Many of these are either run under State government or run/funded by Tirumala Tirupati Devasthanams (TTD).

Sri Venkateswara Ramnarain Ruia Government General Hospital is one of the largest in the state of Andhra Pradesh, and the main government hospital for the Rayalaseema region. It is started in the year 1962 with a donation of Rs.5 lakhs from Sri Radha Krishna N. Ruia and 15 lakhs from Tirumala Tirupati Devasthanams. At present it has 750 beds.[68] Sri Venkateswara Institute of Medical Sciences (SVIMS) is another major medical institute, founded in 1986.

Balaji Institute of Surgery, Research and Rehabilitation for the Disabled (BIRRD) has 250 beds; it was established in 1985 by TTD to treat patients with polio myelitis, cerebral palsy, congenital anomalies, spinal injuries, and orthopaedical impairments. A non-profit organisation, it is run with funds from Tirumala Tirupati Devasthanams and donations from the public. Government Maternity Hospital (GMH) in Tirupati is the largest maternity hospital in the state of Andhra pradesh in terms of number of deliveries. Established 50 years ago, GMH is thronged by Pregnant woman from Chittoor, YSR kadapa, Nellore, Anantapur districts of Andhra Pradesh and few areas of Tamil Nadu. GMH was named "best hospital" under the "sterilization and institutional deliveries category" from the Ministry of Health and Family Welfare for the year 2013. Aswini Hospital in Tirumala is a general hospital in Tirumala maintained by TTD.

2.6 Economy

2.6.1 City economic overview

Tourism is the major industry in Tirupati.

The entire economy directly or indirectly depends on Tirumala Tirupati Devasthanams (TTD). TTD is headquartered at Tirupati. Established in 1932, TTD is an independent trust which manages Tirumala Venkateswara Temple and other temples in Tirupati and all over the world. It is also involved in several social activities. As Tirupati is a major religious tourist destination, the hospitality industry is also a major industry which includes many 3 star hotels and lodges.

Andhra Pradesh Southern Power Distribution Company Limited (APSPDCL) is also headquartered at Tirupati. Gandhi Road, Prakasam Road, V.V Mahal Road, AIR Bypass Road are highly commercial areas in the city. Major brands of automobile, textile, mobile, electrical and electronic companies have their outlets in Tirupati.

APIIC Industrial Park is located at Gajulamandyam, Renigunta. Industries like Sri Venkateswara Cooperative Sugar Factory Limited, AshwiniBio Pharma Ltd and others are situated in this park. Amara Raja factory is located at Karakambadi, Renigunta. Lanco cement factory is located at Eerpedu mandal. The majority of the city residents are employed under

TTD. Zoho, an Indian software development company has an office in Renigunta and has been operating from this office since 2018.

2.6.2 IT/ITES and electronics industry

Sri Venkateshwara Mobile and Electronics Manufacturing Hub is a dedicated mobile handset and electronics manufacturing facility located at Tirupati.

The Hub is spread over 122 acres (49 ha) Acres out of which Celkon is established in 20 acres (8.1 ha) acres, Micromax in 15 acres (6.1 ha) acres, Karbonn in 15.28 acres (6.18 ha) acres and Lava in 20 acres (8.1 ha) acres with a total investment of Rupees 2000 crores. Dixon Technologies has a manufacturing unit in this hub, where they are producing Smart TVs for Xiaomi.

2.6.3 Tourism sector

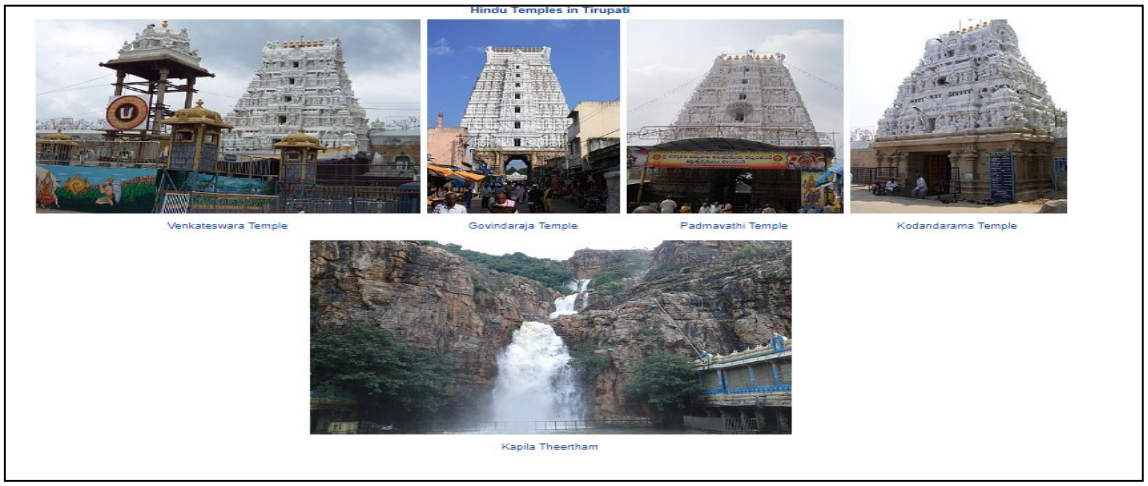
Tourism sector is of great importance to the city. It is because of the presence of Tirumala Venkateswara Temple and a number of other temples in and around the city. It attracts large number of tourists which helps the tourism department of the state in generating revenue. Tirumala is said to be one of the most visited religious sites on earth, and Tirupati Temple is currently a Guinness World Record holder for most visited temple in the world.[citation needed] Tourism comprises a large portion of the Tirupati economy.

2.7 Cityscape

2.7.1 Temples

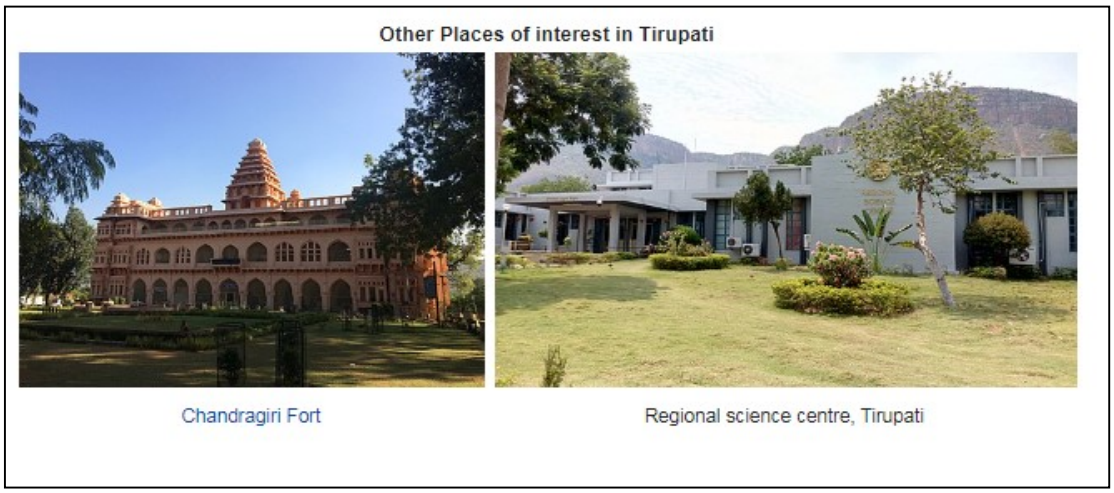
Tirumala Venkateswara Temple is the most notable temple for being the world's richest Vaishnavite temple of Venkateswara.[83] Beside Venkateswara Temple, the city is known for many other ancient temples,

such as Padmavathi Temple at Tiruchanur, Govindaraja Temple,[84] Kapileswara Temple at Kapila Theertham, Thathayyagunta Gangamma Temple of goddess Gangamma is the Gramadevata of Tirupati[citation needed], Sri Kodandaramaswami Temple etc.



2.7.2 Other landmarks

Besides historic temples, there are other tourist destinations in and around the city. Chandragiri Fort is a historical fort, built in the 11th century located in Chandragiri. The fort also host an Archaeological Museum maintained by Archaeological Survey of India.[85] Established in 1987, Sri Venkateswara Zoological Park in Tirupati is the largest zoo park in Asia, which covers an area of 5532 acres.[86][87] Tirupati also hosts a Regional Science centre. A Space Exposition Hall which has a digital Planetarium, first of its kind in Andhra Pradesh and an Innovation Space are added to this centre now.



2.8 Transport

2.8.1 Roadways

The city is well connected to major cities through national and state highways. The National highways passing through Tirupati are, National Highway 71 which connects Madanapalle and Kadiri, National Highway 140 connecting Tirupati with Puthalapattu. Within Tirupati Urban Development Authority Limits, there are two additional national highways, namely, NH 716 AND NH 565. NH 716 connects Renigunta part of Tirupati to Chennai and Muddanur (via Kadapa and Rajampet).NH 565 on the other hand connects NH 71 to NH 65. it starts from Yerpedu area of Tirupati and ends at Nakrekal in Nalgonda district. Constructed one in 1944 and the other in 1974, there are two all-weather, asphalt ghat roads between Tirupati and Tirumala. There is a total of 294.47 km (182.98 mi) of roads within the Tirupati Municipal Corporation Limits.

2.8.2 Public transport

APSRTC is the state owned transport service, which operates buses to various destinations from Tirupati bus station complex. The bus station comprises three mini bus stations to various destinations, such as Srinivasa bus station for west-bound destinations, Sri Hari bus station for east bound destinations and Yedukondalu bus station is utilised for bus services to Tirumala. Balaji Link bus station at Alipiri is also used for bus services to Tirumala. Tirumala Tirupati Devasthanams runs free buses from the railway station and central bus stand to Alipiri for pilgrims. The buses to Tirumala are known as Sapthagiri Express.

Tirupati is in close proximity with the states of Karnataka and Tamil Nadu. Hence, direct buses from Tirumala to Chennai, Bengaluru, Jayanagar, Bangalore, Vellore, Kanchipuram are run by APSRTC Sapthagiri

Express. KSRTC, TNSTC and SETC also operates their services to Lower Tirupati. There are also private transport which operate in the city.

2.8.3 Tirumala foot steps

There are two footpaths from Tirupati to Tirumala. These paths are called Sopanamargas and are mostly used by pilgrims. The first (and oldest) path starts from Alipiri and has 3550 steps, totalling 11 km (6.8 mi). At Alipiri there is a temple dedicated to Venkateswara called Padalamandapam. There are four Gopurams (temple towers) along the way. The other path, called Sri Vari Mettu starts from Srinivasa Mangapuram and is 6 km (3.7 mi) long. Both paths are completely roofed and pass through seven hills (part of Seshachalam Hills).

2.8.4 Railways

Tirupati Main is classified as an A1 station in the Guntakal railway division of South Central Railway zone. Tirupati West Halt and Tiruchanur are the satellite stations, used for decongesting rail traffic at the main station. In addition to these, Tirupati also has Chandragiri, Yerpedu and Renigunta Junction Railway stations to serve the needs of the people of the city.

2.8.5 Airways

Sri Venkateswara Airport is located 15 km (9.3 mi) from the city centre and has daily flights to Coimbatore, Hyderabad, Kolkata, Mumbai, New Delhi, Bangalore, Kolhapur,Pune, Tiruchirapalli, Madurai, Shirdi, Rajahmu ndry, Gulbarga, Hubli, Vijayawada and Visakhapatnam.

The closest international airport is Chennai International Airport which is 130 km (81 mi) from Tirupati. Tirupati Airport is being upgraded to an international airport. The new terminal was inaugurated on 22 October 2015.

2.9 Education

The primary and secondary school education is imparted by government, aided and private schools of the School Education Department of the state. Majority of them are named after presiding deity of Tirupati temple, Venkateswara and his consort goddess Padmavati.

There are several universities and colleges including state government and Tirumala Tirupati Devasthanam sponsored such as, Sri Venkateswara University, established in 1954; Sri Padmavati Mahila Visvavidyalayam, a dedicated women's university; Medical colleges include Sri Venkateswara Medical College and Sri Padmavathi Medical College for Women. Sri Venkateswara Institute of Medical Sciences (SVIMS) is also a medical institute, Sri Venkateswara Vedic University to preserve, foster and promote oral traditions of Vedic, Agamic and Cognate Literature, with focus on right intonations. Rashtriya Sanskrit Vidyapeetha, a university established for higher learning in Sanskrit studies, Traditional Sastras and Pedagogy. Sri Venkateswara Veterinary University to strengthen education and services in the fields of Veterinary Science, Dairy Technology and Fishery Science in the State of Andhra Pradesh. Sri Venkateswara Institute of Traditional Sculpture and Architecture (SVITSA) run by TTD is one of the two institutions in India offering courses in traditional sculpture

and architecture to students. Seven diploma courses are offered in subjects such as temple architecture, stone sculpture, Sudai aculpture, metal sculpture, wood sculpture, traditional painting and traditional Kalamkari art. Indian Culinary Institute, Tirupati is the first culinary institute in India established by Ministry of Tourism (India).

The city has Indian Institutes of Science Education and Research (IISER) and IIT Tirupati which were allotted by Government of India to the state of Andhra Pradesh. There are three law colleges, namely, Sri Venkateswara College of Law, Anantha College of Law, and Dr. Ambedkar Global Law Institute.

2.10 Research

- The National Atmospheric Research Laboratory (NARL) is an autonomous research institute funded by the Department of Space of the Government of India. NARL is engaged in fundamental and applied research in the field of atmospheric sciences. It is around 30 km (19 mi) from Tirupati.
- Sri Venkateswara Medical College, Tirupati is selected for establishment of Multidisciplinary Research Units (MRUs) and Model Rural Health Research Units (MRHRU) by the Indian Council of Medical Research (ICMR).
- Sri Venkateswara Institute of Medical Sciences (SVIMS), Tirupati is selected for establishment of college level Viral Diagnostic Research Labs.
- A sub-centre for All India Coordinated Research Project (AICRP) on the groundnut (peanut) is established at the Regional Agricultural Research Station (RARS), Tirupati to conduct research activities on new high. The research will help to meet the needs of the country's 100 arid districts which receive less than 500 mm (20 in) rainfall. RARS has so far developed 12 groundnut varieties.
- A research centre for indigenous cows was established by TTD at its dairy farm named Sri Venkateswara Gosamrakshanashala. The purpose of the centre is to protect the cows and also to share the rare breeds among similar organisations. The Gosamrakshanashala already had distinctive high-worth breeds like Ongole, while it is also trying to gather Sahiwal breed of cows from Punjab, Gir cows of Gujarat to the centre, Tharparker and Kankrej cows from Karnataka.

Chapter 3

About the Printing Industry

3.1 Introduction

Printing is a process for reproducing text and images. This website focuses on printing as an industrial mass production process and an essential part of the publishing process.

Printing means to produce reproductions of written material or images in multiple copies. There are four traditional types of printing: relief printing (with which this article is mainly concerned), intaglio, lithography, and screen process printing. Relief printing encompasses type, stereotype, electrotype, and letterpress. Flexographic printing is a form of rotary letterpress printing using flexible rubber plates and rapid-drying inks

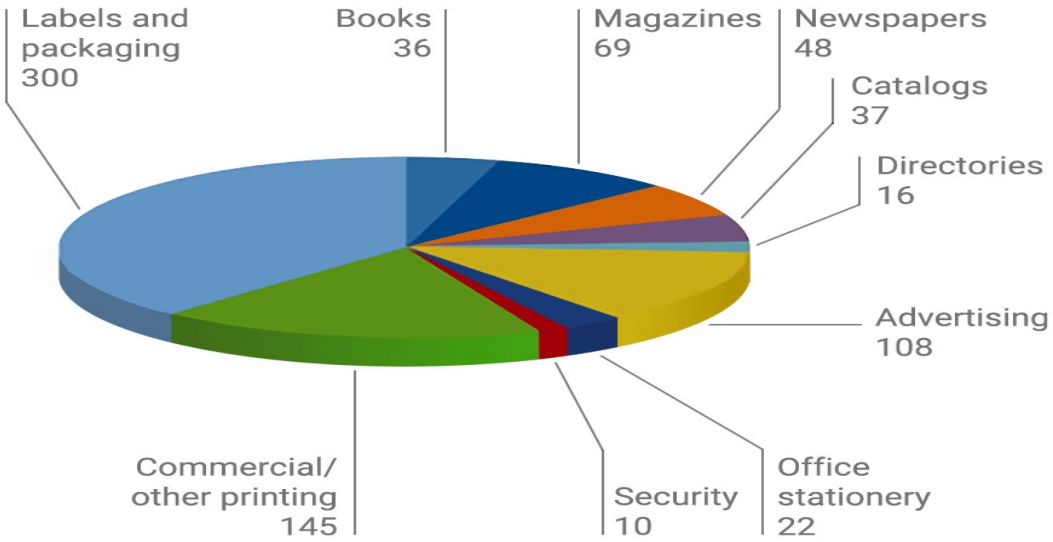
3.2 Printing processes

There is a wide variety of technologies that are used to print stuff. The main ones are:

- **Offset** – The full name of this process is offset lithography. It is the most widely used printing technique on the market, suitable for printing on paper, cardboard, plastic, and other flat materials. Offset is used for printing books, newspapers, stationery, packaging, etc.
- **Flexo** – In flexography flexible (typically rubber) printing plate is used, which extends the range of substrates that can be printed on. Plastics, metals, cellophane and other materials can be printed on. Flexo is mainly used for packaging and labels and to a lesser extent also for newspapers.
- **Digital printing –** A number of different printing technologies such as **inkjet** and xerography are often referred to as digital printing. These are the newest processes and as such, they are gradually replacing other processes. They also offer new possibilities such as variable data printing, in which each printed copy is different from the previous one.
- **Screen printing** – This printing technique can handle a wide range of materials and the printing surface does not have to be perfectly flat. Printing t-shirts or glass surfaces or on wood are some of the possibilities.
- **Gravure** – Also known as rotogravure, this is a technique in which an image is engraved into a printing cylinder. That cylinder is inked and this ink subsequently transfers to the paper. Gravure is used for high volume work such as newspapers, magazines, and packaging.

3.3 Printed products

The chart below shows the global print market per sector in billion dollar. Meanwhile these numbers have obviously changed. According to industry reports the newspapers, magazines, catalogs, and directories sectors have declined while the packaging market has grown.



3.4 Printing market

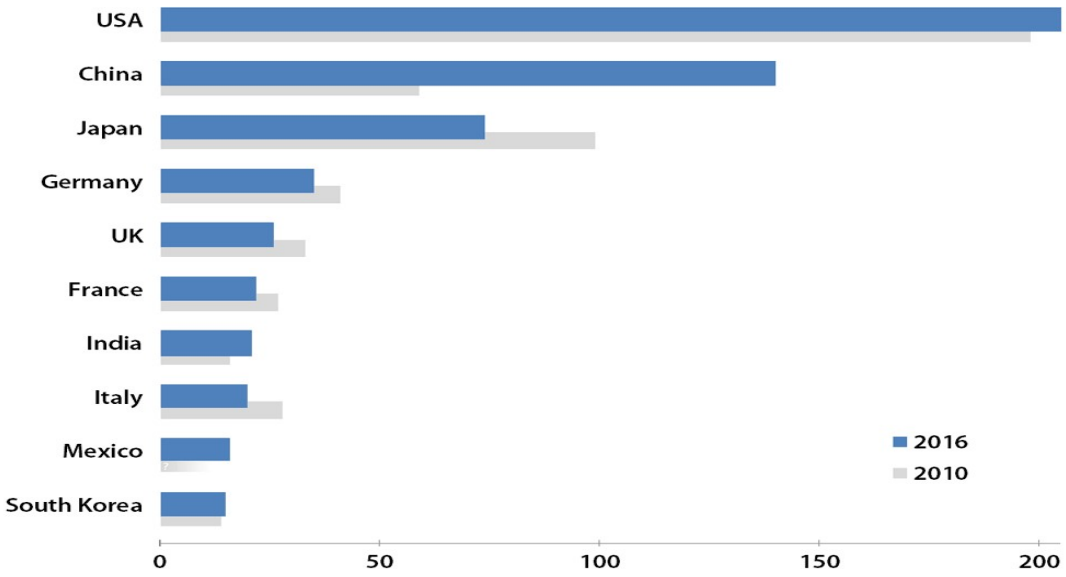
Printing companies can be categorized based on the type of customers they serve, the types of jobs they print, and the equipment they use. The printing market can be split into segments:

- **Commercial printing** – Commercial printers typically print a wide range of products, from stationery to brochures, catalogs, and magazines. Some companies focus on specific markets, such as quick printers, forms printers, wide format printers, direct mail printers, and companies doing security printing. Web-to-print printers are companies whose entire print volume is generated by selling print products online. In-plants are printing facilities that are part of a company or institution and only produce print for their own employer.
- **Publication printing** – Newspaper printers, book printers, magazine printers, and directory printers target the high volume work in a specific market. Many of these companies are both publisher and printer.
- **Packaging printing** – Packaging printers specialize in printing all kinds of packaging such as boxes, cartons, bags, cans, tags and labels. Many companies specialize in printing on specific substrates such as metal (e.g. drinking cans) or plastics (e.g. in-mould printing)
- **Industrial printing** – When printing is only one of the steps in a manufacturing process, it fits in this category. This includes printing on

textiles, panels, floor tiles, or wallpaper. Decorative or functional printing on products like watches, dashboards, or cook tops is also in this category. Printable electronics is seen as a major new field.

- **Home and office printing** – Both inkjet and laser printers are used for printing personal and business documents. Other machines such as thermal and dot matrix printers are still used in some places.

Globally the USA is the largest producer of printed products. China is second in value but it is larger in volume. The overall trend for the coming years is a decline of the print market in North America, Western Europe, and Australasia while growth is expected in the other regions. The data of the graph below are from Pira International and estimate print production in billions of dollars for 2010 and 2016.



3.5 The Advantages of Printed Communication

For some printed products, such as packaging, there is no substitute. For others such as magazines, newspapers, catalogs, and books electronic equivalents exist. The internet, mobile communication, and tablet publishing have already had a profound impact on the printing industry. Stating that print is dead overlooks many of the key advantages of printed communication.

- Many types of print media (newspapers and magazines) still have a loyal readership. They remain a valuable part of the marketing mix of advertisers.
- Print allows for easy distribution to a particular geographical region.

- Many printed publications have a reputation that is as yet unrivaled by on-line or electronic media.
- Print media are often more engaging than their electronic counterparts.

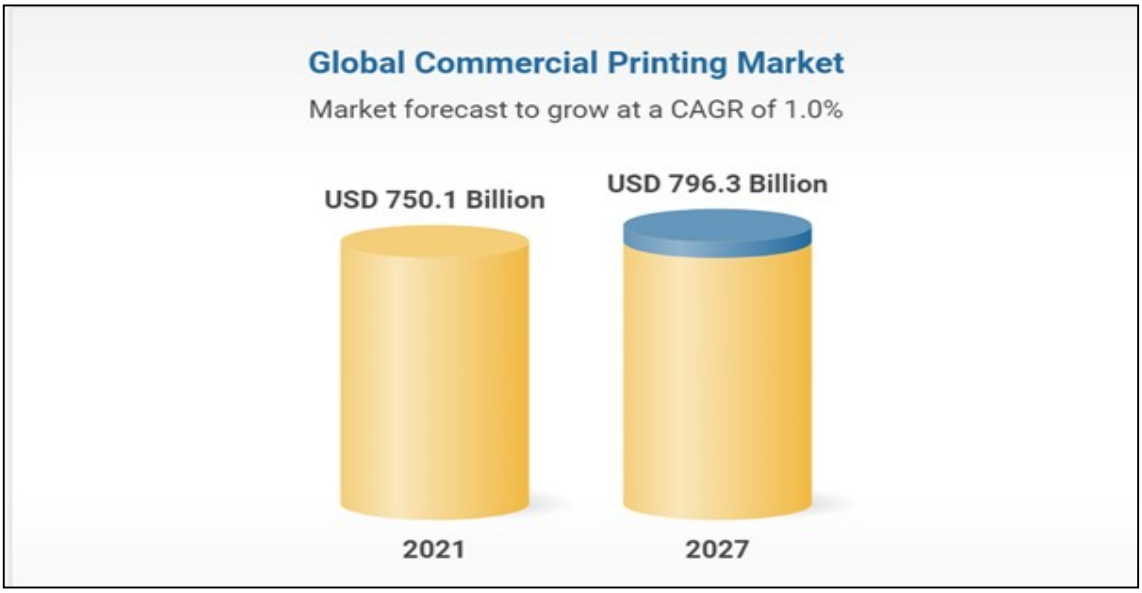
Most people assume e-communication is more environmentally friendly than print. While this may be true in some cases, it is not always so.

- The argument overlooks the environmental impact of producing reading devices, the storage and distribution of data, and the electricity needed to power reading devices.
- People incorrectly assume their home printer has the same environmental impact as industrial printing presses. In reality, a commercial printing press can produce 100 A4 pages using the same amount of energy that a laser printer at home needs to print one single page.
- The production of paper is becoming more energy efficient. Since 1990 the use of water has been reduced by over 60%. Energy consumption has dropped by 20%.
- Paper is increasingly recycled. In 2017 around 72% of all paper was recycled in Europe and 65% in the USA.
- Once a publication is produced long-term storage and re-reading require no additional energy.

3.6 Commercial Printing Market

Commercial Printing Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2022-2027

The global commercial printing market reached a value of US$ 750.1 billion in 2021. Looking forward, the market is projected to reach US$ 796.3 billion by 2027, exhibiting a CAGR of 1% during 2022-2027. These insights are included in the report as a major market contributor.



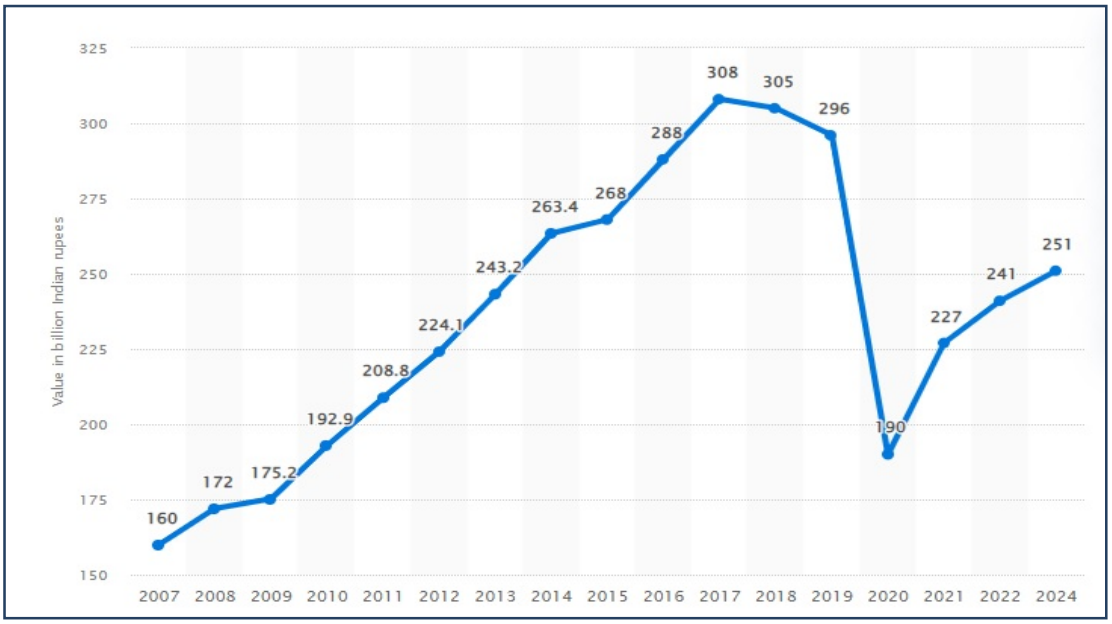
Commercial printing refers to the collection of services, which include bulk printing along with binding, composition, layout designing and press productions. A commercial printer is used to produce phone books, magazines, labels, catalogs, brochures, business forms, promotional materials and training manuals, among others. It consists of a paper feed, fold-out tray, ink replacer, digital or analog control panel, memory card reader and a paper output tray. It finds extensive applications across publishing and printing houses, as well as in large organizations that use the service to run their operations effectively.

The growing advertising needs of enterprises across the globe, along with extensive technological proliferation, currently represent the key factors driving the market growth. Organizations are increasingly adopting commercial printers as they are more cost-effective and efficient for bulk printing. Widespread use of high-quality printed packaging material for advertising and branding acts as another major growth-inducing factor. Furthermore, the steady demand for physical hardbound books is another factor driving the growth of the market. Although e-books and e-journals are gaining traction among consumers, paperback books and magazines are widely considered to provide high comfort and convenience as compared to

their digital counterparts. Commercial printing vendors are also expanding their services toward media and document management services, which is expected to enable organizations to enhance their distribution and promotion capabilities for both print and non-print materials. Moreover, green commercial printers that use eco-friendly paper, inks, coatings and chemicals, and facilitate reducing and reusing waste, are projected to drive the growth of the market further.

3.7 Printing Industry Value

Value of the print industry in India from 2007 to 2021, with estimates until 2024



Commercial printing refers to a collection of services, such as layout designing, binding, composition and press productions, used to transfer the artwork and text onto paper and cards. The commercial printing process utilizes a variety of materials such as flyers, brochures, books, posters, magazines, newsletters, and transactional bills and statements. It plays an essential role in producing large displays, which aids in attracting consumers with attractive designs. Consequently, it is widely used in the packaging, food and beverage, pharmaceuticals, and publishing industries.

India represents one of the largest commercial printing markets in the Asia Pacific region. The market is primarily driven by the development of innovative printing technologies by the manufacturers. They have started focusing on introducing engineered products with a reduced carbon footprint, higher energy efficiency, and better resistance to chemicals such as solvents and cleaners. The market is further propelled by the use of

commercial printing to its cost-effectiveness and better print quality as compared to smaller printers. Apart from this, commercial printing is also crucial in the e-commerce industry, especially in the production of brochures, pamphlets and leaflets. Moreover, the transition to digital technology has also provided a positive impact on the market growth.

The value of the print industry across India was over 225 billion Indian rupees in 2021. This was further expected to exceed 250 billion rupees by 2024, indicating a compound annual growth of around 3 percent. The value of this sector of the media and entertainment industry had to be readjusted to accommodate the negative impact of the coronavirus pandemic.By 2024, domestic consumption is projected at 23.5 million tonnes per annum (tpa) and production to 22 million tpa.

The India commercial printing market size reached US$ 31.9 Billion in 2021. Looking forward, IMARC Group expects the market to reach US$ 40.4 Billion by 2027, exhibiting a growth rate (CAGR) of 3.99% during 2022-2027. Keeping in mind the uncertainties of COVID-19, we are continuously tracking and evaluating the direct as well as the indirect influence of the pandemic on different end use industries. These insights are included in the report as a major market contributor.

Publishing businesses are scattered all over the nation and most of them are carried out on proprietor basis. The idea is to cater to the needs of the local markets and producing titles in regional languages to deliver news to a nation, where citizens speak more than 20 languages. In financial year 2018, the print circulation revenue in the south Asian country was led by the Hindi-speaking market with a revenue of almost 40 billion Indian rupees. The employment in the sector has also increased over the last decade and was estimated to cross the 90 thousand mark in 2022.

Increase in literacy rates across the country has created an interest amongst the young and old alike to stay up to date with the current affairs of the country and the globe. DainikJagran, a Hindi language daily newspaper had the highest readership in the country with about 70 thousand readers in 2017. Unlike some other markets with more developed digital ecosystems, the newspaper revenue streams in the nation have not faced serious challenges from the digital innovations.

Nonetheless, senior citizens prefer to keep it old school when it comes to getting their daily entertainment and information which is likely to keep the ink in the print sector flowing.

The trend toward online purchasing will contribute to other factors, including print volume consolidation, the transition to inkjet, and even outsourcing. Print volumes are now shifting at an accelerated pace, with internet-based sales and economies of scale helping to make the big PSPs even bigger.

In 2022, the number of people employed in the print media sector across India was estimated to reach around 93 thousand across India, marking an increase compared to around 75 thousand employees in 2017.

Chapter 4

Printing industry in India

The printing industry in India is an important industry in that country

4.1 Printing Industry in India

Printing and Print – Packaging industry in India is growing; people are taking keen interest in this key industry now. There are more than 36 printing institutes some of these giving even post-graduate education. Every year more than 3500 new printing engineering graduates joins the industry, while still much more get on the spot training in the print shops. Printing especially Packaging printing is now one of the industry. It is said that since 1989 the growth of the Printing coupled with Packaging Printing industry is over 14%.

The growth of this sector attributes to the two main reasons, First is the spread of education- according to the 2001 census report literacy growth in India touched nearly 66 per cent. This amazing growth in literacy together with rising educational levels and rapidly progressing trade and industry in India make the current situation a happy note. Literacy rate is growing; increase in the literacy rate has direct positive effect on the rise of the circulation of the regional papers. The people are first educated in their mother tongue as per their state in which they live e.g. students in Maharashtra are compulsory taught Marathi language and hence they are educated in their state language and the first thing a literate person does is read papers and gain knowledge and hence higher the literacy rate in a state the sales of the dominating regional paper in the state rises. There's little doubt about India's market potential in print media. According to a national survey, 248 million literate adults still don't read any publication. But readership of newspapers and magazines is up by 15% since 1998 to 180 million. It's a reflection of a younger, more educated population, especially in small-town India, feel experts. India has 49,000 publications, but annual revenues total just $1.1 billion. While they can be vibrant and gutsy, most are starved for technology, marketing, and capital to expand. So a handful of publications dominate. With the growth in literacy, the Indian print media industry is expected to grow at CAGR of 5.7% for the period 2009-13 to reach Rs. 213.6 billion from Rs. 161.8 billion in 2008.

4.2 Literacy – a boon for Print Media

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Newspaper publishing, which constitutes around 87% for the segment in 2008, is expected to grow to Rs. 184.8 billion in 2013. Magazine publishing is expected to grow to Rs. 28.8 billion in 2013 from Rs. 21.0 billion in 2008 at a CAGR of 6.5%.

Print advertising is expected to have a CAGR of 8.0% and grow from Rs. 103.5 billion in 2008 to Rs. 152.0 billion in 2013. Print industry circulation CAGR is expected to grow at a minimal rate of 1.1% to reach Rs. 61.6 billion in 2013 from Rs. 58.3 billion in 2008.

The Indian Print Industry has undergone a revolutionary change in the last 15 years. In 1990, India initiated a process of reforms aimed at shedding protectionism and embracing liberalisation of the economy. Privatisation was initiated with the aim of integrating the [[Indian economy]] with the world economy. This change opened the doors for the Indian Print Industry to modernise, by investing in the latest of technology and machinery. The average compound annual growth rate has been higher than 12% over the last 15 years. Our packaging industry is currently growing at a rate of more than 16% a year. Prior to 1990, most printers found it easy to invest in East German and Czechoslovakian machines. Post 1990, the trend has been to

acquire the latest and the best equipment & machines. The progressive printers of today are equipped with the latest computer controlled printing machines and flow lines for binding, while state of the art digital technologies are being used in pre-press. Leading print companies have optimised the use of information technology in each and every area of their business. These printers are today equipped at par with the best print production facilities in the world.

Today, India is fast becoming one of the major print producer & manufacture of printed paper products for the world markets. The quality standards have improved dramatically and immense production capacities have been created. Some printers have won recognition by winning prizes at international competition for excellence in printing. The current annual turnover of all the components in the Indian printing industry are more than Rs.50,000 crores. That is in the region of US$11 Billion.

Indian books, journals and printing jobs, etc. are being exported to over 120 countries of the world both developed and developing. Indian exports of books, printed pamphlets, newspapers& periodicals, job printing and printed materials during 2004-05 was estimated to the tune of US$550 million.

The Indian Printing Industry, growing at a rate of 12% per annum, comprises more than 250,000 printing companies. The current annual turnover of is more than INR 50,000 crores (US$11 Billion).

India is the country with largest number of printing presses in the world (Europe: 1.18 lakh, China: 1.13 lakh, USA: 50,000, Japan: 45,000, Korea: 42,000 and Australia: 40,000). India with approx. 25 lakh employees is second only to China (30.25 lakh) so far as the number of employees in printing sector is concerned. Employees and number of printing companies are decreasing by 6 per cent world over, including China, whereas in India it is progressing at 5.2 per cent annually. The industry has undergone a revolutionary change in the last 15 years. In 1990, India initiated a process of reforms aimed at shedding protectionism and embracing liberalisation of the economy. Privatisation was initiated with the aim of integrating the Indian economy with the world economy. This change opened the doors for the Indian Print Industry to modernise, by investing in the latest of technology and machinery. In recent years, the printing industry in India has seen record levels of growth, owing to liberalised regimes, globalisation and progress in automation. The industry has grown leaps and bounds due to the latest technology and machinery, quality standards and production capacities.

4.3 Overview

The compounded annual growth rate of the Indian Printing Industry is estimated to be 12.2% for the period 2007-12. The objective is to achieve 60% growth by the year of 2014. The printing industry of India is highly fragmented. Newspapers and magazine publishing section have the large printers apart from a few in package, label and commercial printing. About 77% of the printing houses are family-owned. From 2002 inwards the government allowed foreign investment. Foreign investors can now invest up to 26% in daily newspapers and 100% in scientific or other publications with government approval. Printing sector has evolved from a manufacturing industry into a service industry in India of late. Publishing have come up to the international standards as well.

Most of the large printers are found in big cities of Delhi, Kolkata, Mumbai, Hyderabad, Chennai, and Sivakasi, which has emerged as a commercial printing hub and accounts for a major share of exports from the Indian printing industry.

India's biggest international exhibition on Printing and Packaging is PRINTPACK INDIA which is organised by an Association called IPAMA. The Indian printing industry will reach nearly $20.9 billion by 2015, a government official said at the ninth edition of the international exhibition on printing and allied machinery industries (PAMEX) which was inaugurated at Greater Noida. With the exponential growth, the organisers expect India to become the largest printing market by 2015 aided by low-cost production and ready-to-adopt new technology. The event is also being supported by the Indian Newspaper Society (INS) and the Federation of Indian Publishers. It is the only dedicated international exhibition for the industry organised in Asia. The printing industry in India is slowly progressing from the heavy machinery using industry to a more software-centric business. The Indian printers are today equipped with the latest computer controlled printing machines and flow lines for binding, while state-of-the-art digital technologies are used in pre-press. UV digital printing and inkjet technology are also on the rise in India. The advent of global brands, rising consumerism and growth of the pharmaceutical industry have seen an increase in the scope for package printing. Giving an optimistic outlook of the industry, the package printing sector is growing at the annual rate of 18 percent, commercial printing at a rate of 4 – 6 percent and digital printing at robust 30 percent. The digital printing industry is seeing significant transformations with new technologies & applications providing cost-effective and customised solutions. For the foreseeable future, offset and digital will not only co-exist, but will also complement each other- with offset taking the medium-to-longer jobs and digital performing on short-to-medium run lengths. The booming Indian economy, increasing

consumerism, entry of global brands in the country and opening of the sector to foreign investors are bound to offer growth opportunities to this industry.

4.4 Booming sector

Currently printing sector is all set to become booming in India due to available technology, resource at a very economical cost. Also government is encouraging foreign direct investment into this sector. Lot of MNC's are expected to invest in this sector due to favourable working conditions. There are numerous jobs are expected in this industry due to overall growing percentage of 12% per annum. World-wide, the annual revenue of the printing industry is over $600 Billion. The United States accounts the major share for over 25% of this business, at $160-Billion a year.[citation needed]

Chapter 5

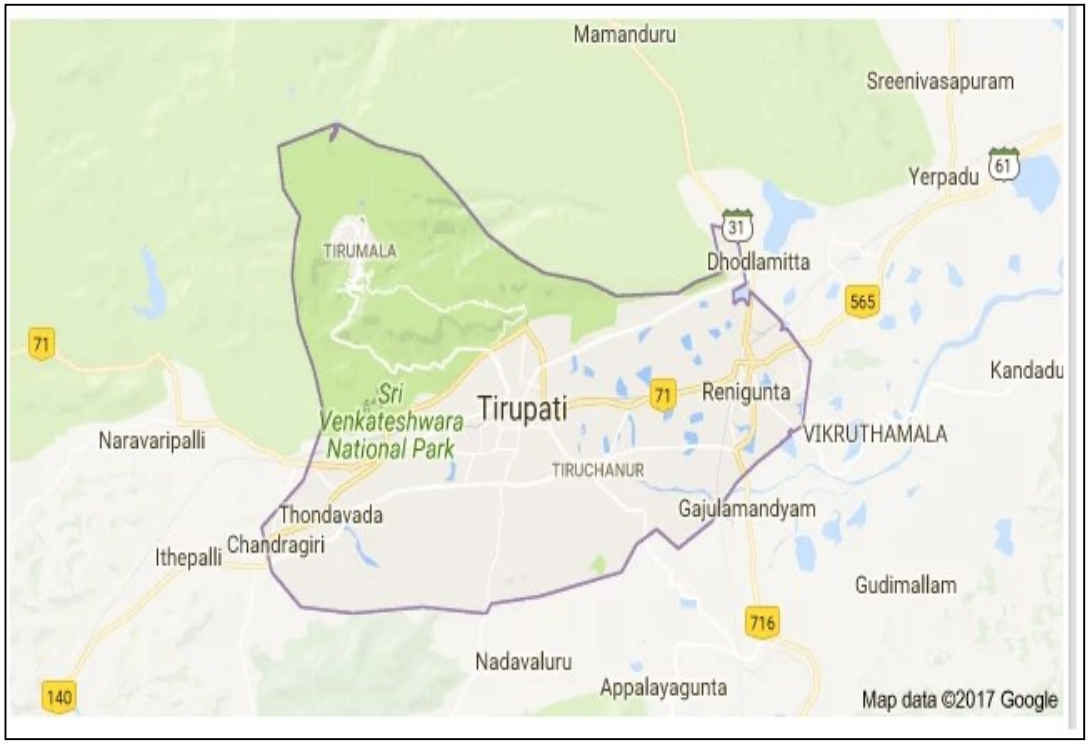
Details of Printing Cluster Tirupati

5.1 Age of the Cluster

The printing cluster in Tirupati is 60 years old consisting of 92 units scattered across the city providing printing services to various customers and institutes.

5.2 Location

The cluster is located and spread within Tirupati and all the units are located within 10 km of radius.



5.3 Nature of the cluster

The presently cluster is having 92 Units which are 100% Micro in nature.

5.4 Products of the cluster

The cluster members are involved in printing and graphical designing job. Their printing products are

1. Business cards Print
2. Text Books Print
3. Pamphlets Print
4. Journals Print
5. Wedding cards Print
6. Poster Print
7. Letter heads Print
8. Diaries print
9. Hotel menus Print
10. Calendars Print
11. Receipt books Print
12. ID Cards Print
13. Wedding Albums

Similarly the products like books, Journals etc. under go binding (Book & Spiral) and lamination.

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<td>ID Cards</td>
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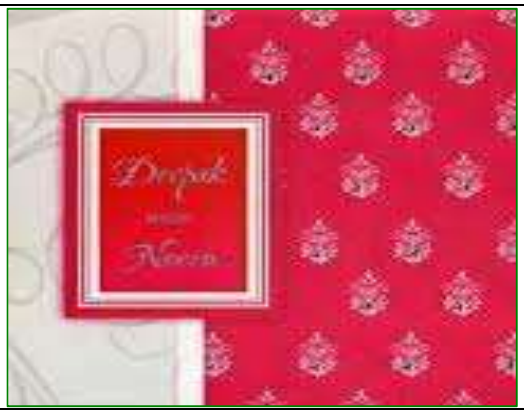
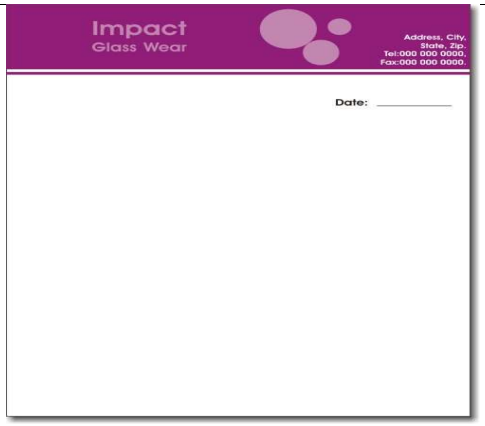


Wedding Cards



Posters | Company Letter heads

5.5 Technology used in the cluster

The Cluster Members are using conventional offset Printing Machinery and age old technologies like Screen Printing Technology, Single colour Printing, Drum type and Plate type Press based Impression Printing Methods are used by majority of the members. Few of the cluster units have basic four colour printers and post press equipment. Some of the cluster units have lamination, manual spiral binding equipment and other units have broad inkjet printers.

5.6 About Printing Cluster Tirupati

The Printing Cluster Tirupati is Consists of 92 Units located in Tirupati. All units are in a proximity of 10 Kms. The Cluster lacks several advanced machineries that are hindering the growth prospect of the Cluster. The cluster products have huge market demand in the local market as the cluster location is known to be educational hub of the state. Majority of the text books are published in the cluster region for the state. The cluster is strategically located at the center of few of the major cities.

Chapter 6

Diagnostic Study Findings

6.1 Introduction

Printing press process is a technique of evenly printing ink onto a print medium (substrate) such as paper. Offset printing is a commonly used printing technique followed by the cluster members. Offset printing is best suited for economically producing large volumes prints in a manner that requires little maintenance.

6.2 Raw Material Availability

The major raw materials required by the cluster units are paper and ink which are easily available from paper Manufacturing Industries in Bangalore. There is a prevalent dealer network in Bangalore, and Chennai.

The cluster on an average requires 2000 tons of paper annually. The cluster units use papers ranging from 60 GSM to 300 GSM and with smooth finish, Glossy, Dull or Matte Finished, Bright White Paper etc. The papers are purchased in the form of Sheets, reams and rolls. The different paper sizes used are as indicated in the table below

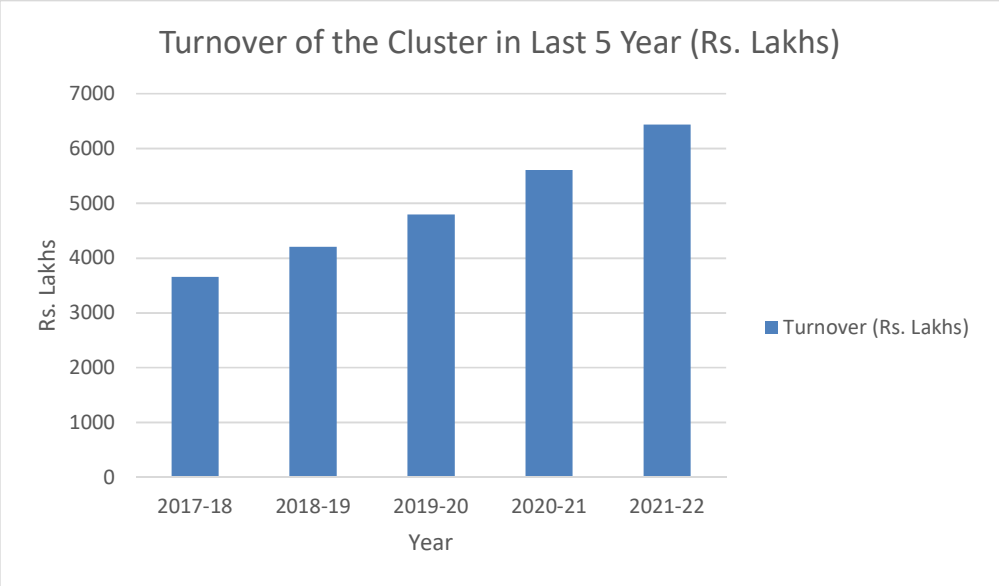
A Sizes (mm)		B Sizes (mm)		C Sizes (mm)	
A0	841 x 1189	B0	1000 x 1414	C0	917 x 1297
A1	594 x 841	B1	707 x 1000	C1	648 x 917
A2	420 x 594	B2	500 x 707	C2	458 x 648
A3	297 x 420	B3	353 x 500	C3	324 x 458
A4	210 x 297	B4	250 x 353	C4	229 x 324
A5	148 x 210	B5	176 x 250	C5	162 x 229
A6	105 x 148	B6	125 x 176	C6	114 x 162
A7	74 x 105	B7	88 x 125	C7	81 x 114
A8	52 x 74	B8	62 x 88	C8	57 x 81
A9	37 x 52	B9	44 x 62	C9	40 x 57
A10	26 x 37	B10	31 x 44	C10	28 x 40

The other raw materials are different types of inks, pinning and punching strings, pasting gum etc., Offset printing uses inks that, compared to other printing methods, are highly viscous. Typical inks have a dynamic viscosity of 40–100 Pas.

6.3 Turn Over of the Cluster from Last 5 Years and Projected Turnover:

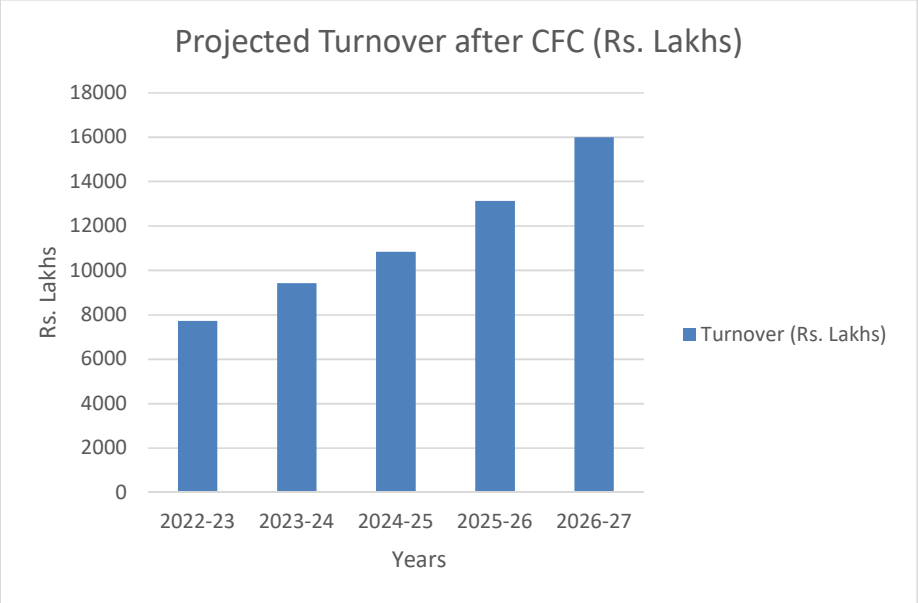
Year	2017-18	2018-19	2019-20	2020-21	2021-22
Turnover (Rs. Lakhs)	3658	4206.7	4795.64	5611	6440

The Turnover of the cluster is found to be progressive but the percentage of progress is comparatively low and can be improved if the proposed CFC is established which will help the cluster members to conquire new markets.



Projected Turnover in Next Five Years of Establishment of CFC

Year	2022-23	2023-24	2024-25	2025-26	2026-27
Turnover (Rs. Lakhs)	7728	9428	10842	13119	16006



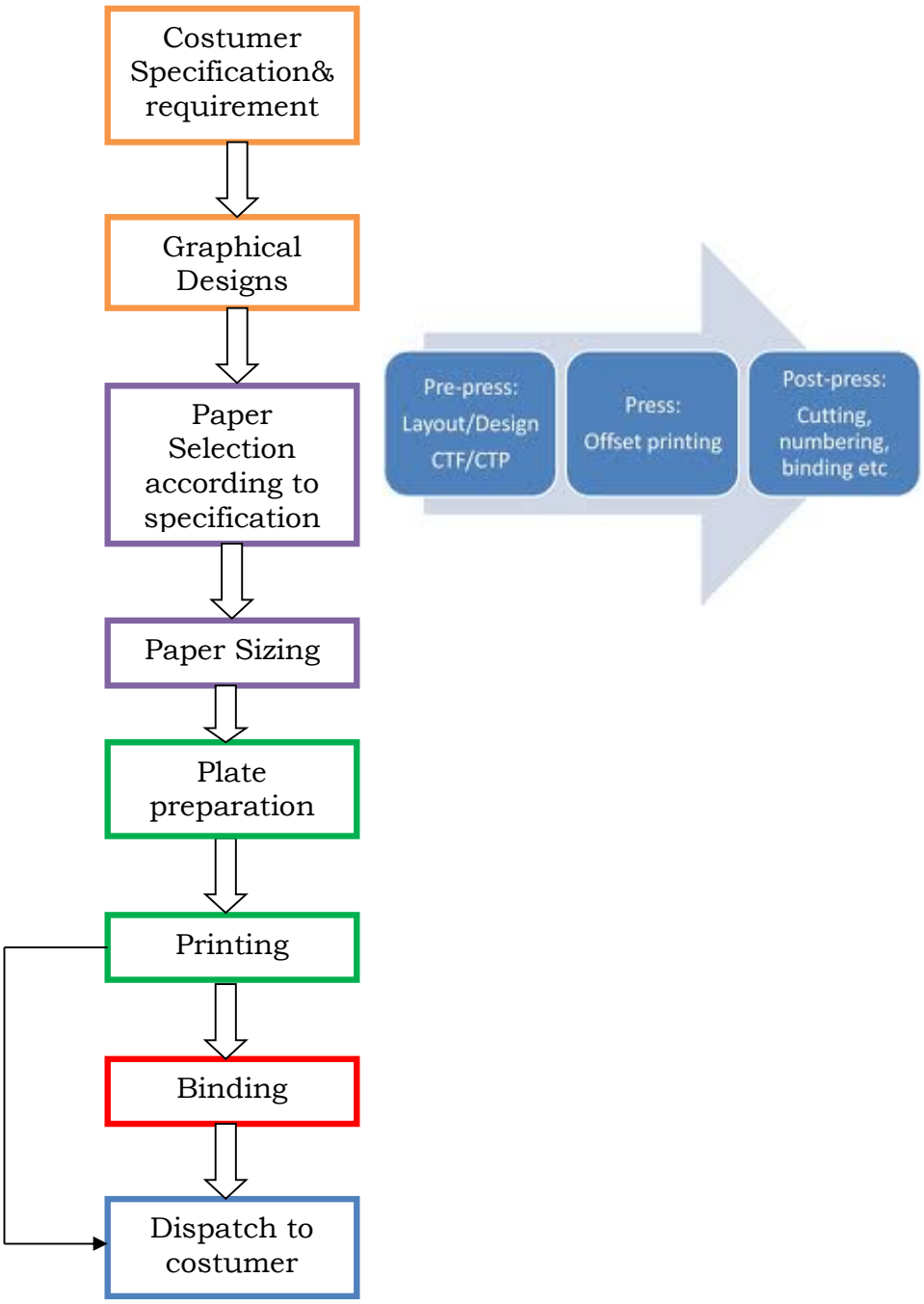
6.4 Employment at the Cluster

The Micro units on average employees 5 people. Majority of the printing units are family owned and male dominated. Only 30% of the work forces are women. The cluster provides direct employment to 500 people and an additional indirect employment of 3000 people.

Detailed category of Employment in the cluster

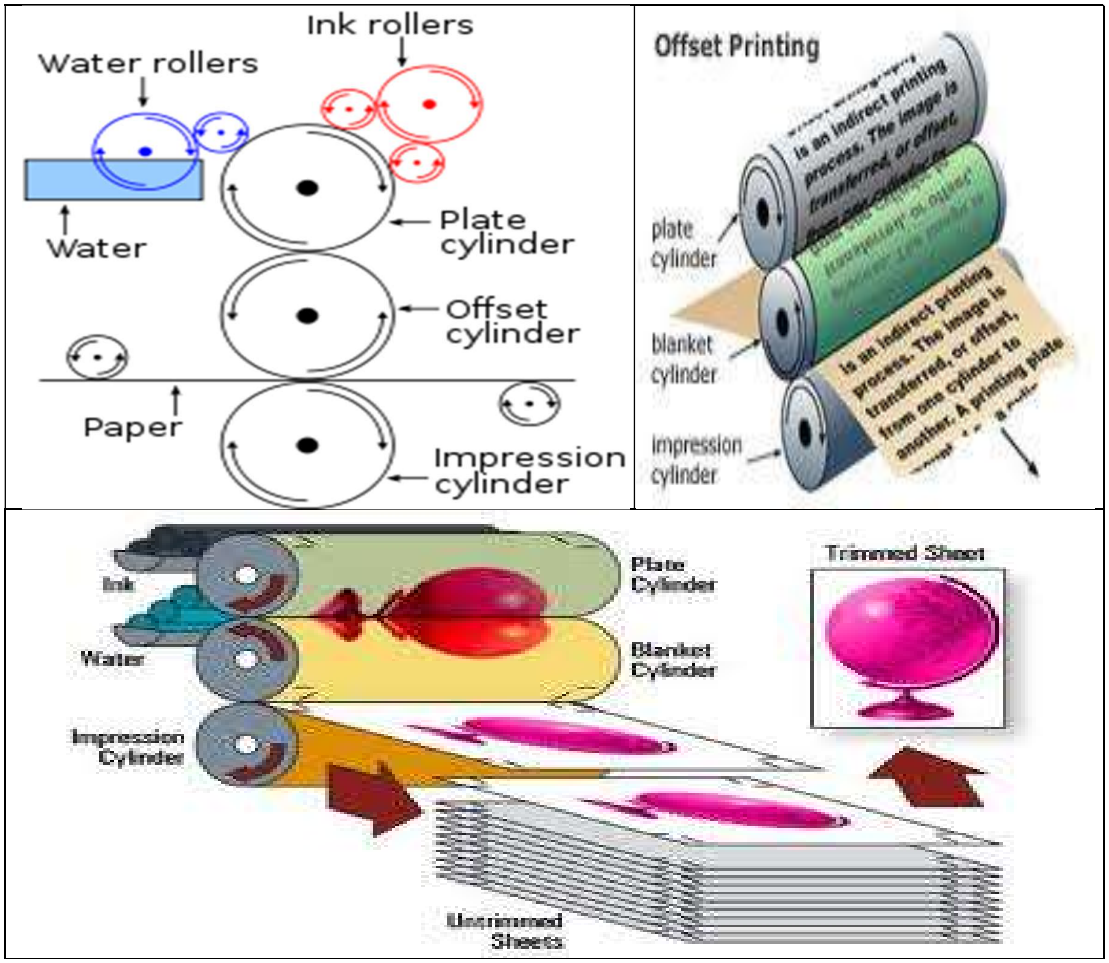
Sl. No.	Employment Category	Numbers	Percentage
Gender Based Employment			
1	Men	350	70%
2	Women	150	30%
	Total	**500**	

6.5 Production Process



The cluster members produce printing products specified and required by the customer. The graphical design is achieved by using software like coral draw, adobe, and photo shop. The paper thickness varies from 74 mm to 841 mm and the size, quality also varies. Offset printing is a printing technique in which the inked image is transferred (or "offset") from a plate to a rubber blanket, then to the printing surface.

When used in combination with the lithographic process, which is based on the repulsion of oil and water, the offset technique employs a flat (planographic) image carrier on which the image to be printed obtains ink from ink rollers, while the non-printing area attracts a water-based film (called "fountain solution"), keeping the non-printing areas ink-free.



Offset printing is derived from the photo offset process, which involves using light-sensitive chemicals and photographic techniques to transfer images and type from original materials to printing plates. In current use, original materials may be an actual photographic print and typeset text. One of the most important functions in the process is pre-press production. This stage makes sure that all files are correctly processed in preparation for printing. This includes converting to the proper color model, finalizing the files, and creating plates for each color of the job to be run on the press.

6.6 Market of the Cluster

The cluster units have a well-established local customer base ranging from Industrial, religious and educational institutions to individual printing requirements like business and wedding cards. The demand for printed material varies all year long with growing demand at the start of a new academic year, Wedding seasons, religious occasion political campaigning etc. The cluster also receives continuous demand from various association, societies, and companies to produce their letter heads, broachers, receipt books etc. The clusters strategic location has given it a strategic advantage as it is located nearer to business market hub areas and educational institutes. The cluster market is confined to Tirupati and surrounding taluks and districts. The Cluster products are exported also in terms of packaging material and other printed material.

6.7 Major Cluster Problems

- Majority of the cluster units own off set printers which require a printing plate. The cluster units at present use film in printing. The cluster units are following traditional methods of printing called offset lithography printing produced film on an image setter and used it to make a metal printing plate which has many draw backs. The plate is then fitted on a printing press to make thousands of printed impression copies. The plate is an important and crucial pre-press activity where in skilled labor is required and it's a time-consuming activity having a high rejection ratio. As per lithography technology the transfer of image to film typically leads to distortion of image leading to lower resolution.

- Many a time's the cluster's customers change the designs and layouts leading to re work of plates which eventually prolongs the time and increases recurring expenditure.

- The cluster units at present are able to cater and receive orders from low end printing market segment and are unable to get orders from niche printing market segments due to the lack of modern printing equipment. The present offset printing press that the cluster units use have printing resolution of 266-300 dpi which is satisfactory for newspaper pamphlets, wedding cards, envelopes etc. but for products like albums, flyers, Display stands, company Booklets, Magazines, Canvas prints etc. high resolutions are required which the cluster units are not able to achieve due to their equipment limitation hence losing out the market to MNC's.

Majority of the cluster units don't possess Multi colour offset modern printers

- The other area where the cluster units lack are variable data printing. Most of the times the cluster units receive consignments or orders which have unique/variable bar codes, numbering (eg exam hall tickets, scratch & win cards), Quick Response Code (QR) etc. which the cluster's off set printers are unable to print.

- Many units in the cluster don't possess coating machines which is essential for printed material. Print coatings are used on printed products primarily for protection or to achieve certain visual effects. Coatings can provide protection from moisture, scuffing, scratching and finger prints. Coating is also applied to one or both sides of a printed material to create a glossy or dull finish or can be applied selectively to highlight a certain visual element.

- A considerable number of units in the cluster lack modern finishing and post press machines. The cluster lacks high speed paper cutting, folding machines die punching machines. These machines are important for finishing the printing consignment and to provide customer satisfaction.

- For hard and book binding the cluster units are manually applying glues to paper and board, to ensure proper binding pressure is applied to the glued paper and board in the form of weight by unscientifically placing heavy material. It was noted that the glue used was of low quality and there was no uniformity at the end and thus the product had a low acceptance with the customer.

- Due to such shortcomings the cluster products are unable to meet market quality requirements and parameters. The cluster market has it a sealing wherein they are not able to venture into newer printing market areas.

- There is very little or no product diversification and value addition taking place due to lack of modern equipment.

- The cluster units require common Training, Design Development and Marketing facilities.

6.8 Information on nature of critical gap identified

Area	Critical Gap
Offset printing Plates	The lithographic plates used in the cluster units are of an outdated technology and not up to the industrial standards of present market/customer demands. Creation of the plates takes 4 days and once set it is impossible to make any changes apart from this it has slightly inferior image quality. Low volume prints are not feasible in lithographic plates.
Low resolution prints	The offset printing technology consists of printing technique in which the inked image is transferred from a plate to a rubber blanket, then to the printing surface. Many a times the poor quality of plate, low standard inks and propensity for anodized aluminum printing plates to become sensitive (due to chemical oxidation) and print in non-image/background areas when developed plates are not cared for properly has resulted in low resolution prints.
Code printing	The changing technology has tremendously altered printing industry. The product manufacturers are using bar codes, number codes on their printed material (boxes, validity, guarantee cards etc.) to keep in track of their products and similarly companies advertising their services are using quick response codes to have better on line reach among customers. Each of these bar codes, numbers and QR codes are unique and no two codes/numbers are same. The printing cluster lacks this kind of variable printing machine and is a major critical gap.
Market	The cluster products do have a considerable demand locally throughout the year but the cluster units are able to full fill only basic level market demands like printing wedding cards, local black and white or colour magazines, company letter heads etc. As the technology is changing rapidly newer and newer machines having high resolutions, capacity have emerged in the market

	leading to high customer expectation, demands at lower price for printed material. The cluster units are unable to expand their market in the current market scenario because of their machineries and equipment.
Finishing/Post Press	The cluster region lacks finishing equipment and many a times the cluster products have a high rejection and un acceptance ratio from the customer. Many a times due to non-availability of precision cutting machines (magazines, text books) the pages are unevenly cut Poor practices of coating and manual book binding has given the cluster printed products a poor appeal among customers.

6.9 Hard Intervention Proposed

The Detailed Project report recommends the following hard interventions

I. Pre-Press Equipment and Machines

- CFC with Design Studio with Licensed Software for Graphics Designing, Photoshop Editor etc.
- CFC with Computer to Platemaking unit
- CFC with Infra-Red Screen Curring Machine
- CFC with Screen Exposing and Drying Machine

II. Advance Printing Technology Setup

- CFC with Multicolor offset Printing Machine
- CFC with Large Size Screen Printing Machine
- CFC with Fabric Printing Machine
- CFC with Eco-Friendly Cloth Banner Printing Machine
- CFC with Digital Press for photo albums and brochures

III. Post Press Equipment and Machinery

- CFC with Fully Automatic Programmable Cutting Machine
- CFC with Automatic Case Maker Machine
- CFC with Perfect Binding Machine
- CFC with Album Case Making Machine
- CFC with Joint Forming Machine
- CFC with Automatic Thermal Lamination Machine
- CFC with Automatic Folding Machine
- CFC with Spot UV Printer and Embossing Machine

- CFC with Automatic Die-Cutter Machine

IV. Skill Development and Training Setup

V. Environmental Section

- Roof Top Solar power captive power generation System
- Rain water Harvesting Setup

6.10 Benchmarking

The printing industry was started in Sivakasi during early 20th century. Printing units were started mainly to cater the local needs and after further expanding their capacity the companies started to get customers from other parts of the country. The printing units and allied industries have formed a cluster in Sivakasi that contributes to the high quality cost effective printing solutions to the customers.

Sivakasi is India's printing hub. 60% of India's offset printing solutions is produced in Sivakasi. Sivakasi houses largest number of printing machines in the world next only to Guthenburg in Germany.

All kinds of printing jobs are undertaken in Sivakasi including security jobs like printing bank Cheque books, flight ticketsand lottery tickets. Most of the leading presses are exporting children's books, notebooks, magazines, greeting cards, calendars, trade labels and cartons throughout the world.

Around 450 printing presses including offset &flexo types are located in and around Sivakasi. More than 50,000 workers are engaged in printing and allied industries. The town has a school of printing technology.

The printing industry in Sivakasi is worth about 1000 crores. The market for printing is growing at the rate of 10% per annum.

Benchmark

- To increase the individual cluster profit margin by 30%.
- Produce export oriented products.
- Indulge in value added products and diversification of products.

6.11 Projected Performance of the Cluster after Proposed Interventions

Area	Present Scenario	After Intervention
Units	92 units	150 newer units
Products	Only customer specific products or service to the customers with low or medium quality demand	Marketable products like labels, dairies etc. And service to the high quality and high resolution printing demands
Market	Established local and domestic Regional market	Enhanced market growth, access to Export Market
Employment	Direct = 500 Indirect = 3000	New Direct = 800 New Indirect = 5000
Exporting units	Nil	15 unit
Turnover of cluster	Rs. 64.40 Crore (2021-2022)	Rs 100 Crores Within 3 years of CFC
Training	No such facility present in the cluster region	Training center with necessary infrastructure and faculty at the CFC.
Workforce	Skilled by experience	Skilled workforce quality upgradation and ready to be observed by the industry.
Profit	Low profit margins	Improvement in profit margin by 30%

6.12 Need for CFC/Justification for CFC

The progressive printers of today are equipped with the latest computer controlled printing machines and flow lines for binding, while state of the art digital technologies are being used in pre-press. Leading print companies have optimized the use of information technology in each and every area of their business. These printers are today equipped at par with the best print production facilities in the world.

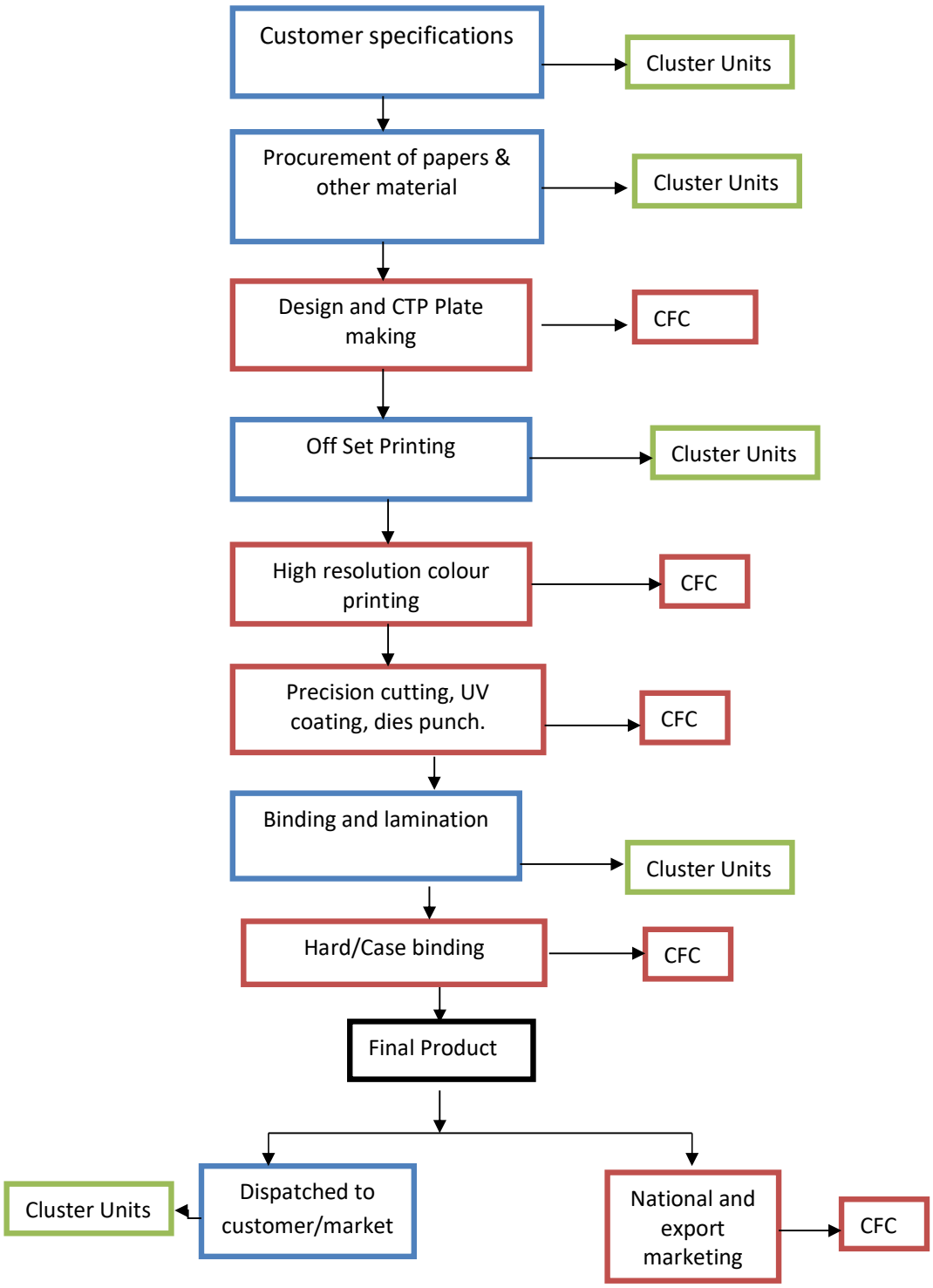
A common facility center is very much needed in order to keep up with the changing trends necessary interventions are needed at the base level. If a CFC is established the cluster units will be tremendously benefited. The original licensed version software at the CFC will only be used for training purpose but also for designing the graphical content with activated and updated tools to satisfy the industrial and training needs of the cluster units. The cluster members who are at present dependent upon customer service kind of market will be able to produce and launch their own products like diary's, books, labels, calendars etc. as the CFC will be able to provide necessary infrastructure. The CFC will be able to give confidence to the cluster members to enhance their market reach.

The shortage of skilled workforce that the cluster units faced can be easily overcome with the training facilities which will be able to train the existing workforce and also to the new workforce who could easily be absorbed by the industry. The most important contribution of the CFC to the cluster members is the availability of advanced multi colour and variable data printers, pre-press printing and post press finishing equipment that will boost their production activities and will decrease the critical gaps present in the present process. A common facility center at will help the cluster units tremendously as they will be less dependent on Hyderabad city leading to increase in revenue as unnecessary expenditure of travelling, transportation, work force diversion will be reduced leading to the overall development of the cluster units.

The CFC will help to improve the competitiveness of the cluster members and will provide the strength to the cluster members to compete with larger national and multinational brands and companies

6.13 Role of CFC in the Cluster

The role of the CFC in the cluster will be to provide process correction stages and fill in the technological gaps present in the cluster. The CFC will act as a gap filling and supporting facility.



6.14 Cluster Units

Chapter 7

SWOT Analysis

Strength

- The Cluster is located in Tirupati City which is one of the biggest tourist destination in the country and hence has huge demand for printing of posters devotees and temples.
- The cluster units are having vast experience and are in the industry since ages.
- The cluster units are having good corporation with each other and are serious to take up future opportunities
- The printing industry is expected to have a study growth.

Weakness

- The cluster units are using traditional techniques and single and two colour printing machines which are outdated.
- The outsourcing of job for multi-colour printing to Chennai and Bangalore is a serious problem to the cluster units in terms of loss of revenue and time to service is affected.

Opportunities

- India represents one of the largest commercial printing markets in the Asia Pacific region and thus has huge potential for future growth.
- The market is primarily driven by the development of innovative printing technologies by the manufacturers.
- With setting up of CFCThe market will be further propelled by the use of commercial printing to its cost-effectiveness and better print quality even affordable to smaller printers.
- The transition to digital technology has also provided a positive impact on the market growth.
- Increase in literacy rates across the country has created an interest amongst the young and old alike to stay up to date with the current affairs of the country and the globe.

Threats

- The Print media revenue streams in the nation has faced serious challenges from the digital innovations.
- It will be very difficult for the cluster units to survive in the business if they do not adopt latest technology and undertake product diversification.

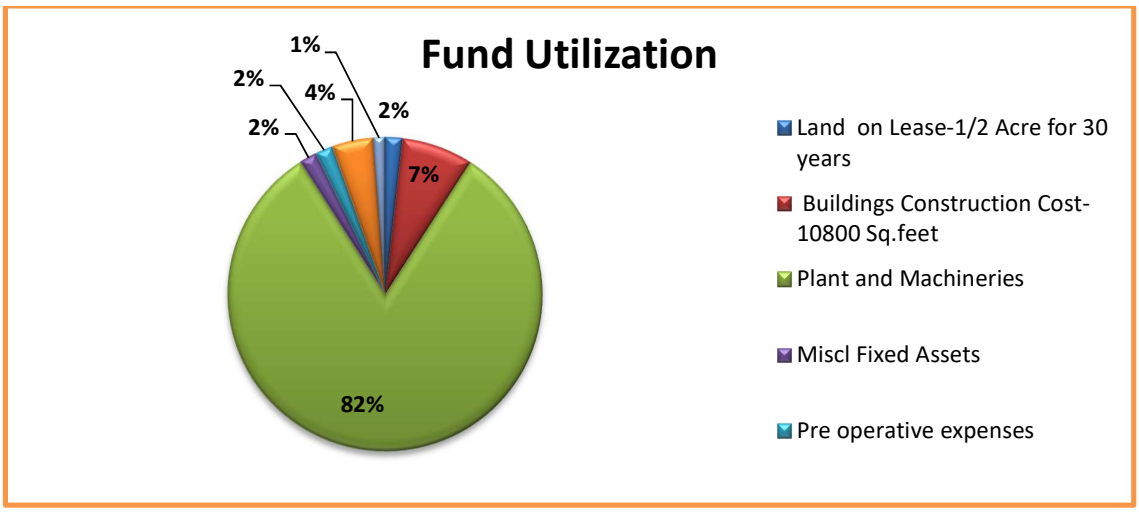
Chapter 8

Project Highlights

8.1 Total Cost of Project

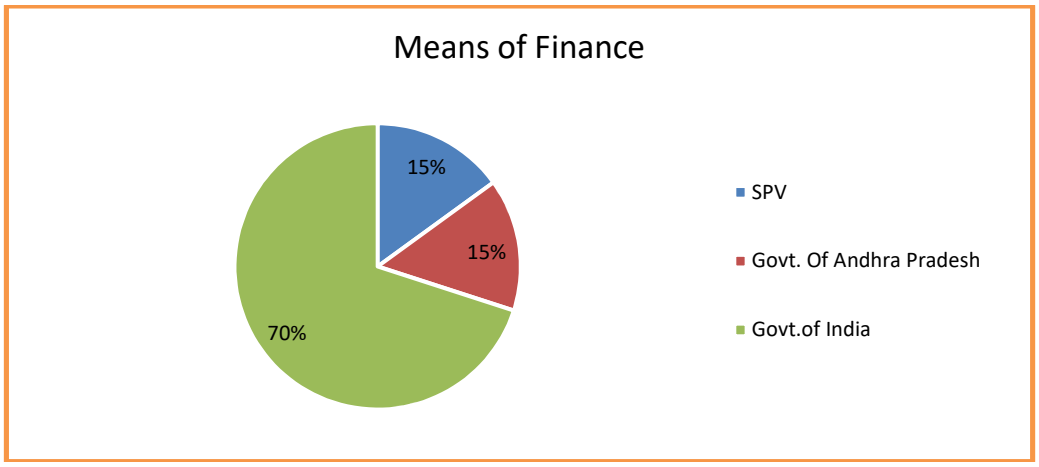
Sl. No.	Project Components	Amount in Lakhs	Percentage of Project Cost
1	Land on Lease-1/2 Acre for 30 years	45.0	1.79
2	Buildings Construction Cost-10800 Sq.feet	183.83	7.30
3	Plant and Machineries	2062.94	81.89
4	Miscl Fixed Assets	45.00	1.79
5	Pre operative expenses	45.00	1.79
6	provision for Contingencies	106.82	4.24
7	Margin Money	30.67	1.22
	Total Project cost	**2519.26**	**100.00**

The Total cost of the project has been estimated to be Rs. 2519.26Lakhs which includes lease amount for land, building construction cost and machinery cost.



8.2 Means of Finance/Contribution Breakup

Sl. No.	Means of finance	Amount in Rs. Lakhs	percentage of Project Cost
1	SPV	377.89	15%
2	Govt. Of Andhra Pradesh	377.89	15%
3	Govt.of India	1763.48	70%
	Total	**2519.26**	**100%**



8.3 Proposed Land and Building

The SPV has taken 0.5 Acer of Land on Lease for a One- Time Payment of Rs. 45,00,000/- for a period of 30 years.

Subject : Building Construction Cost of Printing Cluster Tirupati				
Consultants : Intaglio Technical and Business Services				
Sl. No.	**DESCRIPTION**	**AREA (sft)**	**AMOUNT IN RUPEES**	**RATE (Rs./sft)**
1	**LAND DEVELOPMENT-0.5 Acres**			
1.2	LAND LEVELING, COMPOUND WALL & GATES		1865000	
1.3	SEWAGE & STORM WATER DRAINS		525000	
	TOTAL		**2,390,000**	
2	**BUILDING COSTS (CIVIL WORKS)**			
2.1	ADMINISTRATIVE AND Training Section-RCC	2000	3700000	1850
	Compressor Room-MS Structure	200	230000	1150
2.3	Pre Press Machinery Section-MS Structure	3000	3750000	1250
2.4	Advance Printing Machinery Section-MS Structure	3000	3750000	1250
2.5	Post Press Machinery Section-MS Structure	1500	1875000	1250
	Storage-RCC	500	625000	1250
	CANTEEN-RCC	500	742500	1485
2.6	TOILET BLOCK-RCC	100	125000	1250
	TOTAL	**10,800**	**14,797,500**	**1,341.88**
3	**Internal and Approach ROADS, PARKING & PAVEMENTS**		**595,000**	
5	**WATER SUPPLY SERVICES**		**350,000.00**	
6	**LANDSCAPING & SOCIAL FORESTRY-**(Lumpsum)		**250,000.00**	
	Grand Total		**18,382,500.00**	

8.4 Proposed List of Machinery

Sl. No.	Name of Machine	Technical Specification	Quantity	Rate	Amount	FOB= Basic+(gst+pck+transit+Installation) @23%
	Pre-Press Processing Setup					
1	Computer Systems for Graphic Designing with OS & Adobe Software	Core i9 Gaming PC (Core i9 Processor, 32GB Ram, 240GB SSD, 4TB Hard Drive, 4GB Graphic Card, WiFi, with Licensed Windows-OS, MS Office, Adobe Suite Softwares	5	₹ 189,000	₹ 945,000	₹ 1,162,350
2	Computer to Plate Making Machine-CPT Setup	Violet Size 8UP with RIP, Imposition workflow and violet plate processor	1	₹ 6,250,000	₹ 6,250,000	₹ 7,687,500
3	Plate Exposing Machine		1	₹ 575,000	₹ 575,000	₹ 707,250
	Advance Printing Setup					
4	Automatic Five Colour Offset Machine	Computer Controlled Sheet Fed, Max. Paper Size: 920x640mm, Min. Paper Size:410x290mm, Print Area: 900x615mm, Paper Thickness: 0.04-0.6mm, Print Speed:3000 to 16200 sheets per Hour	1	₹ 56,028,400	₹ 56,028,400	₹ 68,914,932
5	Semi Automatic Screen Printing Machine	Size: 22"x30"	1	₹ 750,000	₹ 750,000	₹ 922,500
6	Mac Pro System	Monitor: 34", 2.6GHz Dual Core, 3MBL3 Cache, 8 GB DDR3L, RAM-256GB, HD Graphics 4000, with IPS Technology	2	₹ 250,000	₹ 500,000	₹ 615,000
7	Digital Press	UHD Resolution:2400x2400dpi, RIP Resolution:1200x1200dpi, Automated Colour Management, Imageing System with VCSEL Technologies	1	₹ 14,700,000	₹ 14,700,000	₹ 18,081,000

8	Mulit Colour Fabric Printing Machine	Ovel Shape-16 Colour, 18 Stations, Screen Print	1	₹ 8,629,000	₹ 8,629,000	₹ 10,613,670
9	Eco Friendly Cloth Banner Printing Machine	Size: 10x10 feet	1	₹ 12,675,000	₹ 12,675,000	₹ 15,590,250
10	Straight Linear Fusing Press Machine	Belt Width: 1000mm, Heater: 18kw/h, Temp:220dEGREE Cent.	1	₹ 2,354,000	₹ 2,354,000	₹ 2,895,420
11	Infra Red Screen Curing Machine	Belt Width: 10feet, Heater: 30kw/h, Temp:220dEGREE Cent.	1	₹ 2,289,000	₹ 2,289,000	₹ 2,815,470
12	Screen Exposing and Screen Dryer Machine Setup	Frame Size: 40 to 45 inches, Power: 2000w/h, Temp: 60degree C,	1	₹ 1,945,000	₹ 1,945,000	₹ 2,392,350
	Post Press Machinery Setup					
13	Fully Automatic Programmable Paper Cutting Machine	Size: Double Dummy-27x40 inches	1	₹ 9,824,500	₹ 9,824,500	₹ 12,084,135
14	Automatic Books Case Maker Machine		1	₹ 6,250,000	₹ 6,250,000	₹ 7,687,500
15	Fully Automatic Knife Trimmer	No. of knifes=3 N0.'s	1	₹ 3,500,000	₹ 3,500,000	₹ 4,305,000
16	Perfect Binder Machine	Clamps: 6 No.'s, with Accessories	1	₹ 2,000,000	₹ 2,000,000	₹ 2,460,000
17	Album Case Making Machine		1	₹ 562,500	₹ 562,500	₹ 691,875
18	Joint Forming Machine		1	₹ 437,500	₹ 437,500	₹ 538,125
19	Automatic Thermal Lamination Machine	Size: 24 Inch, with window cutting, Sandwithced Lamination, Air Compressor: 6 CMF, power:9Kw	1	₹ 2,750,000	₹ 2,750,000	₹ 3,382,500
20	Automatic Folding Machine	Size: Double Dummy-670x1040mm, 4 fold 32 pages capacity	1	₹ 8,156,000	₹ 8,156,000	₹ 10,031,880
21	Spot UV Printer/Embossing Machine	4 Heads, Speed: 50 A3 Sheets/Hour, Size: 600mmx900mm, UV LED Lamp, Temp:20degree C	1	₹ 4,950,000	₹ 4,950,000	₹ 6,088,500
22	Automatic Die-Cutting Machine	Laser Cutting, thickness: 400gsm	1	₹ 3,045,000	₹ 3,045,000	₹ 3,745,350
23	Industrial Airconditioning	Capacity: 22 Tons, Centralised A/c System	1	₹ 2,735,000	₹ 2,735,000	₹ 3,364,050

24	DG Set	Capacity: 240KVA	1	₹ 2,634,000	₹ 2,634,000	₹ 3,239,820
25	UPS	Capacity: 200KVA, 3 Phase, Industrial ups	1	₹ 2,884,000	₹ 2,884,000	₹ 3,547,320
26	Roof Top Solar Setup	Capacity: 75kw, with Cables, Online Changeover Setup	1	₹ 4,500,000	₹ 4,500,000	₹ 5,535,000
27	Material Handling Equipments	Forklift-2ton-1No.'s, pallet Lift-2No.'s	1	₹ 500,000	₹ 500,000	₹ 615,000
28	Electrical Installation and Equipments	Transformer:400kva, Cables, Poles, Control Pannel, Internal Wiring and Lighting	1	₹ 3,800,000	₹ 3,800,000	₹ 4,674,000
29	Training Skill Development Setup	Computers-5 No.'s, Projector, Audio System, Digital Board, EPBX	1	₹ 625,000	₹ 625,000	₹ 768,750
30	Rain Water Harvesting Setup	10kld	1	₹ 925,000	₹ 925,000	₹ 1,137,750
	Total					**₹ 206,294,247**

8.5 Power Requirement

Sl. No.	Name of Machine	Power in KVA	Units/Day	Units/Annamu	Amount @ Rs. 8/- Units
	Pre-Press Processing Setup				
1	Computer Systems for Graphic Designing with OS & Adobe Software	2	16	4800	₹ 38,400.00
2	Computer to Plate Making Machine-CPT Setup	4	32	9600	₹ 76,800.00
3	Plate Exposing Machine	1	8	2400	₹ 19,200.00
	Advance Printing Setup				
4	Automatic Five Colour Offset Machine	170	1360	408000	₹ 3,264,000.00
5	Semi Automatic Screen Printing Machine	5	40	12000	₹ 96,000.00
6	Mac Pro System	1	8	2400	₹ 19,200.00
7	Digital Press	5	40	12000	₹ 96,000.00
8	Mulit Colour Fabric Printing Machine	6	48	14400	₹ 115,200.00
9	Eco Friendly Cloth Banner Printing Machine	10	80	24000	₹ 192,000.00
10	Straight Linear Fusing Press Machine	10	80	24000	₹ 192,000.00
11	Infra Red Screen Curing Machine	5	40	12000	₹ 96,000.00
12	Screen Exposing and Screen Dryer Machine Setup	5	40	12000	₹ 96,000.00
	Post Press Machinery Setup				
13	Fully Automatic Programmable Paper Cutting Machine	2	16	4800	₹ 38,400.00
14	Automatic Books Case Maker Machine	3	24	7200	₹ 57,600.00
15	Fully Automatic Knife Trimmer	5	40	12000	₹ 96,000.00
16	Perfect Binder Machine	5	40	12000	₹ 96,000.00
17	Album Case Making Machine	5	40	12000	₹ 96,000.00
18	Joint Forming Machine	5	40	12000	₹ 96,000.00
19	Automatic Thermal Lamination Machine	10	80	24000	₹ 192,000.00
20	Automatic Folding Machine	5	40	12000	₹ 96,000.00
21	Spot UV Printer/Embosing Machine	5	40	12000	₹ 96,000.00
22	Automatic Die-Cutting Machine	5	40	12000	₹ 96,000.00
23	Industrial Airconditioning	45	360	108000	₹ 864,000.00
24	Training Skill Development Setup	5	40	12000	₹ 96,000.00
	Total	**324**			**₹ 6,220,800**

8.6 Water Requirement for CFC

The common Facility Centre will have its own bore well as there is easy availability of ground water in the region.

8.7 Raw material requirement

The CFC will be providing services to the members and do not required very huge raw material. The printing paper, boards and plates will be bought by individual cluster units and the only raw material required by the CFC is printable ink. Annually about 2000 tons of paper is required.

8.8 Organizational Set Up/ Manpower Requirement

Sl. No.	Designation	No.	Monthly Salary	Total/Month	Annual Salary
1	CTP-Operator	1	25000	25000	300000
2	Automatic Five Colour Offset Machine	2	25000	50000	600000
3	Screeen and Digital Printing Machine Operator	2	25000	50000	600000
4	Cutter Machine Operators	2	20000	40000	480000
5	Folding Machine Operator	1	25000	25000	300000
6	Case Maker machine Operator	4	25000	100000	1200000
7	Automatic Thermal Lamination Machine	1	25000	25000	300000
7	UV & Aqueous machine operators	2	25000	50000	600000
8	Automatic Die Puntuing Operator	1	20000	20000	240000
9	Maintenance Engineers	2	30000	60000	720000
10	Electrician	1	15000	15000	180000
11	Skilled Workers	6	15000	90000	1080000
	Total	**25**			**6600000**

	Training Centre				
sl.no	Particulars	No	Salary		
1	Training Staff	5	15000	75000	900000

Sl. No.	Designation	No	Monthly Salary	Total/Month	Annual Salary
1	Manager/CEO	1	25000	25000	300000
2	Accountant	1	15000	15000	180000
3	Marketing Staff	2	18000	36000	432000
4	office boy	1	8000	8000	96000
5	sweeper	2	6000	12000	144000
6	watchman	1	7000	7000	84000
7	Helper	2	10000	20000	240000
	Total	10			1476000
	Grand Total	**40**			**8976000**

Chapter 9

Implementation Schedule

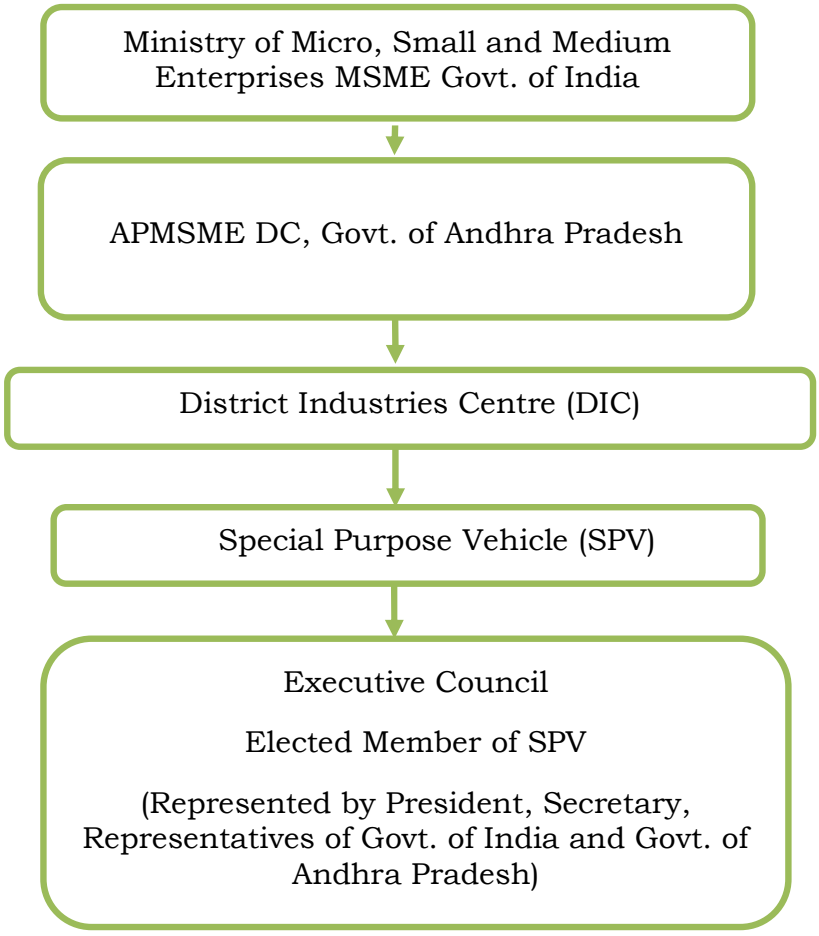
Implementation Schedule and Agencies

Agencies

The time required for the implementation is expected to be about 18 months. A detailed description is given at the executive summary.

Monitoring Mechanism for Reporting progress will have the following:
The Govt. of India (MSME):- will be the highest authority for monitoring the progress made in the project during different stages of development.

State Government Agency: APMSME Development Cooperation Govt. of Andhra Pradesh



Intaglio Technical and Business Services will be the PMC/Cluster Development Agency/CDE for the Implementation of the Project as a Technical Agency.

Chapter 10

Revenue Generation Mechanism for Project Sustainability

The revenue generation calculations are based on service charges for individual machines. All calculations are based on single shift, three hundred working days in a year with 100% utilization.

Sl. No.	Name of Machine	Computer Systems for Graphic Designing with OS & Adobe Software	Unit
1	Cost in Rs.	1162350	Rs.
	Capacity/Hour	5	Jobs
	Capacity/Day	40	Jobs
	Capacity/Annaum	12000	Jobs
	User Charges/Job	100	Rs.
	Total Revenue/Annaum	1200000	Rs.
Sl. No.	**Name of Machine**	**Computer to Plate Making Machine-CPT SetupPlate Exposing Machine**	**Unit**
2&3	Cost in Rs.	8394750	Rs.
	Capacity/Hour	5	Plates
	Capacity/Day	40	Plates
	Capacity/Annaum	12000	Plates
	User Charges/Plate	800	Rs.
	Total Revenue/Annaum	9600000	Rs.
Sl. No.	**Name of Machine**	**Automatic Five Colour Offset Machine**	**Unit**
4	Cost in Rs.	68914932	Rs.
	Capacity/Hour	16000	sheets
	Capacity/Day	128000	sheets
	Capacity/Annaum	38400000	sheets
	User Charges/Sheet	1.5	Rs.
	Total Revenue/Annaum	57600000	Rs.
Sl. No.	**Name of Machine**	**Semi Automatic Screen Printing Machine**	**Unit**
5	Cost in Rs.	922500	Rs.
	Capacity/Hour	500	bags/Sheets
	Capacity/Day	4000	bags/Sheets
	Capacity/Annaum	1200000	bags/Sheets

	User Charges/Job	1	Rs.
	Total Revenue/Annaum	1200000	Rs.
Sl. No.	**Name of Machine**	**Digital Press**	**Unit**
6	Cost in Rs.	18081000	Rs.
	Capacity/Hour	3000	Sheets
	Capacity/Day	24000	Sheets
	Capacity/Annaum	7200000	Sheets
	User Charges/Sheet	2	Rs.
	Total Revenue/Annaum	14400000	Rs.
Sl. No.	**Name of Machine**	**Mulit Colour Fabric Printing Machine**	**Unit**
7	Cost in Rs.	10613670	Rs.
	Capacity/Hour	200	Cloth Pieces
	Capacity/Day	1600	Cloth Pieces
	Capacity/Annaum	480000	Cloth Pieces
	User Charges/piece	25	Rs.
	Total Revenue/Annaum	12000000	Rs.
Sl. No.	**Name of Machine**	**Eco Friendly Cloth Banner Printing Machine**	**Unit**
8	Cost in Rs.	15590250	Rs.
	Capacity/Hour	5	banner
	Capacity/Day	40	banner
	Capacity/Annaum	12000	banner
	User Charges/banner	1500	Rs.
	Total Revenue/Annaum	18000000	Rs.
Sl. No.	**Name of Machine**	**Straight Linear Fusing Press Machine**	**Unit**
9	Cost in Rs.	2895420	Rs.
	Capacity/Hour	4	Screen
	Capacity/Day	32	Screen
	Capacity/Annaum	9600	Screen
	User Charges/Screen	350	Rs.
	Total Revenue/Annaum	3360000	Rs.

Sl. No.	**Name of Machine**	**Infra Red Screen Curing Machine**	**Unit**
10	Cost in Rs.	2815470	Rs.
	Capacity/Hour	4	Screen
	Capacity/Day	32	Screen
	Capacity/Annaum	9600	Screen
	User Charges/Screen	300	Rs.
	Total Revenue/Annaum	2880000	Rs.
Sl. No.	**Name of Machine**	**Screen Exposing and Screen Dryer Machine Setup**	**Unit**
11	Cost in Rs.	2392350	Rs.
	Capacity/Hour	4	Screen
	Capacity/Day	32	Screen
	Capacity/Annaum	9600	Screen
	User Charges/Screen	200	Rs.
	Total Revenue/Annaum	1920000	Rs.
Sl. No.	**Name of Machine**	**Fully Automatic Programmable Paper Cutting Machine**	**Unit**
12	Cost in Rs.	12084135	Rs.
	Capacity/Hour	10000	sheets
	Capacity/Day	80000	sheets
	Capacity/Annaum	24000000	sheets
	User Charges/Sheets	0.5	Rs.
	Total Revenue/Annaum	12000000	Rs.
Sl. No.	**Name of Machine**	**Automatic Books Case Maker Machine**	**Unit**
13	Cost in Rs.	7687500	Rs.
	Capacity/Hour	1000	case
	Capacity/Day	8000	case
	Capacity/Annaum	2400000	case
	User Charges/case	5	Rs.
	Total Revenue/Annaum	12000000	Rs.

Sl. No.	Name of Machine	Fully Automatic Knife Trimmer	Unit
14	Cost in Rs.	4305000	Rs.
	Capacity/Hour	500	Books
	Capacity/Day	4000	Books
	Capacity/Annaum	1200000	Books
	User Charges/Books	5	Rs.
	Total Revenue/Annaum	6000000	Rs.
Sl. No.	**Name of Machine**	**Perfect Binder Machine**	**Unit**
15	Cost in Rs.	2460000	Rs.
	Capacity/Hour	1000	Books
	Capacity/Day	8000	Books
	Capacity/Annaum	2400000	Books
	User Charges/Books	2	Rs.
	Total Revenue/Annaum	4800000	Rs.
Sl. No.	**Name of Machine**	**Album Case Making Machine**	**Unit**
16	Cost in Rs.	691875	Rs.
	Capacity/Hour	50	Albums
	Capacity/Day	400	Albums
	Capacity/Annaum	120000	Albums
	User Charges/Albums	5	Rs.
	Total Revenue/Annaum	600000	Rs.
Sl. No.	**Name of Machine**	**Joint Forming Machine**	**Unit**
17	Cost in Rs.	538125	Rs.
	Capacity/Hour	50	Daries
	Capacity/Day	400	Daries
	Capacity/Annaum	120000	Daries
	User Charges/Daries	5	Rs.
	Total Revenue/Annaum	600000	Rs.
Sl. No.	**Name of Machine**	**Automatic Thermal Lamination Machine**	**Unit**

18	Cost in Rs.	3382500	Rs.
	Capacity/Hour	720	Meters
	Capacity/Day	5760	Meters
	Capacity/Annaum	1728000	Meters
	User Charges/Meter	2	Rs.
	Total Revenue/Annaum	3456000	Rs.
Sl. No.	**Name of Machine**	**Automatic Folding Machine**	**Unit**
19	Cost in Rs.	10031880	Rs.
	Capacity/Hour	5000	Boxes/Booklets
	Capacity/Day	40000	Boxes/Booklets
	Capacity/Annaum	12000000	Boxes/Booklets
	User Charges/Booklets	1	Rs.
	Total Revenue/Annaum	12000000	Rs.
Sl. No.	**Name of Machine**	**Spot UV Printer/Embosing Machine**	**Unit**
20	Cost in Rs.	6088500	Rs.
	Capacity/Hour	100	Sheets
	Capacity/Day	800	Sheets
	Capacity/Annaum	240000	Sheets
	User Charges/Sheets	25	Rs.
	Total Revenue/Annaum	6000000	Rs.
Sl. No.	**Name of Machine**	**Automatic Die-Cutting Machine**	**Unit**
21	Cost in Rs.	3745350	Rs.
	Capacity/Hour	60	Sheets
	Capacity/Day	480	Sheets
	Capacity/Annaum	144000	Sheets
	User Charges/Sheets	25	Rs.
	Total Revenue/Annaum	3600000	Rs.

Training Center					
Sl. No	Courses	No. of students/year	Fees	Annual Income	Course Duration
1	DTP Course	100	2500	250000	2 Months
2	Plate making Course	100	2000	200000	2 Months
3	Coral Draw/Page maker/ Photo Shop	100	5000	500000	4Months
4	Printing Technology	100	7500	750000	5 Months
5	Printing Finishing (cutting, binding etc)	100	1500	150000	1Months
	total			1850000	
	Total Training Section Revenue	500		**1850000**	

		Rs.	Rs. Lakhs
Grand Total of Revenue from All Sections		**185066000**	**1850.66**

Chapter 11

Project Financial Feasibility Analysis at 100% Capacity

11.1 Project Cost and Means of Finance

Rs. Lakhs			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Years			0	1	2	3	4	5	6	7	8	9	10
PROJECT COST													
Land Leased Amount			45.00	1.8%									
Buildings Construction Cost			183.83	7.3%									
Plant and Machineries			2062.94	81.9%									
Miscl Fixed Assets			45.00	1.8%									
Pre operative expenses &Preliminary expenses			45.00	1.8%									
provision for Contingencies			106.82	4.2%									
Margin Money			30.67	1.2%									
TOTAL PROJECT COST			**2519.26**	**100%**									
SOURCES													
SPV	**15%**		**377.89**										
State Govt	**15%**		**377.89**										
GoI	**70%**		**1763.48**										
Bank Borrowings			**0.00**										
Total Project cost			**2519.26**										
GRANTS													
OPENING BALANCE			**0.00**	**2519.26**	**2519.26**	**2519.26**	**2519.26**	**2519.26**	**2519.26**	**2519.26**	**2519.26**	**2519.26**	**2519.26**
GRANT			**2519.26**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0 REPAYMENTS	**0**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
CLOSING BALANCE OF TERM LOANS			**2519.26**	**2519.26**	**2519.26**	**2519.26**	**2519.26**	**2519.26**	**2519.26**	**2519.26**	**2519.26**	**2519.26**	**2519.26**
INTEREST ON TERM LOANS BALANCE	**0%**		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

11.2 Depreciation Calculation

Rs. Lakhs			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
Land & Site Development			45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
additions/deletions			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Gross value			45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
less Depreciation	0%		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Value			45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Buildings			183.83	183.83	165.44	148.90	134.01	120.61	108.55	97.69	87.92	79.13	71.22
additions/deletions			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Gross value			183.83	183.83	165.44	148.90	134.01	120.61	108.55	97.69	87.92	79.13	71.22
less Depreciation	10%		0.00	18.38	16.54	14.89	13.40	12.06	10.85	9.77	8.79	7.91	7.12
Net Value			183.83	165.44	148.90	134.01	120.61	108.55	97.69	87.92	79.13	71.22	64.10
Plant & Machineries			2062.94	2062.94	1775.99	1528.95	1316.27	1133.18	975.55	839.85	723.03	622.46	535.87
additions/deletions													
Total Gross value			2062.94	2062.94	1775.99	1528.95	1316.27	1133.18	975.55	839.85	723.03	622.46	535.87
less Depreciation	14%		0.00	286.96	247.04	212.68	183.09	157.62	135.70	116.82	100.57	86.58	74.54
Net Value			2062.94	1775.99	1528.95	1316.27	1133.18	975.55	839.85	723.03	622.46	535.87	461.33
Mis fixed Assets			45.00	45.00	36.86	30.18	24.72	20.25	16.58	13.58	11.12	9.11	7.46
additions/deletions													
Total Gross value			45.00	45.00	36.86	30.18	24.72	20.25	16.58	13.58	11.12	9.11	7.46
less Depreciation	18%		0.00	8.15	6.67	5.46	4.47	3.66	3.00	2.46	2.01	1.65	1.35
Net Value of			45.00	36.86	30.18	24.72	20.25	16.58	13.58	11.12	9.11	7.46	6.11
pre operative expenses			45.00	45.00	36.00	28.80	23.04	18.43	14.75	11.80	9.44	7.55	6.04

additions/deletions			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Gross value			45.00	45.00	36.00	28.80	23.04	18.43	14.75	11.80	9.44	7.55	6.04
less Depreciation	20%		0.00	9.00	7.20	5.76	4.61	3.69	2.95	2.36	1.89	1.51	1.21
Net Value			45.00	36.00	28.80	23.04	18.43	14.75	11.80	9.44	7.55	6.04	4.83
provision for contingencies			106.82	106.82	96.14	86.53	77.87	70.09	63.08	56.77	51.09	45.98	41.39
additions/deletions													
Total Gross value			106.82	106.82	96.14	86.53	77.87	70.09	63.08	56.77	51.09	45.98	41.39
less Depreciation	10%		0.00	10.68	9.61	8.65	7.79	7.01	6.31	5.68	5.11	4.60	4.14
Net Value			106.82	96.14	86.53	77.87	70.09	63.08	56.77	51.09	45.98	41.39	37.25
TOTAL ASSETS & DEPRECIATION													
Gross value			**2488.59**	**2488.59**	**2155.43**	**1868.36**	**1620.91**	**1407.55**	**1223.51**	**1064.69**	**927.61**	**809.23**	**706.98**
additions/deletions			**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Total Gross value			**2488.59**	**2488.59**	**2155.43**	**1868.36**	**1620.91**	**1407.55**	**1223.51**	**1064.69**	**927.61**	**809.23**	**706.98**
less Depreciation			**0.00**	**333.17**	**287.07**	**247.44**	**213.36**	**184.05**	**158.81**	**137.09**	**118.38**	**102.25**	**88.36**
NET VALUE OF FIXED ASSETS			**2488.59**	**2155.43**	**1868.36**	**1620.91**	**1407.55**	**1223.51**	**1064.69**	**927.61**	**809.23**	**706.98**	**618.62**

11.3 Working Capital

Rs. Lakhs			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
Raw Materials (Raw Materials)	1.042			36.30	36.30	36.30	38.09	38.09	38.09	38.09	39.87	39.87	39.87
Sundry Debtors (Revenues)	1.0			107.96	107.96	107.96	115.67	115.67	115.67	115.67	123.38	123.38	123.38
wages & salaries	1			7.55	7.63	7.71	7.78	7.86	7.94	8.02	8.10	8.18	8.26
Utilities	1			3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24	3.24
short Term loans and Advances(Rev)	0.25			26.99	26.99	26.99	28.92	28.92	28.92	28.92	30.84	30.84	30.84
Total Current Assets				182.04	182.12	182.19	193.69	193.77	193.85	193.93	205.43	205.51	205.59
Sundry Creditors(Materials)	1.5			32.39	32.39	32.39	34.70	34.70	34.70	34.70	37.01	37.01	37.01
Loans & Advances(Revenue)	0.25			26.99	26.99	26.99	28.92	28.92	28.92	28.92	30.84	30.84	30.84
Total Current Liabilities				59.38	59.38	59.38	63.62	63.62	63.62	63.62	67.86	67.86	67.86
Net Working Capital				122.67	122.74	122.82	130.07	130.15	130.23	130.31	137.57	137.65	137.73
Margin Money	25%			30.67	30.69	30.70	32.52	32.54	32.56	32.58	34.39	34.41	34.43
BALANCE W/C BANK FINANCE				92.00	92.06	92.11	97.56	97.61	97.67	97.73	103.18	103.24	103.30
INTEREST CALCULATION	15%			13.80	13.81	13.82	14.63	14.64	14.65	14.66	15.48	15.49	15.49

11.4 Capacity Utilization, Revenue Generation and Material Cost

CAPACITY UTILISATION												
			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
Percentage utilisation	**1**		**100%**	**70%**	**70%**	**70%**	**75%**	**75%**	**75%**	**75%**	**80%**	**80%**	**80%**
Growth till full capacity													
PROJECTED REVENUE													
Rs. Lakhs			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
REVENUE PROJECTIONS													
REVENUE			1832.16	1282.51	1282.51	1282.51	1374.12	1374.12	1374.12	1374.12	1465.73	1465.73	1465.73
REVENUE FROM TRAINING	1%		18.50	12.95	12.95	12.95	13.88	13.88	13.88	13.88	14.80	14.80	14.80
TOTAL REVENUE			1850.66	1295.46	1295.46	1295.46	1388.00	1388.00	1388.00	1388.00	1480.53	1480.53	1480.53
TOTAL REVENUE			**1850.66**	**1295.46**	**1295.46**	**1295.46**	**1388.00**	**1388.00**	**1388.00**	**1388.00**	**1480.53**	**1480.53**	**1480.53**
Growth %					**0%**	**0%**	**7%**	**7%**	**0%**	**0%**	**7%**	**7%**	
			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Rs. Lakhs			0	1	2	3	4	5	6	7	8	9	10
MATERIAL COST	%TO		1OO%										
	REVENUE												
MATERIAL COST	20%		370.13	259.09	259.09	259.09	277.60	277.60	277.60	277.60	296.11	296.11	296.11
TOTAL MATERIAL COST			**370.13**	**259.09**	**259.09**	**259.09**	**277.60**	**277.60**	**277.60**	**277.60**	**296.11**	**296.11**	**296.11**
OTHER INDIRECT MATLS	2%		40.00	28.00	28.00	28.00	30.00	30.00	30.00	30.00	32.00	32.00	32.00
TOTAL MATERIAL COST			**410.13**	**287.09**	**287.09**	**287.09**	**307.60**	**307.60**	**307.60**	**307.60**	**328.11**	**328.11**	**328.11**
TOTAL MATERIAL COST AS % REVENUE				**22%**	**22%**	**22%**	**22%**	**22%**	**22%**	**22%**	**22%**	**22%**	**22%**

11.5 Breakeven Analysis

			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Rs. Lakhs			**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
VARIALBE EXPENSES	**1**												
Direct Materials	**20%**		**370.13**	**287.09**	**287.09**	**287.09**	**307.60**	**307.60**	**307.60**	**307.60**	**328.11**	**328.11**	**328.11**
Fuel cost	2.0%		36.64	25.65	25.65	25.65	27.48	27.48	27.48	27.48	29.31	29.31	29.31
Direct wages	5%	1%	58.8	59.39	59.98	60.58	61.19	61.80	62.42	63.04	63.67	64.31	64.95
power	0.00%		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital				13.80	13.81	13.82	14.63	14.64	14.65	14.66	15.48	15.49	15.49
TOTAL VARIABLE EXPENSES				**385.93**	**386.53**	**387.14**	**410.90**	**411.52**	**412.15**	**412.78**	**436.57**	**437.21**	**437.87**
TOTAL CONTRIBUTION(Rev-Variable cost)				**909.53**	**908.93**	**908.32**	**977.09**	**976.47**	**975.85**	**975.21**	**1043.96**	**1043.31**	**1042.66**
FIXED EXPENSES	1		FBS										
Salaries & wages	2%	1%	30.96	31.27	31.58	31.90	32.22	32.54	32.86	33.19	33.53	33.86	34.20
Power fixed	3.00%			38.86	38.86	38.86	38.86	38.86	38.86	38.86	38.86	38.86	38.86
Administration & Sales Expenses	4.0%			51.82	51.82	51.82	55.52	55.52	55.52	55.52	59.22	59.22	59.22
Repair and maintanence	5.0%			64.77	64.77	64.77	69.40	69.40	69.40	69.40	74.03	74.03	74.03
Interest on Term Loans				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Depreciation				333.17	287.07	247.44	213.36	184.05	158.81	137.09	118.38	102.25	88.36
TOTAL FIXED EXPENSES				**519.89**	**474.11**	**434.80**	**409.36**	**380.37**	**355.46**	**334.06**	**324.01**	**308.23**	**294.67**
BREAKEVENREVENUE				740.49	675.73	620.11	581.52	540.67	505.59	475.46	459.51	437.39	418.42
BREAKEVEN POINT avg(36%)				**57%**	**52%**	**48%**	**42%**	**39%**	**36%**	**34%**	**31%**	**30%**	**28%**

11.6 Projected Profit and Loss

Rs. Lakhs			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
VALUE ADDED				**1295.46**	**1295.46**	**1295.46**	**1388.00**	**1388.00**	**1388.00**	**1388.00**	**1480.53**	**1480.53**	**1480.53**
MATERIAL COST-INDIRECT	22%			287.09	287.09	287.09	307.60	307.60	307.60	307.60	328.11	328.11	328.11
FUEL COST	2%			**25.65**	**25.65**	**25.65**	**27.48**	**27.48**	**27.48**	**27.48**	**29.31**	**29.31**	**29.31**
EXPENSES													
WAGES	5%			59.39	59.98	60.58	61.19	61.80	62.42	63.04	63.67	64.31	64.95
SALARIES	2%			31.27	31.58	31.90	32.22	32.54	32.86	33.19	33.53	33.86	34.20
POWER	3%			38.86	38.86	38.86	38.86	38.86	38.86	38.86	38.86	38.86	38.86
REPAIR & MAINTENANCE	5%			64.77	64.77	64.77	69.40	69.40	69.40	69.40	74.03	74.03	74.03
ADMINISTRATION & SELLING EXPENSES	5%			64.77	64.77	64.77	69.40	69.40	69.40	69.40	74.03	74.03	74.03
TOTAL EXPENSES	44%			**571.81**	**572.72**	**573.63**	**606.15**	**607.08**	**608.03**	**608.98**	**641.53**	**642.51**	**643.49**
OPERATING PROFIT(PBIDT)	56%			**723.65**	**722.75**	**721.83**	**781.85**	**780.91**	**779.97**	**779.02**	**838.99**	**838.02**	**837.04**
INTEREST WORKING CAPITAL	1%			**13.80**	**13.81**	**13.82**	**14.63**	**14.64**	**14.65**	**14.66**	**15.48**	**15.49**	**15.49**
PBDT	55%			**709.85**	**708.94**	**708.01**	**767.21**	**766.27**	**765.32**	**764.36**	**823.52**	**822.54**	**821.55**
DEPRECIATION	26%			333.17	287.07	247.44	213.36	184.05	158.81	137.09	118.38	102.25	88.36
NET PROFIT BEORE TAX	29%			**376.69**	**421.87**	**460.57**	**553.85**	**582.22**	**606.50**	**627.27**	**705.14**	**720.28**	**733.19**
INCOME TAX	4%			53.68	61.28	67.72	82.21	86.85	90.79	94.12	105.96	108.34	110.35
NET PROFIT AFTER TAX	25%			**323.01**	**360.59**	**392.85**	**471.63**	**495.37**	**515.72**	**533.15**	**599.19**	**611.94**	**622.84**
NET PROFIT AS % TO NET REVENUE	0%			**25%**	**28%**	**30%**	**34%**	**36%**	**37%**	**38%**	**40%**	**41%**	**42%**
AVERAGE NET PROFIT TO REVENUE				**35.2%**									
CUMULATIVE PROFIT & LOSS				**323.01**	**683.60**	**1076.45**	**1548.08**	**2043.45**	**2559.17**	**3092.32**	**3691.50**	**4303.45**	**4926.29**

FINANCIAL RATIOS													
			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
BREAK EVEN SALES				740.49	675.73	620.11	581.52	540.67	505.59	475.46	459.51	437.39	418.42
BREAK EVEN POINT				57%	52%	48%	42%	39%	36%	34%	31%	30%	28%
AVERAGE-BREAK EVEN POINT-41%													
RETURN ON CAPITAL EMPLOYED													
NET FIXED ASSETS			2488.59	2155.43	1868.36	1620.91	1407.55	1223.51	1064.69	927.61	809.23	706.98	618.62
WORKING CAPITAL			0.00	122.67	122.74	122.82	130.07	130.15	130.23	130.31	137.57	137.65	137.73
TOAL CAPITAL EMPLOYED			2488.59	2278.09	1991.10	1743.73	1537.62	1353.66	1194.92	1057.92	946.80	844.63	756.35
NET PROFIT (PAIDT)				323.01	360.59	392.85	471.63	495.37	515.72	533.15	599.19	611.94	622.84
RETURN ON CAPITAL EMPLOYED				14%	18.1%	23%	31%	37%	43%	50%	63%	72%	82%
AVERAGE RETURN ON CAP EMP				**36%**									

11.7 Cash Flow Statement

Rs. Lakhs			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
SOURCES													
NET PROFIT BEORE TAX			0.00	376.69	421.87	460.57	553.85	582.22	606.50	627.27	705.14	720.28	733.19
Term Loans													
Govt. Grant			2519.26										
Promoters Contribution													
Increase in Bank borrowing				92.00	0.06	0.06	5.44	0.06	0.06	0.06	5.44	0.06	0.06
Depreciation				333.17	287.07	247.44	213.36	184.05	158.81	137.09	118.38	102.25	88.36
Others													
TOTAL SOURCES			**2519.26**	**801.85**	**708.99**	**708.07**	**772.65**	**766.33**	**765.38**	**764.42**	**828.96**	**822.60**	**821.61**
DISPOSAL OF FUNDS													
Preliminary expenses													
Capital Expenditure			2488.59										
Increase in Working Capital				122.67	0.08	0.08	7.26	0.08	0.08	0.08	7.26	0.08	0.08
Decrease in Term Loans				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income Tax				53.68	61.28	67.72	82.21	86.85	90.79	94.12	105.96	108.34	110.35
others													
TOTAL DISPOSAL OF FUNDS			**2488.59**	**176.34**	**61.35**	**67.80**	**89.47**	**86.93**	**90.87**	**94.20**	**113.22**	**108.42**	**110.43**
Opening cash balance			0.00	30.67	656.17	1303.82	1944.09	2627.27	3306.67	3981.18	4651.39	5367.14	6081.32
Surplus/Deficit			30.67	625.51	647.64	640.27	683.18	679.40	674.51	670.22	715.75	714.18	711.18
Closing Cash Balance			**30.67**	**656.17**	**1303.82**	**1944.09**	**2627.27**	**3306.67**	**3981.18**	**4651.39**	**5367.14**	**6081.32**	**6792.49**

11.8 Projected Balance Sheet

Rs. Lakhs			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
ASSETS													
Gross Fixed Assets			2488.59	2488.59	2155.43	1868.36	1620.91	1407.55	1223.51	1064.69	927.61	809.23	706.98
less depreciation			0.00	333.17	287.07	247.44	213.36	184.05	158.81	137.09	118.38	102.25	88.36
Net Fixed Assets			2488.59	2155.43	1868.36	1620.91	1407.55	1223.51	1064.69	927.61	809.23	706.98	618.62
Total Current Assets			0.00	182.04	182.12	182.19	193.69	193.77	193.85	193.93	205.43	205.51	205.59
Cash/Bank Balance			30.67	656.17	1303.82	1944.09	2627.27	3306.67	3981.18	4651.39	5367.14	6081.32	6792.49
TOTAL ASSETS			**2519.26**	**2993.64**	**3354.29**	**3747.19**	**4228.51**	**4723.94**	**5239.72**	**5772.93**	**6381.80**	**6993.80**	**7616.70**
LIABILITIES													
RESERVES & SURPLUSES													
Govt. Grant			2519.26	2519.26	2519.26	2519.26	2519.26	2519.26	2519.26	2519.26	2519.26	2519.26	2519.26
profit/Loss			0.00	323.01	683.60	1076.45	1548.08	2043.45	2559.17	3092.32	3691.50	4303.45	4926.29
TOTAL RESERVES & SURPLUSES			**2519.26**	**2842.27**	**3202.86**	**3595.71**	**4067.34**	**4562.71**	**5078.43**	**5611.58**	**6210.76**	**6822.71**	**7445.54**
Current Liabilities			0.00	59.38	59.38	59.38	63.62	63.62	63.62	63.62	67.86	67.86	67.86
Short Term Loans			0.00	92.00	92.06	92.11	97.56	97.61	97.67	97.73	103.18	103.24	103.30
TOTAL LIABILITIES			**2519.26**	**2993.64**	**3354.29**	**3747.19**	**4228.51**	**4723.94**	**5239.72**	**5772.93**	**6381.80**	**6993.80**	**7616.70**
			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

11.9 Depreciation Calculation – Income Tax Method

Rs. Lakhs			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
Land & Site Development			45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
additions/deletions			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Gross value			45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
less Depreciation	0%		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Value			**45.00**	**45.00**	**45.00**	**45.00**	**45.00**	**45.00**	**45.00**	**45.00**	**45.00**	**45.00**	**45.00**
Buildings			183.83	183.83	165.44	148.90	134.01	120.61	108.55	97.69	87.92	79.13	71.22
additions/deletions			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Gross value			183.83	183.83	165.44	148.90	134.01	120.61	108.55	97.69	87.92	79.13	71.22
less Depreciation	10%		0.00	18.38	16.54	14.89	13.40	12.06	10.85	9.77	8.79	7.91	7.12
Net Value			183.83	165.44	148.90	134.01	120.61	108.55	97.69	87.92	79.13	71.22	64.10
Plant & Machineries			2062.94	2062.94	1753.50	1490.48	1266.90	1076.87	915.34	778.04	661.33	562.13	477.81
additions/deletions													
Total Gross value			2062.94	2062.94	1753.50	1490.48	1266.90	1076.87	915.34	778.04	661.33	562.13	477.81
less Depreciation	15%		0.00	309.44	263.03	223.57	190.04	161.53	137.30	116.71	99.20	84.32	71.67
Net Value			2062.94	1753.50	1490.48	1266.90	1076.87	915.34	778.04	661.33	562.13	477.81	406.14
Mis fixed Assets			45.00	45.00	40.50	36.45	32.81	29.52	26.57	23.91	21.52	19.37	17.43
additions/deletions													
Total Gross value			45.00	45.00	40.50	36.45	32.81	29.52	26.57	23.91	21.52	19.37	17.43
less Depreciation	10%		0.00	4.50	4.05	3.65	3.28	2.95	2.66	2.39	2.15	1.94	1.74
Net Value of			45.00	40.50	36.45	32.81	29.52	26.57	23.91	21.52	19.37	17.43	15.69

pre operative expenses			45.00	45.00	36.00	28.80	23.04	18.43	14.75	11.80	9.44	7.55	6.04
additions/deletions			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Gross value			45.00	45.00	36.00	28.80	23.04	18.43	14.75	11.80	9.44	7.55	6.04
less Depreciation	20%		0.00	9.00	7.20	5.76	4.61	3.69	2.95	2.36	1.89	1.51	1.21
Net Value			45.00	36.00	28.80	23.04	18.43	14.75	11.80	9.44	7.55	6.04	4.83
provision for contingencies			106.82	106.82	96.14	86.53	77.87	70.09	63.08	56.77	51.09	45.98	41.39
additions/deletions													
Total Gross value			106.82	106.82	96.14	86.53	77.87	70.09	63.08	56.77	51.09	45.98	41.39
less Depreciation	10%		0.00	10.68	9.61	8.65	7.79	7.01	6.31	5.68	5.11	4.60	4.14
Net Value			106.82	96.14	86.53	77.87	70.09	63.08	56.77	51.09	45.98	41.39	37.25
TOTAL ASSETS & DEPRECIATION													
Gross value			**2488.59**	**2488.59**	**2136.58**	**1836.15**	**1579.63**	**1360.52**	**1173.28**	**1013.21**	**876.31**	**759.17**	**658.89**
additions/deletions			**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Total Gross value			**2488.59**	**2488.59**	**2136.58**	**1836.15**	**1579.63**	**1360.52**	**1173.28**	**1013.21**	**876.31**	**759.17**	**658.89**
less Depreciation			**0.00**	**352.01**	**300.43**	**256.52**	**219.11**	**187.24**	**160.07**	**136.90**	**117.14**	**100.28**	**85.88**
Net Value			**2488.59**	**2136.58**	**1836.15**	**1579.63**	**1360.52**	**1173.28**	**1013.21**	**876.31**	**759.17**	**658.89**	**573.01**

11.10 Income Tax Calculation

Rs. Lakhs			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
Profit as per Books				376.69	421.87	460.57	553.85	582.22	606.50	627.27	705.14	720.28	733.19
Add back depreciation as per books				333.17	287.07	247.44	213.36	184.05	158.81	137.09	118.38	102.25	88.36
Depreciation as per Income Tax				352.01	300.43	256.52	219.11	187.24	160.07	136.90	117.14	100.28	85.88
Total Income				357.85	408.50	451.49	548.10	579.03	605.25	627.45	706.38	722.26	735.66
Corporate Tax @15%	15%			53.68	61.28	67.72	82.21	86.85	90.79	94.12	105.96	108.34	110.35

11.11 Internal Rate of Return-IRR

Rs. Lakhs			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
Inflows													
Profit after Tax				323.01	360.59	392.85	471.63	495.37	515.72	533.15	599.19	611.94	622.84
Add Depreciation				333.17	287.07	247.44	213.36	184.05	158.81	137.09	118.38	102.25	88.36
Add Interest				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Add Tax				53.68	61.28	67.72	82.21	86.85	90.79	94.12	105.96	108.34	110.35
Total Inflows				709.85	708.94	708.01	767.21	766.27	765.32	764.36	823.52	822.54	821.55
Out Flows													
Capital Expenditure			-2488.59										
Increase in working Capital				-122.67	-0.08								
Total Outflows			-2488.59	-122.67	-0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Cash flows - Pre Tax			**-2488.59**	**587.19**	**708.86**	**708.01**	**767.21**	**766.27**	**765.32**	**764.36**	**823.52**	**822.54**	**821.55**
Project IRR			**26%**										
Net Cashflows Post Tax			**-2488.33**	**533.51**	**647.59**	**640.29**	**685.00**	**679.41**	**674.53**	**670.24**	**717.56**	**714.20**	**711.20**
Project IRR-Post Tax			**22%**										

11.12 NPV Calculation

			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
Net Cash flows - pre tax			**-2488.59**	**587.19**	**708.86**	**708.01**	**767.21**	**766.27**	**765.32**	**764.36**	**823.52**	**822.54**	**821.55**
NPV FACTOR	**26%**			0.79	0.63	0.50	0.40	0.31	0.25	0.20	0.16	0.12	0.10
NET PRESENT VALUE -PRE TAX	0.26		2468.84	466.02	446.50	353.94	304.39	241.28	191.26	151.60	129.63	102.76	81.46
Net Cashflows Post Tax			**-2488.33**	**533.51**	**647.59**	**640.29**	**685.00**	**679.41**	**674.53**	**670.24**	**717.56**	**714.20**	**711.20**
NET PRESENT VAUE-POST TAX	**23%**			0.81	0.66	0.54	0.44	0.36	0.29	0.23	0.19	0.16	0.13
	0.23		2436.16	433.75	428.04	344.08	299.27	241.33	194.79	157.36	136.97	110.83	89.73

11.13 ROCE Calculation

			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
Profit after tax				323.01	360.59	392.85	471.63	495.37	515.72	533.15	599.19	611.94	622.84
Capital Employed													
Net Fixed Assets				2155.43	1868.36	1620.91	1407.55	1223.51	1064.69	927.61	809.23	706.98	618.62
Net Working Capital				122.67	122.74	122.82	130.07	130.15	130.23	130.31	137.57	137.65	137.73
Total capital Employed				**2278.09**	**1991.10**	**1743.73**	**1537.62**	**1353.66**	**1194.92**	**1057.92**	**946.80**	**844.63**	**756.35**
ROCE				14%	18%	23%	31%	37%	43%	50%	63%	72%	82%
AVERAGE ROCE				**36%**									

Chapter 12

Sensitivity Analysis for 5% reduction in Capacity or Sales

12.1 Project Cost and Means of Finance

Rs. Lakhs		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Years		0	1	2	3	4	5	6	7	8	9	10
PROJECT COST												
Land Leased Amount		45.00	1.8%									
Buildings Construction Cost		183.83	7.3%									
Plant and Machineries		2062.94	81.9%									
Miscl Fixed Assets		45.00	1.8%									
Pre operative expenses &Preliminary expenses		45.00	1.8%									
provision for Contingencies		106.82	4.2%									
Margin Money		29.37	1.2%									
TOTAL PROJECT COST		**2517.96**	**100%**									
SOURCES												
SPV	**15%**	**377.69**										
State Govt	**15%**	**377.69**										
GoI	**70%**	**1762.57**										
Bank Borrowings		**0.00**										
Total Project cost		**2517.96**										
GRANTS												
OPENING BALANCE		**0.00**	**2517.96**	**2517.96**	**2517.96**	**2517.96**	**2517.96**	**2517.96**	**2517.96**	**2517.96**	**2517.96**	**2517.96**
GRANT		**2517.96**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0 REPAYMENTS	**0**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
CLOSING BALANCE OF TERM LOANS		**2517.96**	**2517.96**	**2517.96**	**2517.96**	**2517.96**	**2517.96**	**2517.96**	**2517.96**	**2517.96**	**2517.96**	**2517.96**
INTEREST ON TERM LOANS BALANCE	**0%**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

12.2 Depreciation Calculation

Rs. Lakhs			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
Land & Site Development			45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
additions/deletions			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Gross value			45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
less Depreciation	0%		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Value			45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Buildings			183.83	183.83	165.44	148.90	134.01	120.61	108.55	97.69	87.92	79.13	71.22
additions/deletions			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Gross value			183.83	183.83	165.44	148.90	134.01	120.61	108.55	97.69	87.92	79.13	71.22
less Depreciation	10%		0.00	18.38	16.54	14.89	13.40	12.06	10.85	9.77	8.79	7.91	7.12
Net Value			183.83	165.44	148.90	134.01	120.61	108.55	97.69	87.92	79.13	71.22	64.10
Plant & Machineries			2062.94	2062.94	1775.99	1528.95	1316.27	1133.18	975.55	839.85	723.03	622.46	535.87
additions/deletions													
Total Gross value			2062.94	2062.94	1775.99	1528.95	1316.27	1133.18	975.55	839.85	723.03	622.46	535.87
less Depreciation	14%		0.00	286.96	247.04	212.68	183.09	157.62	135.70	116.82	100.57	86.58	74.54
Net Value			2062.94	1775.99	1528.95	1316.27	1133.18	975.55	839.85	723.03	622.46	535.87	461.33
Mis fixed Assets			45.00	45.00	36.86	30.18	24.72	20.25	16.58	13.58	11.12	9.11	7.46
additions/deletions													
Total Gross value			45.00	45.00	36.86	30.18	24.72	20.25	16.58	13.58	11.12	9.11	7.46
less Depreciation	18%		0.00	8.15	6.67	5.46	4.47	3.66	3.00	2.46	2.01	1.65	1.35
Net Value of			45.00	36.86	30.18	24.72	20.25	16.58	13.58	11.12	9.11	7.46	6.11
pre operative expenses			45.00	45.00	36.00	28.80	23.04	18.43	14.75	11.80	9.44	7.55	6.04

additions/deletions			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Gross value			45.00	45.00	36.00	28.80	23.04	18.43	14.75	11.80	9.44	7.55	6.04
less Depreciation	20%		0.00	9.00	7.20	5.76	4.61	3.69	2.95	2.36	1.89	1.51	1.21
Net Value			45.00	36.00	28.80	23.04	18.43	14.75	11.80	9.44	7.55	6.04	4.83
provision for contingencies			106.82	106.82	96.14	86.53	77.87	70.09	63.08	56.77	51.09	45.98	41.39
additions/deletions													
Total Gross value			106.82	106.82	96.14	86.53	77.87	70.09	63.08	56.77	51.09	45.98	41.39
less Depreciation	10%		0.00	10.68	9.61	8.65	7.79	7.01	6.31	5.68	5.11	4.60	4.14
Net Value			106.82	96.14	86.53	77.87	70.09	63.08	56.77	51.09	45.98	41.39	37.25
TOTAL ASSETS & DEPRECIATION													
Gross value			**2488.59**	**2488.59**	**2155.43**	**1868.36**	**1620.91**	**1407.55**	**1223.51**	**1064.69**	**927.61**	**809.23**	**706.98**
additions/deletions			**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Total Gross value			**2488.59**	**2488.59**	**2155.43**	**1868.36**	**1620.91**	**1407.55**	**1223.51**	**1064.69**	**927.61**	**809.23**	**706.98**
less Depreciation			**0.00**	**333.17**	**287.07**	**247.44**	**213.36**	**184.05**	**158.81**	**137.09**	**118.38**	**102.25**	**88.36**
NET VALUE OF FIXED ASSETS			**2488.59**	**2155.43**	**1868.36**	**1620.91**	**1407.55**	**1223.51**	**1064.69**	**927.61**	**809.23**	**706.98**	**618.62**

12.3 Working Capital

Rs. Lakhs			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
Raw Materials (Raw Materials)	1.042			35.06	35.06	35.06	36.75	36.75	36.75	36.75	38.44	38.44	38.44
Sundry Debtors (Revenues)	1.0			102.56	102.56	102.56	109.88	109.88	109.88	109.88	117.21	117.21	117.21
wages & salaries	1			7.55	7.63	7.71	7.78	7.86	7.94	8.02	8.10	8.18	8.26
Utilities	1			3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08
short Term loans and Advances(Rev)	0.25			25.64	25.64	25.64	27.47	27.47	27.47	27.47	29.30	29.30	29.30
Total Current Assets				173.89	173.96	174.04	184.96	185.04	185.12	185.20	196.13	196.21	196.29
Sundry Creditors(Materials)	1.5			30.77	30.77	30.77	32.96	32.96	32.96	32.96	35.16	35.16	35.16
Loans & Advances(Revenue)	0.25			25.64	25.64	25.64	27.47	27.47	27.47	27.47	29.30	29.30	29.30
Total Current Liabilities				56.41	56.41	56.41	60.44	60.44	60.44	60.44	64.46	64.46	64.46
Net Working Capital				117.48	117.56	117.63	124.53	124.61	124.68	124.76	131.66	131.74	131.83
Margin Money	25%			29.37	29.39	29.41	31.13	31.15	31.17	31.19	32.92	32.94	32.96
BALANCE W/C BANK FINANCE				88.11	88.17	88.22	93.40	93.45	93.51	93.57	98.75	98.81	98.87
INTEREST CALCULATION	15%			13.22	13.22	13.23	14.01	14.02	14.03	14.04	14.81	14.82	14.83

12.4 Capacity Utilization, Revenue Generation and Material Cost

CAPACITY UTILISATION													
			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
Percentage utilisation			**100%**	**67%**	**67%**	**67%**	**71%**	**71%**	**71%**	**71%**	**76%**	**76%**	**76%**
Growth till full capacity													
PROJECTED REVENUE													
Rs. Lakhs			**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**
			0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
REVENUE PROJECTIONS													
REVENUE			1832.16	1218.39	1218.39	1218.39	1305.41	1305.41	1305.41	1305.41	1392.44	1392.44	1392.44
REVENUE FROM TRAINING	1%		18.50	12.30	12.30	12.30	13.18	13.18	13.18	13.18	14.06	14.06	14.06
TOTAL REVENUE			1850.66	1230.69	1230.69	1230.69	1318.60	1318.60	1318.60	1318.60	1406.50	1406.50	1406.50
TOTAL REVENUE			**1850.66**	**1230.69**	**1230.69**	**1230.69**	**1318.60**	**1318.60**	**1318.60**	**1318.60**	**1406.50**	**1406.50**	**1406.50**
Growth %					**0%**	**0%**	**7%**	**7%**	**0%**	**0%**	**7%**	**7%**	
			2023	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**
Rs. Lakhs			**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
MATERIAL COST	%TO		1OO%										
	REVENUE												
MATERIAL COST	20%		370.13	246.14	246.14	246.14	263.72	263.72	263.72	263.72	281.30	281.30	281.30
TOTAL MATERIAL COST			**370.13**	**246.14**	**246.14**	**246.14**	**263.72**	**263.72**	**263.72**	**263.72**	**281.30**	**281.30**	**281.30**
OTHER INDIRECT MATLS	2%		40.00	26.60	26.60	26.60	28.50	28.50	28.50	28.50	30.40	30.40	30.40
TOTAL MATERIAL COST			**410.13**	**272.74**	**272.74**	**272.74**	**292.22**	**292.22**	**292.22**	**292.22**	**311.70**	**311.70**	**311.70**
TOTAL MATERIAL COST AS % REVENUE				**22%**	**22%**	**22%**	**22%**	**22%**	**22%**	**22%**	**22%**	**22%**	**22%**

12.5 Breakeven Analysis

			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Rs. Lakhs			**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
VARIALBE EXPENSES	**1**												
Direct Materials	**20%**		**370.13**	**272.74**	**272.74**	**272.74**	**292.22**	**292.22**	**292.22**	**292.22**	**311.70**	**311.70**	**311.70**
Fuel cost	2.0%		36.64	24.37	24.37	24.37	26.11	26.11	26.11	26.11	27.85	27.85	27.85
Direct wages	5%	1%	58.8	59.39	59.98	60.58	61.19	61.80	62.42	63.04	63.67	64.31	64.95
power	0.00%		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital				13.22	13.22	13.23	14.01	14.02	14.03	14.04	14.81	14.82	14.83
TOTAL VARIABLE EXPENSES				**369.71**	**370.31**	**370.92**	**393.52**	**394.14**	**394.77**	**395.40**	**418.03**	**418.68**	**419.33**
TOTAL CONTRIBUTION(Rev-Variable cost)				**860.98**	**860.38**	**859.77**	**925.07**	**924.45**	**923.82**	**923.19**	**988.47**	**987.82**	**987.17**
FIXED EXPENSES	1		FBS										
Salaries & wages	3%	1%	30.96	31.27	31.58	31.90	32.22	32.54	32.86	33.19	33.53	33.86	34.20
Power fixed	3.00%			36.92	36.92	36.92	36.92	36.92	36.92	36.92	36.92	36.92	36.92
Administration & Sales Expenses	4.0%			49.23	49.23	49.23	52.74	52.74	52.74	52.74	56.26	56.26	56.26
Repair and maintanence	5.0%			61.53	61.53	61.53	65.93	65.93	65.93	65.93	70.33	70.33	70.33
Interest on Term Loans				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Depreciation				333.17	287.07	247.44	213.36	184.05	158.81	137.09	118.38	102.25	88.36
TOTAL FIXED EXPENSES				**512.12**	**466.33**	**427.02**	**401.18**	**372.18**	**347.27**	**325.87**	**315.41**	**299.62**	**286.06**
BREAKEVENREVENUE				732.02	667.05	611.25	571.83	530.86	495.67	465.45	448.80	426.61	407.58
BREAKEVEN POINT avg(36%)				**59%**	**54%**	**50%**	**43%**	**40%**	**38%**	**35%**	**32%**	**30%**	**29%**

12.6 Projected Profit and Loss

Rs. Lakhs			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
VALUE ADDED				**1230.69**	**1230.69**	**1230.69**	**1318.60**	**1318.60**	**1318.60**	**1318.60**	**1406.50**	**1406.50**	**1406.50**
MATERIAL COST-INDIRECT	22%			272.74	272.74	272.74	292.22	292.22	292.22	292.22	311.70	311.70	311.70
FUEL COST	2%			**24.37**	**24.37**	**24.37**	**26.11**	**26.11**	**26.11**	**26.11**	**27.85**	**27.85**	**27.85**
EXPENSES													
WAGES	5%			59.39	59.98	60.58	61.19	61.80	62.42	63.04	63.67	64.31	64.95
SALARIES	3%			31.27	31.58	31.90	32.22	32.54	32.86	33.19	33.53	33.86	34.20
POWER	3%			36.92	36.92	36.92	36.92	36.92	36.92	36.92	36.92	36.92	36.92
REPAIR & MAINTENANCE	5%			61.53	61.53	61.53	65.93	65.93	65.93	65.93	70.33	70.33	70.33
ADMINISTRATION & SELLING EXPENSES	5%			61.53	61.53	61.53	65.93	65.93	65.93	65.93	70.33	70.33	70.33
TOTAL EXPENSES	45%			**547.75**	**548.66**	**549.57**	**580.51**	**581.45**	**582.39**	**583.34**	**614.32**	**615.29**	**616.27**
OPERATING PROFIT(PBIDT)	55%			**682.94**	**682.03**	**681.11**	**738.08**	**737.15**	**736.21**	**735.25**	**792.18**	**791.21**	**790.23**
INTEREST WORKING CAPITAL	1%			**13.22**	**13.22**	**13.23**	**14.01**	**14.02**	**14.03**	**14.04**	**14.81**	**14.82**	**14.83**
PBDT	54%			**669.72**	**668.80**	**667.88**	**724.07**	**723.13**	**722.18**	**721.22**	**777.37**	**776.39**	**775.40**
DEPRECIATION	27%			333.17	287.07	247.44	213.36	184.05	158.81	137.09	118.38	102.25	88.36
NET PROFIT BEORE TAX	27%			**336.55**	**381.74**	**420.44**	**510.71**	**539.09**	**563.37**	**584.13**	**659.00**	**674.14**	**687.04**
INCOME TAX	4%			47.66	55.26	61.70	75.74	80.38	84.32	87.65	99.03	101.42	103.43
NET PROFIT AFTER TAX	23%			**288.90**	**326.48**	**358.73**	**434.97**	**458.70**	**479.05**	**496.48**	**559.96**	**572.72**	**583.61**
NET PROFIT AS % TO NET REVENUE	0%			**23%**	**27%**	**29%**	**33%**	**35%**	**36%**	**38%**	**40%**	**41%**	**41%**
AVERAGE NET PROFIT TO REVENUE				**34.3%**									
CUMULATIVE PROFIT & LOSS				**288.90**	**615.38**	**974.11**	**1409.08**	**1867.78**	**2346.83**	**2843.31**	**3403.27**	**3975.99**	**4559.61**

FINANCIAL RATIOS													
			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
BREAK EVEN SALES				732.02	667.05	611.25	571.83	530.86	495.67	465.45	448.80	426.61	407.58
BREAK EVEN POINT				59%	54%	50%	43%	40%	38%	35%	32%	30%	29%
AVERAGE-BREAK EVEN POINT-41%													
RETURN ON CAPITAL EMPLOYED													
NET FIXED ASSETS			2488.59	2155.43	1868.36	1620.91	1407.55	1223.51	1064.69	927.61	809.23	706.98	618.62
WORKING CAPITAL			0.00	117.48	117.56	117.63	124.53	124.61	124.68	124.76	131.66	131.74	131.83
TOAL CAPITAL EMPLOYED			2488.59	2272.91	1985.91	1738.55	1532.08	1348.11	1189.38	1052.37	940.89	838.72	750.44
NET PROFIT (PAIDT)				288.90	326.48	358.73	434.97	458.70	479.05	496.48	559.96	572.72	583.61
RETURN ON CAPITAL EMPLOYED				13%	16.4%	21%	28%	34%	40%	47%	60%	68%	78%
AVERAGE RETURN ON CAP EMP				**33%**									

12.7 Cash Flow Statement

Rs. Lakhs			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
SOURCES													
NET PROFIT BEORE TAX			0.00	336.55	381.74	420.44	510.71	539.09	563.37	584.13	659.00	674.14	687.04
Term Loans													
Govt. Grant			2517.96										
Promoters Contribution													
Increase in Bank borrowing				88.11	0.06	0.06	5.17	0.06	0.06	0.06	5.17	0.06	0.06
Depreciation				333.17	287.07	247.44	213.36	184.05	158.81	137.09	118.38	102.25	88.36
Others													
TOTAL SOURCES			**2517.96**	**757.83**	**668.86**	**667.94**	**729.25**	**723.19**	**722.24**	**721.28**	**782.55**	**776.45**	**775.46**
DISPOSAL OF FUNDS													
Preliminary expenses													
Capital Expenditure			2488.59										
Increase in Working Capital				117.48	0.08	0.08	6.90	0.08	0.08	0.08	6.90	0.08	0.08
Decrease in Term Loans				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income Tax				47.66	55.26	61.70	75.74	80.38	84.32	87.65	99.03	101.42	103.43
others													
TOTAL DISPOSAL OF FUNDS			**2488.59**	**165.14**	**55.33**	**61.78**	**82.64**	**80.46**	**84.39**	**87.73**	**105.93**	**101.50**	**103.51**
Opening cash balance			0.00	29.37	622.06	1235.59	1841.75	2488.36	3131.08	3768.93	4402.48	5079.09	5754.04
Surplus/Deficit			29.37	592.69	613.53	606.16	646.61	642.73	637.84	633.55	676.61	674.95	671.95
Closing Cash Balance			**29.37**	**622.06**	**1235.59**	**1841.75**	**2488.36**	**3131.08**	**3768.93**	**4402.48**	**5079.09**	**5754.04**	**6425.99**

12.8 Projected Balance Sheet

PROJECTED BALANCE SHEET (Rs. Lakhs)												
Rs. Lakhs			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
ASSETS													
Gross Fixed Assets			2488.59	2488.59	2155.43	1868.36	1620.91	1407.55	1223.51	1064.69	927.61	809.23	706.98
less depreciation			0.00	333.17	287.07	247.44	213.36	184.05	158.81	137.09	118.38	102.25	88.36
Net Fixed Assets			2488.59	2155.43	1868.36	1620.91	1407.55	1223.51	1064.69	927.61	809.23	706.98	618.62
Total Current Assets			0.00	173.89	173.96	174.04	184.96	185.04	185.12	185.20	196.13	196.21	196.29
Cash/Bank Balance			29.37	622.06	1235.59	1841.75	2488.36	3131.08	3768.93	4402.48	5079.09	5754.04	6425.99
TOTAL ASSETS			**2517.96**	**2951.37**	**3277.91**	**3636.70**	**4080.87**	**4539.63**	**5018.74**	**5515.28**	**6084.45**	**6657.23**	**7240.90**
LIABILITIES													
RESERVES & SURPLUSES													
Govt. Grant			2517.96	2517.96	2517.96	2517.96	2517.96	2517.96	2517.96	2517.96	2517.96	2517.96	2517.96
profit/Loss			0.00	288.90	615.38	974.11	1409.08	1867.78	2346.83	2843.31	3403.27	3975.99	4559.61
TOTAL RESERVES & SURPLUSES			**2517.96**	**2806.86**	**3133.34**	**3492.07**	**3927.04**	**4385.74**	**4864.79**	**5361.27**	**5921.23**	**6493.95**	**7077.57**
Current Liabilities			0.00	56.41	56.41	56.41	60.44	60.44	60.44	60.44	64.46	64.46	64.46
Short Term Loans			0.00	88.11	88.17	88.22	93.40	93.45	93.51	93.57	98.75	98.81	98.87
TOTAL LIABILITIES			**2517.96**	**2951.37**	**3277.91**	**3636.70**	**4080.87**	**4539.63**	**5018.74**	**5515.28**	**6084.45**	**6657.23**	**7240.90**
			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

12.9 Depreciation Calculation – Income Tax Method

Rs. Lakhs			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
Land & Site Development			45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
additions/deletions			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Gross value			45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
less Depreciation	0%		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Value			**45.00**	**45.00**	**45.00**	**45.00**	**45.00**	**45.00**	**45.00**	**45.00**	**45.00**	**45.00**	**45.00**
Buildings			183.83	183.83	165.44	148.90	134.01	120.61	108.55	97.69	87.92	79.13	71.22
additions/deletions			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Gross value			183.83	183.83	165.44	148.90	134.01	120.61	108.55	97.69	87.92	79.13	71.22
less Depreciation	10%		0.00	18.38	16.54	14.89	13.40	12.06	10.85	9.77	8.79	7.91	7.12
Net Value			183.83	165.44	148.90	134.01	120.61	108.55	97.69	87.92	79.13	71.22	64.10
Plant & Machineries			2062.94	2062.94	1753.50	1490.48	1266.90	1076.87	915.34	778.04	661.33	562.13	477.81
additions/deletions													
Total Gross value			2062.94	2062.94	1753.50	1490.48	1266.90	1076.87	915.34	778.04	661.33	562.13	477.81
less Depreciation	15%		0.00	309.44	263.03	223.57	190.04	161.53	137.30	116.71	99.20	84.32	71.67
Net Value			2062.94	1753.50	1490.48	1266.90	1076.87	915.34	778.04	661.33	562.13	477.81	406.14
Mis fixed Assets			45.00	45.00	40.50	36.45	32.81	29.52	26.57	23.91	21.52	19.37	17.43
additions/deletions													
Total Gross value			45.00	45.00	40.50	36.45	32.81	29.52	26.57	23.91	21.52	19.37	17.43
less Depreciation	10%		0.00	4.50	4.05	3.65	3.28	2.95	2.66	2.39	2.15	1.94	1.74
Net Value of			45.00	40.50	36.45	32.81	29.52	26.57	23.91	21.52	19.37	17.43	15.69
pre operative			45.00	45.00	36.00	28.80	23.04	18.43	14.75	11.80	9.44	7.55	6.04

expenses													
additions/deletions			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Gross value			45.00	45.00	36.00	28.80	23.04	18.43	14.75	11.80	9.44	7.55	6.04
less Depreciation	20%		0.00	9.00	7.20	5.76	4.61	3.69	2.95	2.36	1.89	1.51	1.21
Net Value			45.00	36.00	28.80	23.04	18.43	14.75	11.80	9.44	7.55	6.04	4.83
provision for contingencies			106.82	106.82	96.14	86.53	77.87	70.09	63.08	56.77	51.09	45.98	41.39
additions/deletions													
Total Gross value			106.82	106.82	96.14	86.53	77.87	70.09	63.08	56.77	51.09	45.98	41.39
less Depreciation	10%		0.00	10.68	9.61	8.65	7.79	7.01	6.31	5.68	5.11	4.60	4.14
Net Value			106.82	96.14	86.53	77.87	70.09	63.08	56.77	51.09	45.98	41.39	37.25
TOTAL ASSETS & DEPRECIATION													
Gross value			**2488.59**	**2488.59**	**2136.58**	**1836.15**	**1579.63**	**1360.52**	**1173.28**	**1013.21**	**876.31**	**759.17**	**658.89**
additions/deletions			**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Total Gross value			**2488.59**	**2488.59**	**2136.58**	**1836.15**	**1579.63**	**1360.52**	**1173.28**	**1013.21**	**876.31**	**759.17**	**658.89**
less Depreciation			**0.00**	**352.01**	**300.43**	**256.52**	**219.11**	**187.24**	**160.07**	**136.90**	**117.14**	**100.28**	**85.88**
Net Value			**2488.59**	**2136.58**	**1836.15**	**1579.63**	**1360.52**	**1173.28**	**1013.21**	**876.31**	**759.17**	**658.89**	**573.01**

12.10 Income Tax Calculation

Rs. Lakhs			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
Profit as per Books				336.55	381.74	420.44	510.71	539.09	563.37	584.13	659.00	674.14	687.04
Add back depreciation as per books				333.17	287.07	247.44	213.36	184.05	158.81	137.09	118.38	102.25	88.36
Depreciation as per Income Tax				352.01	300.43	256.52	219.11	187.24	160.07	136.90	117.14	100.28	85.88
Total Income				317.71	368.37	411.36	504.96	535.89	562.11	584.31	660.23	676.11	689.52
Corporate Tax @15%	15%			47.66	55.26	61.70	75.74	80.38	84.32	87.65	99.03	101.42	103.43

12.11 Internal Rate of Return-IRR

Rs. Lakhs			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
Inflows													
Profit after Tax				288.90	326.48	358.73	434.97	458.70	479.05	496.48	559.96	572.72	583.61
Add Depreciation				333.17	287.07	247.44	213.36	184.05	158.81	137.09	118.38	102.25	88.36
Add Interest				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Add Tax				47.66	55.26	61.70	75.74	80.38	84.32	87.65	99.03	101.42	103.43
Total Inflows				669.72	668.80	667.88	724.07	723.13	722.18	721.22	777.37	776.39	775.40
Out Flows													
Capital Expenditure			-2488.59										
Increase in working Capital				-117.48	-0.08								
Total Outflows			-2488.59	-117.48	-0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Cash flows - Pre Tax			**-2488.59**	**552.24**	**668.73**	**667.88**	**724.07**	**723.13**	**722.18**	**721.22**	**777.37**	**776.39**	**775.40**
Project IRR			**24%**										
Net Cashflows Post Tax			**-2488.35**	**504.58**	**613.47**	**606.18**	**648.33**	**642.75**	**637.86**	**633.57**	**678.34**	**674.97**	**671.97**
Project IRR-Post Tax			**21%**										

12.12 NPV Calculation

			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
Net Cash flows - pre tax			**-2488.59**	**552.24**	**668.73**	**667.88**	**724.07**	**723.13**	**722.18**	**721.22**	**777.37**	**776.39**	**775.40**
NPV FACTOR	**26%**			0.79	0.63	0.50	0.40	0.31	0.25	0.20	0.16	0.12	0.10
NET PRESENT VALUE -PRE TAX	0.26		2328.13	438.29	421.22	333.88	287.28	227.70	180.48	143.04	122.37	96.99	76.88
Net Cashflows Post Tax			**-2488.35**	**504.58**	**613.47**	**606.18**	**648.33**	**642.75**	**637.86**	**633.57**	**678.34**	**674.97**	**671.97**
NET PRESENT VAUE-POST TAX	**23%**			0.81	0.66	0.54	0.44	0.36	0.29	0.23	0.19	0.16	0.13
	0.23		2305.00	410.23	405.50	325.75	283.25	228.30	184.20	148.75	129.48	104.75	84.78

12.13 ROCE Calculation

		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
		0	1	2	3	4	5	6	7	8	9	10
Profit after tax			288.90	326.48	358.73	434.97	458.70	479.05	496.48	559.96	572.72	583.61
Capital Employed												
Net Fixed Assets			2155.43	1868.36	1620.91	1407.55	1223.51	1064.69	927.61	809.23	706.98	618.62
Net Working Capital			117.48	117.56	117.63	124.53	124.61	124.68	124.76	131.66	131.74	131.83
Total capital Employed			**2272.91**	**1985.91**	**1738.55**	**1532.08**	**1348.11**	**1189.38**	**1052.37**	**940.89**	**838.72**	**750.44**
ROCE			13%	16%	21%	28%	34%	40%	47%	60%	68%	78%
AVERAGE ROCE			**33%**									

Chapter 13

Sensitivity Analysis for 10% reduction in Capacity or Sales

13.1 Project Cost and Means of Finance

Rs. Lakhs		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Years		0	1	2	3	4	5	6	7	8	9	10
PROJECT COST												
Land Leased Amount		45.00	1.8%									
Buildings Construction Cost		183.83	7.3%									
Plant and Machineries		2062.94	82.0%									
Miscl Fixed Assets		45.00	1.8%									
Pre operative expenses &Preliminary expenses		45.00	1.8%									
provision for Contingencies		106.82	4.2%									
Margin Money		28.07	1.1%									
TOTAL PROJECT COST		**2516.66**	**100%**									
SOURCES												
SPV	**15%**	**377.50**										
State Govt	**15%**	**377.50**										
GoI	**70%**	**1761.67**										
Bank Borrowings		**0.00**										
Total Project cost		**2516.66**										
GRANTS												
OPENING BALANCE		**0.00**	**2516.66**	**2516.66**	**2516.66**	**2516.66**	**2516.66**	**2516.66**	**2516.66**	**2516.66**	**2516.66**	**2516.66**
GRANT		**2516.66**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
0 REPAYMENTS	**0**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
CLOSING BALANCE OF TERM LOANS		**2516.66**	**2516.66**	**2516.66**	**2516.66**	**2516.66**	**2516.66**	**2516.66**	**2516.66**	**2516.66**	**2516.66**	**2516.66**
INTEREST ON TERM LOANS BALANCE	**0%**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

13.2 Depreciation Calculation

Rs. Lakhs			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
Land & Site Development			45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
additions/deletions			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Gross value			45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
less Depreciation	0%		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Value			45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Buildings			183.83	183.83	165.44	148.90	134.01	120.61	108.55	97.69	87.92	79.13	71.22
additions/deletions			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Gross value			183.83	183.83	165.44	148.90	134.01	120.61	108.55	97.69	87.92	79.13	71.22
less Depreciation	10%		0.00	18.38	16.54	14.89	13.40	12.06	10.85	9.77	8.79	7.91	7.12
Net Value			183.83	165.44	148.90	134.01	120.61	108.55	97.69	87.92	79.13	71.22	64.10
Plant & Machineries			2062.94	2062.94	1775.99	1528.95	1316.27	1133.18	975.55	839.85	723.03	622.46	535.87
additions/deletions													
Total Gross value			2062.94	2062.94	1775.99	1528.95	1316.27	1133.18	975.55	839.85	723.03	622.46	535.87
less Depreciation	14%		0.00	286.96	247.04	212.68	183.09	157.62	135.70	116.82	100.57	86.58	74.54
Net Value			2062.94	1775.99	1528.95	1316.27	1133.18	975.55	839.85	723.03	622.46	535.87	461.33
Mis fixed Assets			45.00	45.00	36.86	30.18	24.72	20.25	16.58	13.58	11.12	9.11	7.46
additions/deletions													
Total Gross value			45.00	45.00	36.86	30.18	24.72	20.25	16.58	13.58	11.12	9.11	7.46
less Depreciation	18%		0.00	8.15	6.67	5.46	4.47	3.66	3.00	2.46	2.01	1.65	1.35
Net Value of			45.00	36.86	30.18	24.72	20.25	16.58	13.58	11.12	9.11	7.46	6.11
pre operative expenses			45.00	45.00	36.00	28.80	23.04	18.43	14.75	11.80	9.44	7.55	6.04

additions/deletions			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Gross value			45.00	45.00	36.00	28.80	23.04	18.43	14.75	11.80	9.44	7.55	6.04
less Depreciation	20%		0.00	9.00	7.20	5.76	4.61	3.69	2.95	2.36	1.89	1.51	1.21
Net Value			45.00	36.00	28.80	23.04	18.43	14.75	11.80	9.44	7.55	6.04	4.83
provision for contingencies			106.82	106.82	96.14	86.53	77.87	70.09	63.08	56.77	51.09	45.98	41.39
additions/deletions													
Total Gross value			106.82	106.82	96.14	86.53	77.87	70.09	63.08	56.77	51.09	45.98	41.39
less Depreciation	10%		0.00	10.68	9.61	8.65	7.79	7.01	6.31	5.68	5.11	4.60	4.14
Net Value			106.82	96.14	86.53	77.87	70.09	63.08	56.77	51.09	45.98	41.39	37.25
TOTAL ASSETS & DEPRECIATION													
Gross value			**2488.59**	**2488.59**	**2155.43**	**1868.36**	**1620.91**	**1407.55**	**1223.51**	**1064.69**	**927.61**	**809.23**	**706.98**
additions/deletions			**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Total Gross value			**2488.59**	**2488.59**	**2155.43**	**1868.36**	**1620.91**	**1407.55**	**1223.51**	**1064.69**	**927.61**	**809.23**	**706.98**
less Depreciation			**0.00**	**333.17**	**287.07**	**247.44**	**213.36**	**184.05**	**158.81**	**137.09**	**118.38**	**102.25**	**88.36**
NET VALUE OF FIXED ASSETS			**2488.59**	**2155.43**	**1868.36**	**1620.91**	**1407.55**	**1223.51**	**1064.69**	**927.61**	**809.23**	**706.98**	**618.62**

13.3 Working Capital

Rs. Lakhs			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
Raw Materials (Raw Materials)	1.042			33.81	33.81	33.81	35.41	35.41	35.41	35.41	37.02	37.02	37.02
Sundry Debtors (Revenues)	1.0			97.16	97.16	97.16	104.10	104.10	104.10	104.10	111.04	111.04	111.04
wages & salaries	1			7.55	7.63	7.71	7.78	7.86	7.94	8.02	8.10	8.18	8.26
Utilities	1			2.91	2.91	2.91	2.91	2.91	2.91	2.91	2.91	2.91	2.91
short Term loans and Advances(Rev)	0.25			24.29	24.29	24.29	26.02	26.02	26.02	26.02	27.76	27.76	27.76
Total Current Assets				165.73	165.81	165.88	176.24	176.31	176.39	176.47	186.83	186.91	186.99
Sundry Creditors(Materials)	1.5			29.15	29.15	29.15	31.23	31.23	31.23	31.23	33.31	33.31	33.31
Loans & Advances(Revenue)	0.25			24.29	24.29	24.29	26.02	26.02	26.02	26.02	27.76	27.76	27.76
Total Current Liabilities				53.44	53.44	53.44	57.25	57.25	57.25	57.25	61.07	61.07	61.07
Net Working Capital				112.29	112.37	112.44	118.98	119.06	119.14	119.22	125.76	125.84	125.92
Margin Money	25%			28.07	28.09	28.11	29.75	29.77	29.78	29.80	31.44	31.46	31.48
BALANCE W/C BANK FINANCE				84.22	84.28	84.33	89.24	89.30	89.35	89.41	94.32	94.38	94.44
INTEREST CALCULATION	15%			12.63	12.64	12.65	13.39	13.39	13.40	13.41	14.15	14.16	14.17

13.4 Capacity Utilization, Revenue Generation and Material Cost

			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
Percentage utilisation			**100%**	**63%**	**63%**	**63%**	**68%**	**68%**	**68%**	**68%**	**72%**	**72%**	**72%**
Growth till full capacity													
PROJECTED REVENUE													
Rs. Lakhs			**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**
			0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
REVENUE PROJECTIONS													
REVENUE			1832.16	1154.26	1154.26	1154.26	1236.71	1236.71	1236.71	1236.71	1319.16	1319.16	1319.16
REVENUE FROM TRAINING	1%		18.50	11.66	11.66	11.66	12.49	12.49	12.49	12.49	13.32	13.32	13.32
TOTAL REVENUE			1850.66	1165.92	1165.92	1165.92	1249.20	1249.20	1249.20	1249.20	1332.48	1332.48	1332.48
TOTAL REVENUE			**1850.66**	**1165.92**	**1165.92**	**1165.92**	**1249.20**	**1249.20**	**1249.20**	**1249.20**	**1332.48**	**1332.48**	**1332.48**
Growth %					**0%**	**0%**	**7%**	**7%**	**0%**	**0%**	**7%**	**7%**	
			2023	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**
Rs. Lakhs			**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
MATERIAL COST	%TO		1OO%										
	REVENUE												
MATERIAL COST	20%		370.13	233.18	233.18	233.18	249.84	249.84	249.84	249.84	266.50	266.50	266.50
TOTAL MATERIAL COST			**370.13**	**233.18**	**233.18**	**233.18**	**249.84**	**249.84**	**249.84**	**249.84**	**266.50**	**266.50**	**266.50**
OTHER INDIRECT MATLS	2%		40.00	25.20	25.20	25.20	27.00	27.00	27.00	27.00	28.80	28.80	28.80
TOTAL MATERIAL COST			**410.13**	**258.38**	**258.38**	**258.38**	**276.84**	**276.84**	**276.84**	**276.84**	**295.30**	**295.30**	**295.30**
TOTAL MATERIAL COST AS % REVENUE				**22%**	**22%**	**22%**	**22%**	**22%**	**22%**	**22%**	**22%**	**22%**	**22%**

13.5 Breakeven Analysis

			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Rs. Lakhs			**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
VARIALBE EXPENSES	**1**												
Direct Materials	**20%**		**370.13**	**258.38**	**258.38**	**258.38**	**276.84**	**276.84**	**276.84**	**276.84**	**295.30**	**295.30**	**295.30**
Fuel cost	2.0%		36.64	23.09	23.09	23.09	24.73	24.73	24.73	24.73	26.38	26.38	26.38
Direct wages	5%	1%	58.8	59.39	59.98	60.58	61.19	61.80	62.42	63.04	63.67	64.31	64.95
power	0.00%		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital				12.63	12.64	12.65	13.39	13.39	13.40	13.41	14.15	14.16	14.17
TOTAL VARIABLE EXPENSES				**353.49**	**354.09**	**354.70**	**376.15**	**376.77**	**377.39**	**378.03**	**399.50**	**400.14**	**400.80**
TOTAL CONTRIBUTION(Rev-Variable cost)				**812.43**	**811.82**	**811.22**	**873.05**	**872.43**	**871.80**	**871.17**	**932.98**	**932.33**	**931.68**
FIXED EXPENSES	1		FBS										
Salaries & wages	3%	1%	30.96	31.27	31.58	31.90	32.22	32.54	32.86	33.19	33.53	33.86	34.20
Power fixed	3.00%			34.98	34.98	34.98	34.98	34.98	34.98	34.98	34.98	34.98	34.98
Administration & Sales Expenses	4.0%			46.64	46.64	46.64	49.97	49.97	49.97	49.97	53.30	53.30	53.30
Repair and maintenance	5.0%			58.30	58.30	58.30	62.46	62.46	62.46	62.46	66.62	66.62	66.62
Interest on Term Loans				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Depreciation				333.17	287.07	247.44	213.36	184.05	158.81	137.09	118.38	102.25	88.36
TOTAL FIXED EXPENSES				**504.34**	**458.56**	**419.25**	**392.99**	**363.99**	**339.08**	**317.69**	**306.80**	**291.01**	**277.46**
BREAKEVENREVENUE				723.79	658.57	602.57	562.30	521.18	485.87	455.54	438.17	415.91	396.82
BREAKEVEN POINT avg(36%)				**62%**	**56%**	**52%**	**45%**	**42%**	**39%**	**36%**	**33%**	**31%**	**30%**

13.6 Projected Profit and Loss

Rs. Lakhs		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
		0	1	2	3	4	5	6	7	8	9	10
VALUE ADDED			**1165.92**	**1165.92**	**1165.92**	**1249.20**	**1249.20**	**1249.20**	**1249.20**	**1332.48**	**1332.48**	**1332.48**
MATERIAL COST-INDIRECT	22%		258.38	258.38	258.38	276.84	276.84	276.84	276.84	295.30	295.30	295.30
FUEL COST	2%		**23.09**	**23.09**	**23.09**	**24.73**	**24.73**	**24.73**	**24.73**	**26.38**	**26.38**	**26.38**
EXPENSES												
WAGES	5%		59.39	59.98	60.58	61.19	61.80	62.42	63.04	63.67	64.31	64.95
SALARIES	3%		31.27	31.58	31.90	32.22	32.54	32.86	33.19	33.53	33.86	34.20
POWER	3%		34.98	34.98	34.98	34.98	34.98	34.98	34.98	34.98	34.98	34.98
REPAIR & MAINTENANCE	5%		58.30	58.30	58.30	62.46	62.46	62.46	62.46	66.62	66.62	66.62
ADMINISTRATION & SELLING EXPENSES	5%		58.30	58.30	58.30	62.46	62.46	62.46	62.46	66.62	66.62	66.62
TOTAL EXPENSES	45%		**523.70**	**524.60**	**525.52**	**554.87**	**555.81**	**556.75**	**557.71**	**587.10**	**588.07**	**589.05**
OPERATING PROFIT(PBIDT)	55%		**642.22**	**641.31**	**640.40**	**694.32**	**693.39**	**692.44**	**691.49**	**745.37**	**744.40**	**743.42**
INTEREST WORKING CAPITAL	1%		**12.63**	**12.64**	**12.65**	**13.39**	**13.39**	**13.40**	**13.41**	**14.15**	**14.16**	**14.17**
PBDT	54%		**629.59**	**628.67**	**627.75**	**680.94**	**679.99**	**679.04**	**678.08**	**731.23**	**730.25**	**729.25**
DEPRECIATION	29%		333.17	287.07	247.44	213.36	184.05	158.81	137.09	118.38	102.25	88.36
NET PROFIT BEORE TAX	25%		**296.42**	**341.60**	**380.31**	**467.57**	**495.95**	**520.23**	**540.99**	**612.85**	**627.99**	**640.90**
INCOME TAX	4%		41.64	49.24	55.68	69.27	73.91	77.85	81.18	92.11	94.50	96.51
NET PROFIT AFTER TAX	22%		**254.79**	**292.37**	**324.62**	**398.30**	**422.03**	**442.38**	**459.81**	**520.74**	**533.50**	**544.39**
NET PROFIT AS % TO NET REVENUE	0%		**22%**	**25%**	**28%**	**32%**	**34%**	**35%**	**37%**	**39%**	**40%**	**41%**
AVERAGE NET PROFIT TO REVENUE			**33.3%**									
CUMULATIVE PROFIT & LOSS			**254.79**	**547.15**	**871.77**	**1270.07**	**1692.11**	**2134.49**	**2594.30**	**3115.04**	**3648.54**	**4192.93**

FINANCIAL RATIOS													
			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
BREAK EVEN SALES				723.79	658.57	602.57	562.30	521.18	485.87	455.54	438.17	415.91	396.82
BREAK EVEN POINT				62%	56%	52%	45%	42%	39%	36%	33%	31%	30%
AVERAGE-BREAK EVEN POINT-41%													
RETURN ON CAPITAL EMPLOYED													
NET FIXED ASSETS			2488.59	2155.43	1868.36	1620.91	1407.55	1223.51	1064.69	927.61	809.23	706.98	618.62
WORKING CAPITAL			0.00	112.29	112.37	112.44	118.98	119.06	119.14	119.22	125.76	125.84	125.92
TOAL CAPITAL EMPLOYED			2488.59	2267.72	1980.73	1733.36	1526.53	1342.57	1183.83	1046.82	934.99	832.82	744.54
NET PROFIT (PAIDT)				254.79	292.37	324.62	398.30	422.03	442.38	459.81	520.74	533.50	544.39
RETURN ON CAPITAL EMPLOYED				11%	14.8%	19%	26%	31%	37%	44%	56%	64%	73%
AVERAGE RETURN ON CAP EMP				**31%**									

13.7 Cash Flow Statement

Rs. Lakhs		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
		0	1	2	3	4	5	6	7	8	9	10
SOURCES												
NET PROFIT BEORE TAX		0.00	296.42	341.60	380.31	467.57	495.95	520.23	540.99	612.85	627.99	640.90
Term Loans												
Govt. Grant		2516.66										
Promoters Contribution												
Increase in Bank borrowing			84.22	0.06	0.06	4.90	0.06	0.06	0.06	4.91	0.06	0.06
Depreciation			333.17	287.07	247.44	213.36	184.05	158.81	137.09	118.38	102.25	88.36
Others												
TOTAL SOURCES		**2516.66**	**713.81**	**628.73**	**627.81**	**685.84**	**680.05**	**679.10**	**678.14**	**736.13**	**730.31**	**729.32**
DISPOSAL OF FUNDS												
Preliminary expenses												
Capital Expenditure		2488.59										
Increase in Working Capital			112.29	0.08	0.08	6.54	0.08	0.08	0.08	6.54	0.08	0.08
Decrease in Term Loans			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income Tax			41.64	49.24	55.68	69.27	73.91	77.85	81.18	92.11	94.50	96.51
others												
TOTAL DISPOSAL OF FUNDS		**2488.59**	**153.93**	**49.31**	**55.76**	**75.81**	**73.99**	**77.92**	**81.26**	**98.65**	**94.58**	**96.59**
Opening cash balance		0.00	28.07	587.95	1167.37	1739.41	2349.44	2955.50	3556.68	4153.56	4791.04	5426.77
Surplus/Deficit		28.07	559.88	579.42	572.05	610.03	606.06	601.17	596.88	637.48	635.73	632.73
Closing Cash Balance		**28.07**	**587.95**	**1167.37**	**1739.41**	**2349.44**	**2955.50**	**3556.68**	**4153.56**	**4791.04**	**5426.77**	**6059.50**

13.8 Projected Balance Sheet

Rs. Lakhs		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
		0	1	2	3	4	5	6	7	8	9	10
ASSETS												
Gross Fixed Assets		2488.59	2488.59	2155.43	1868.36	1620.91	1407.55	1223.51	1064.69	927.61	809.23	706.98
less depreciation		0.00	333.17	287.07	247.44	213.36	184.05	158.81	137.09	118.38	102.25	88.36
Net Fixed Assets		2488.59	2155.43	1868.36	1620.91	1407.55	1223.51	1064.69	927.61	809.23	706.98	618.62
Total Current Assets		0.00	165.73	165.81	165.88	176.24	176.31	176.39	176.47	186.83	186.91	186.99
Cash/Bank Balance		28.07	587.95	1167.37	1739.41	2349.44	2955.50	3556.68	4153.56	4791.04	5426.77	6059.50
TOTAL ASSETS		**2516.66**	**2909.11**	**3201.53**	**3526.21**	**3933.23**	**4355.32**	**4797.76**	**5257.64**	**5787.10**	**6320.65**	**6865.11**
LIABILITIES												
RESERVES & SURPLUSES												
Govt. Grant		2516.66	2516.66	2516.66	2516.66	2516.66	2516.66	2516.66	2516.66	2516.66	2516.66	2516.66
profit/Loss		0.00	254.79	547.15	871.77	1270.07	1692.11	2134.49	2594.30	3115.04	3648.54	4192.93
TOTAL RESERVES & SURPLUSES		**2516.66**	**2771.45**	**3063.82**	**3388.44**	**3786.74**	**4208.77**	**4651.15**	**5110.97**	**5631.71**	**6165.20**	**6709.59**
Current Liabilities		0.00	53.44	53.44	53.44	57.25	57.25	57.25	57.25	61.07	61.07	61.07
Short Term Loans		0.00	84.22	84.28	84.33	89.24	89.30	89.35	89.41	94.32	94.38	94.44
TOTAL LIABILITIES		**2516.66**	**2909.11**	**3201.53**	**3526.21**	**3933.23**	**4355.32**	**4797.76**	**5257.64**	**5787.10**	**6320.65**	**6865.11**
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

13.9 Depreciation Calculation – Income Tax Method

Rs. Lakhs		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
		0	1	2	3	4	5	6	7	8	9	10
Land & Site Development		45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
additions/deletions		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Gross value		45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
less Depreciation	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Value		**45.00**	**45.00**	**45.00**	**45.00**	**45.00**	**45.00**	**45.00**	**45.00**	**45.00**	**45.00**	**45.00**
Buildings		183.83	183.83	165.44	148.90	134.01	120.61	108.55	97.69	87.92	79.13	71.22
additions/deletions		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Gross value		183.83	183.83	165.44	148.90	134.01	120.61	108.55	97.69	87.92	79.13	71.22
less Depreciation	10%	0.00	18.38	16.54	14.89	13.40	12.06	10.85	9.77	8.79	7.91	7.12
Net Value		183.83	165.44	148.90	134.01	120.61	108.55	97.69	87.92	79.13	71.22	64.10
Plant & Machineries		2062.94	2062.94	1753.50	1490.48	1266.90	1076.87	915.34	778.04	661.33	562.13	477.81
additions/deletions												
Total Gross value		2062.94	2062.94	1753.50	1490.48	1266.90	1076.87	915.34	778.04	661.33	562.13	477.81
less Depreciation	15%	0.00	309.44	263.03	223.57	190.04	161.53	137.30	116.71	99.20	84.32	71.67
Net Value		2062.94	1753.50	1490.48	1266.90	1076.87	915.34	778.04	661.33	562.13	477.81	406.14
Mis fixed Assets		45.00	45.00	40.50	36.45	32.81	29.52	26.57	23.91	21.52	19.37	17.43
additions/deletions												
Total Gross value		45.00	45.00	40.50	36.45	32.81	29.52	26.57	23.91	21.52	19.37	17.43
less Depreciation	10%	0.00	4.50	4.05	3.65	3.28	2.95	2.66	2.39	2.15	1.94	1.74
Net Value of		45.00	40.50	36.45	32.81	29.52	26.57	23.91	21.52	19.37	17.43	15.69
pre operative expenses		45.00	45.00	36.00	28.80	23.04	18.43	14.75	11.80	9.44	7.55	6.04

additions/deletions		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Gross value		45.00	45.00	36.00	28.80	23.04	18.43	14.75	11.80	9.44	7.55	6.04
less Depreciation	20%	0.00	9.00	7.20	5.76	4.61	3.69	2.95	2.36	1.89	1.51	1.21
Net Value		45.00	36.00	28.80	23.04	18.43	14.75	11.80	9.44	7.55	6.04	4.83
provision for contingencies		106.82	106.82	96.14	86.53	77.87	70.09	63.08	56.77	51.09	45.98	41.39
additions/deletions												
Total Gross value		106.82	106.82	96.14	86.53	77.87	70.09	63.08	56.77	51.09	45.98	41.39
less Depreciation	10%	0.00	10.68	9.61	8.65	7.79	7.01	6.31	5.68	5.11	4.60	4.14
Net Value		106.82	96.14	86.53	77.87	70.09	63.08	56.77	51.09	45.98	41.39	37.25
TOTAL ASSETS & DEPRECIATION												
Gross value		**2488.59**	**2488.59**	**2136.58**	**1836.15**	**1579.63**	**1360.52**	**1173.28**	**1013.21**	**876.31**	**759.17**	**658.89**
additions/deletions		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Total Gross value		**2488.59**	**2488.59**	**2136.58**	**1836.15**	**1579.63**	**1360.52**	**1173.28**	**1013.21**	**876.31**	**759.17**	**658.89**
less Depreciation		**0.00**	**352.01**	**300.43**	**256.52**	**219.11**	**187.24**	**160.07**	**136.90**	**117.14**	**100.28**	**85.88**
Net Value		**2488.59**	**2136.58**	**1836.15**	**1579.63**	**1360.52**	**1173.28**	**1013.21**	**876.31**	**759.17**	**658.89**	**573.01**

13.10 Income Tax Calculation

Rs. Lakhs			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
Profit as per Books				296.42	341.60	380.31	467.57	495.95	520.23	540.99	612.85	627.99	640.90
Add back depreciation as per books				333.17	287.07	247.44	213.36	184.05	158.81	137.09	118.38	102.25	88.36
Depreciation as per Income Tax				352.01	300.43	256.52	219.11	187.24	160.07	136.90	117.14	100.28	85.88
Total Income				277.58	328.24	371.23	461.82	492.75	518.97	541.18	614.09	629.97	643.37
Corporate Tax @15%	15%			41.64	49.24	55.68	69.27	73.91	77.85	81.18	92.11	94.50	96.51

13.11 Internal Rate of Return-IRR

Rs. Lakhs		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
		0	1	2	3	4	5	6	7	8	9	10
Inflows												
Profit after Tax			254.79	292.37	324.62	398.30	422.03	442.38	459.81	520.74	533.50	544.39
Add Depreciation			333.17	287.07	247.44	213.36	184.05	158.81	137.09	118.38	102.25	88.36
Add Interest			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Add Tax			41.64	49.24	55.68	69.27	73.91	77.85	81.18	92.11	94.50	96.51
Total Inflows			629.59	628.67	627.75	680.94	679.99	679.04	678.08	731.23	730.25	729.25
Out Flows												
Capital Expenditure		-2488.59										
Increase in working Capital			-112.29	-0.08								
Total Outflows		-2488.59	-112.29	-0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Cash flows - Pre Tax		**-2488.59**	**517.30**	**628.60**	**627.75**	**680.94**	**679.99**	**679.04**	**678.08**	**731.23**	**730.25**	**729.25**
Project IRR		**22%**										
Net Cashflows Post Tax		**-2488.37**	**475.66**	**579.36**	**572.06**	**611.66**	**606.08**	**601.19**	**596.90**	**639.11**	**635.75**	**632.75**
Project IRR-Post Tax		**19%**										

13.12 NPV Calculation

			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
			0	1	2	3	4	5	6	7	8	9	10
Net Cash flows - pre tax			**-2488.59**	**517.30**	**628.60**	**627.75**	**680.94**	**679.99**	**679.04**	**678.08**	**731.23**	**730.25**	**729.25**
NPV FACTOR	**26%**			0.79	0.63	0.50	0.40	0.31	0.25	0.20	0.16	0.12	0.10
NET PRESENT VALUE -PRE TAX	0.26		2187.41	410.55	395.94	313.82	270.16	214.12	169.70	134.49	115.10	91.23	72.31
Net Cashflows Post Tax			**-2488.37**	**475.66**	**579.36**	**572.06**	**611.66**	**606.08**	**601.19**	**596.90**	**639.11**	**635.75**	**632.75**
NET PRESENT VAUE-POST TAX	**23%**			0.81	0.66	0.54	0.44	0.36	0.29	0.23	0.19	0.16	0.13
	0.23		2173.83	386.71	382.95	307.42	267.23	215.28	173.61	140.14	121.99	98.66	79.83

13.13 ROCE Calculation

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
	0	1	2	3	4	5	6	7	8	9	10
Profit after tax		254.79	292.37	324.62	398.30	422.03	442.38	459.81	520.74	533.50	544.39
Capital Employed											
Net Fixed Assets		2155.43	1868.36	1620.91	1407.55	1223.51	1064.69	927.61	809.23	706.98	618.62
Net Working Capital		112.29	112.37	112.44	118.98	119.06	119.14	119.22	125.76	125.84	125.92
Total capital Employed		**2267.72**	**1980.73**	**1733.36**	**1526.53**	**1342.57**	**1183.83**	**1046.82**	**934.99**	**832.82**	**744.54**
ROCE		11%	15%	19%	26%	31%	37%	44%	56%	64%	73%
AVERAGE ROCE		**31%**									

Conclusion

India's printing industry is at the crossroads. The Indian Print Industry has undergone a revolutionary change in the last 20 years. In 1990, India initiated a process of reforms aimed at shedding protectionism and embracing liberalization of the economy. Privatization was initiated with the aim of integrating the Indian economy with the world economy. This change opened the doors for the Indian Print Industry to modernize, by investing in the latest of technology and machinery. The average compound annual growth rate has been higher than 12% over the last 20 years. Long gone are the images of plastic sleeved printers stooped overtype setting cases. The industry in India has moved from the traditional ink on paper industry to embrace an ever-increasing range of technologies and fields of expertise.

Today, India is fast becoming one of the major print producer & manufacture of printed paper products for the world markets. The current annual turnover of all the components in the Indian printing industry are more than Rs.50,000 crores. One of the main reasons for supporting such a kind of the cluster is the fact that nearly 70% of India's printing industries are traditional family owned and this will directly help the Indian printing industry.

The printing sector is a matured and 12th biggest industry of India having a bright future. The larger national and Multinational companies are providing stiff competitions to the tiny and small industries, In order to safeguard the cluster units present in Mysore city there is an immediate need to upgrade technological and skill based abilities of the cluster members. Majority of the printing industry are family owned. The CFC will bring about necessary interventions at the base level, solve the problems and will give the required support to the cluster units to keep up with the market demands. The CFC will generate additional employment in the cluster and will benefit the cluster members by increasing their profit margins.