



Printing Cluster Kakinada 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

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1.Executive Summary

Over the years, the printing industry has grown in all parts of the globe. The advent of TV and Internet has not affected the growth of and requirement for printing professionals. The industry has made giant strides in recent times in improving its machinery in terms of the scope, technology and speed. The global printing market is expected to have a strong upward momentum and is estimated to be US\$ 721 billion in the year 2011. In 2008 North America held the largest market share with 31.2%. Asia is expected to become the market share leader due to emerging markets in the region and it expected to hold 34.9% of the market share by 2014.

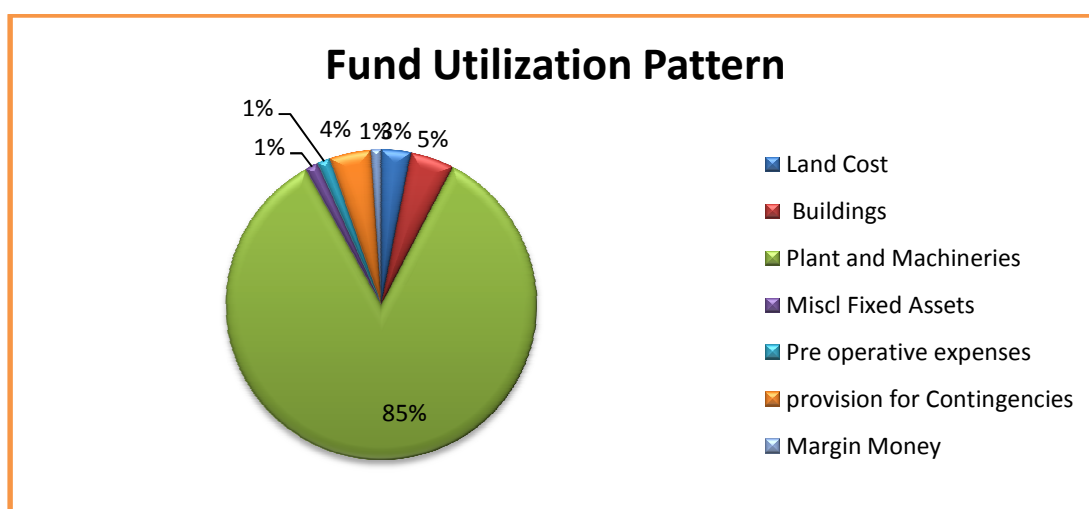
India's population of 1.2 billion makes India the second most populous nation in the world. Literacy level has shown a steady increase since 1990 and was over 60% (2001).With increasing literacy rate which is estimated to be about 74% (2011) literacy levels in excess of 85% are expected to be achieved, giving a significant boost to traditional publication markets. India's literacy level is still very low by world standards, but even so, a 74% literacy rate factored into a population of 1.2 billion gives 880 million people who can read. The Indian Printing Industry is well established and presently growing at 12% per annum. According to NPES / PRIMIR report India is the world's fastest growing market with a projected 73% rate of growth from 2006-2011.Not only is India growing extremely fast but it is doing so from a very large base. Today, India's printing market is about US \$ 19 billion in 2011.The Indian Printing Industry today comprises more than 250,000 big, small and medium printers.

The **Kakinada printing cluster** which is situated in the **city of Kakinada** 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 **150 units employing more than 900 people directly** and nearly 3000 people indirectly having a **turnover of Rs. 8250 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 market share, and reduced profit margins etc. thus are being branded as sick industries. 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 **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 1476.00 Lakhs with GoI Grant of Rupees 1180.80Lakhs, Govt. of Andhra Pradesh Grant of Rupees 147.60 Lakhs and SPV contribution of Rupees 147.60 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	45.0	3.05%
2	Buildings	66.75	4.52%
3	Plant and Machineries	1245.25	84.37%
4	Miscl Fixed Assets	20.00	1.36%
5	Pre operative expenses	20.00	1.36%
6	provision for Contingencies	63.60	4.31%
7	Margin Money	15.40	1.04%
Total Project cost		1476.00	100.00%



3. Means of Finance

Sl. No.	Means of finance	Amount in Rs. lakhs	percentage of Project Cost
1	SPV	147.60	10%
2	Govt. Of Andhra Pradesh	147.60	10%
3	Govt. of India	1180.80	80%
Total		1476.00	100%

4. Technical Consultant and CDA/CDE-Agency

The SPV Company has appointed “IntaGlio Technical and Business Services” for 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 for the project during implementation of the project.**

5. Proposed Interventions

Hard Interventions

The Detailed Project report recommends the following hard interventions

- ❖ Common Facility Center with computer to Plate making unit
- ❖ Common Facility Center with Multi colour offset printer-Single Dummy
- ❖ Common Facility Center with Multi colour offset printer-Double Dummy
- ❖ Common Facility Center with Post Press Finishing Machines
- ❖ Common Facility Center with Design.
- ❖ CFC with training facility.

6. Summary of Financial Analysis

Some of the Important Financial Ratios

The project is financial viable with the following ratios

a) IRR	27 %
b) NPV	32%
c) Breakeven Point	43 %
d) ROCE	31%

The ratios with sensitivity of 5% reduction in revenue:

a) IRR	26 %
b) NPV	30 %
c) Breakeven Point	44 %
d) ROCE	30 %

The ratios with sensitivity of 10 % reduction in revenue:

a) IRR	25%
b) NPV	29%
c) Breakeven Point	45 %
d) ROCE	29%

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%	27 %
2	Net Present Value- NPV	Need to be Positive	32%
3	Breakeven point	Below 60%	43%
4	Return on Capital Employed-ROCE	Above 25%	31%
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	19
Construction Plan Approval																			
Electricity Installation and Water facility																			
Construction of CFC Building																			
Machinery Tendering/order																			
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 19th month.

9. Expected Outcome

Area	Present Scenario	After Intervention
Units	150 units	250 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 = 900 Indirect = 3000	New Direct = 1000 New Indirect = 5000
Exporting units	Nil	25 unit
Turnover of cluster	Rs. 82 Crore (2018-2019)	Rs 110 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%

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Chapter 1

Brief Overview of the Cluster

Sl. No.	Particulars	Details
Cluster Details		
1	Name of the cluster	Printing Cluster Kakinada
2	Name of the SPV	Sri Satyadeva Printing Cluster Association, Kakinada
3	Age of the cluster	60 years
4	Address of the cluster Registered Office	Sri Satya Graphics Ramasomaya yajulu Street Jawher Street Kakinada
5	Geographical spread	10 Kms radius
6	Total Units in the Cluster	150 Micro Units (100% Micro)
7	Total Employment Direct/Indirect	Direct=900, Indirect= 3000 Men= 630 (70%) Women= 270 (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
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. 82.50 Crores
12	Market Domestic/Export	Domestic Market : East Godavari and Neighboring Districts Indirect Export: by means of Printed Packaging Products

Unit Details		
1	Total Number of units	Total Units = 150
2	Micro units	100%
3	Small Scale	0
4	Scale of Investment in each unit	Rs. 2 Lakhs to 20 Lakhs (Average)
5	Average Employment per unit	6 employees
6	Average annual turnover/unit	Rs. 55 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	Sri Satyadeva Printing Cluster Association, Kakinada
2	Nature of SPV	Open type
3	Number of SPV Members	130
	Number of Non SPV Members	20
4	Total Board Of Directors	7
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 Rajahmundry Dealers Network :Hyderabad & Vijawada, Rajahmundry Kakinada
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 Multit 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
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Expected Project Cost and Means of Finance for Hard Interventions

Sl. No.	Agency	Amount in Rupees Lakhs	Percentage
1	SPV	147.60	10%
2	Govt. of Andhra Pradesh	147.60	10%
3	Govt. of India	1180.80	80%
	Total	1476.00	100%

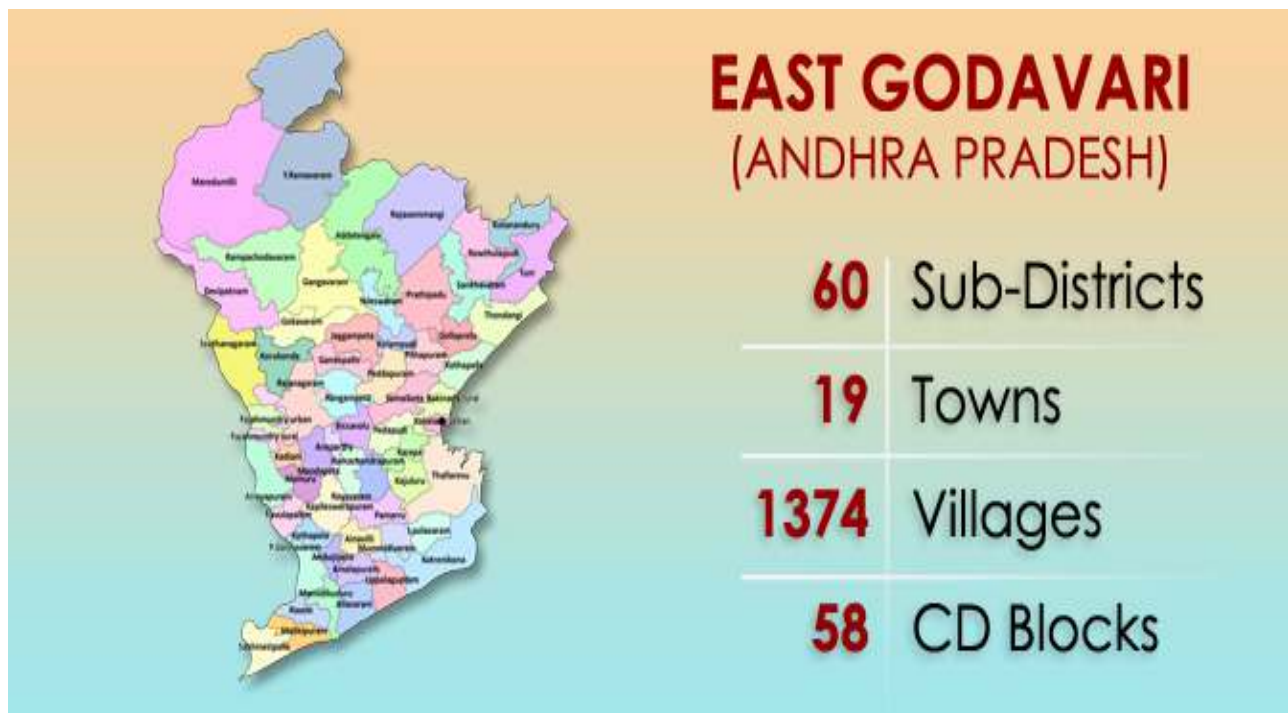
Chapter 2

Brief Overview of East Godavari District

2.1 Introduction

East Godavari district or Toorpu Godavari jilla is a district in Coastal Andhra region of Andhra Pradesh, India. The District is a residuary portion of the old Godavari District after West Godavari District was separated in 1925. As the name of the district conveys, East Godavari District is closely associated with the river Godavari, occupying a major portion of the delta area.

The Headquarters of the District is located at Kakinada. East Godavari District lies North - East Coast of Andhra Pradesh and bounded on the North by Visakhapatnam District and the State of Orissa, on the East and the South by the Bay of Bengal and on the West by Khammam and West Godavari Districts. As of Census 2011, it became the most populous district of the state with a population of 5,151,549. Rajahmundry and Kakinada are the two largest cities in the Godavari districts in terms of population.

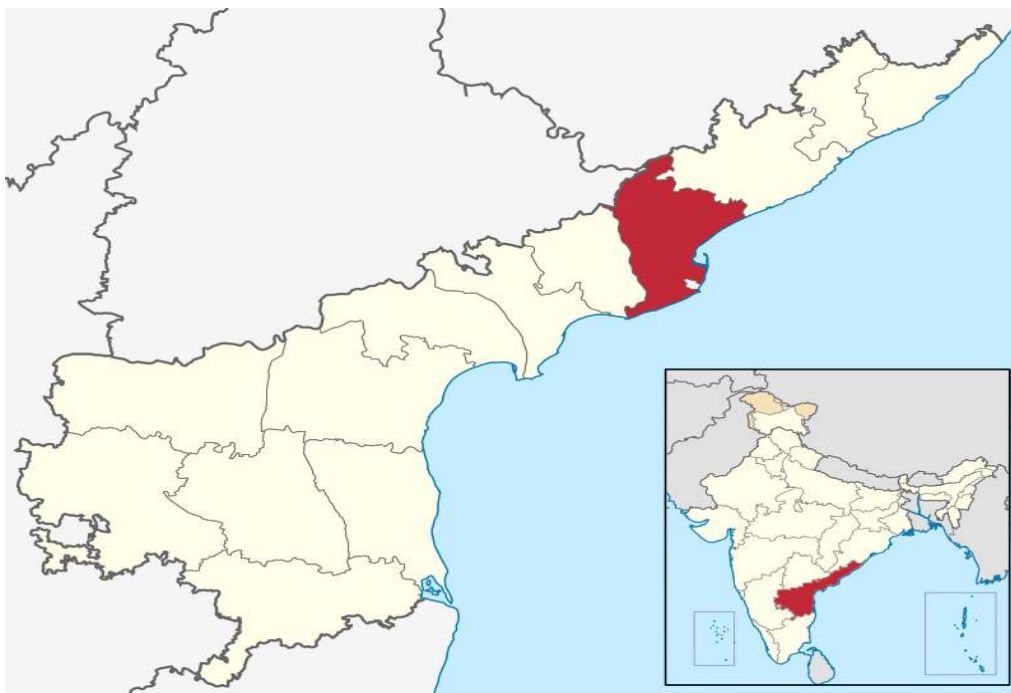


Area of the District is 10,807 Sq.Kms. The District is located between Northern latitudes of 16o 30' and 18o 20' and between the Eastern longitudes of 81o 30' and 82o 30'. It has a population of 48.73 lakhs as per 2001 Census. The District consisting of 5 Revenue Divisions viz.,

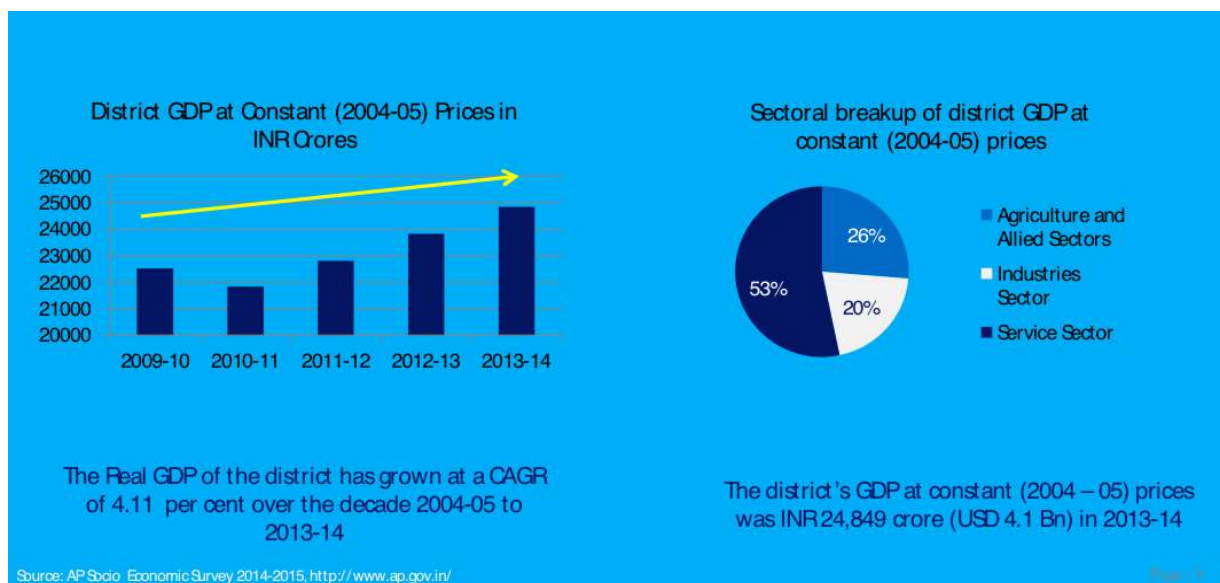
- Kakinada
- Rajahmundry
- Peddapuram
- Rampachodavaram
- Amalapuram.

2.2 Economic Occupational Structure Background

The Gross District Domestic Product (GDDP) of East Godavari is ₹ 52,294 crore (US\$8.0 billion) and it contributes 10% to the Gross State Domestic Product (GSDP). For the FY 2013-14, the per capita income at current prices was ₹ 78,255 (US\$1,200). The primary, secondary and tertiary sectors of the district contribute ₹ 16,093 crore (US\$2.5 billion), ₹ 10,857 crore (US\$1.7 billion) and ₹ 25,343 crore (US\$3.9 billion) respectively. The major products contributing to the GVA of the district from agriculture and allied services are, paddy, sugarcane, betel leaves, coconut, milk, meat and fisheries. The GVA to the industrial and service sector is contributed from construction, electricity, manufacturing, unorganised trade and transport. The discoveries of oil and natural gas, it has increased its industrial sector. It is home to two major fertiliser factories and in addition, gas based power plants and oil refineries. Now it is one of the largest oil & gas hubs in India. The Real GDP of the district has grown at a CAGR of 4.11 percent over the decade 2004-05



2.3 Industries



There are around 24 Industrial Estates in the East Godavari District.

The industrial sector in the district includes:

- Mining & Quarrying
- Manufacturing (Registered & Unregistered)
- Construction

Construction is the predominant industry with a GVA of Rs 3,378 crore (US \$ 552 million) followed by a growing manufacturing industry with a GVA of Rs. 2,557 crore (US \$ 418 million) The Mining and Quarrying industry comes in third at a GVA of Rs. 1,348 crore (US \$ 220 million)

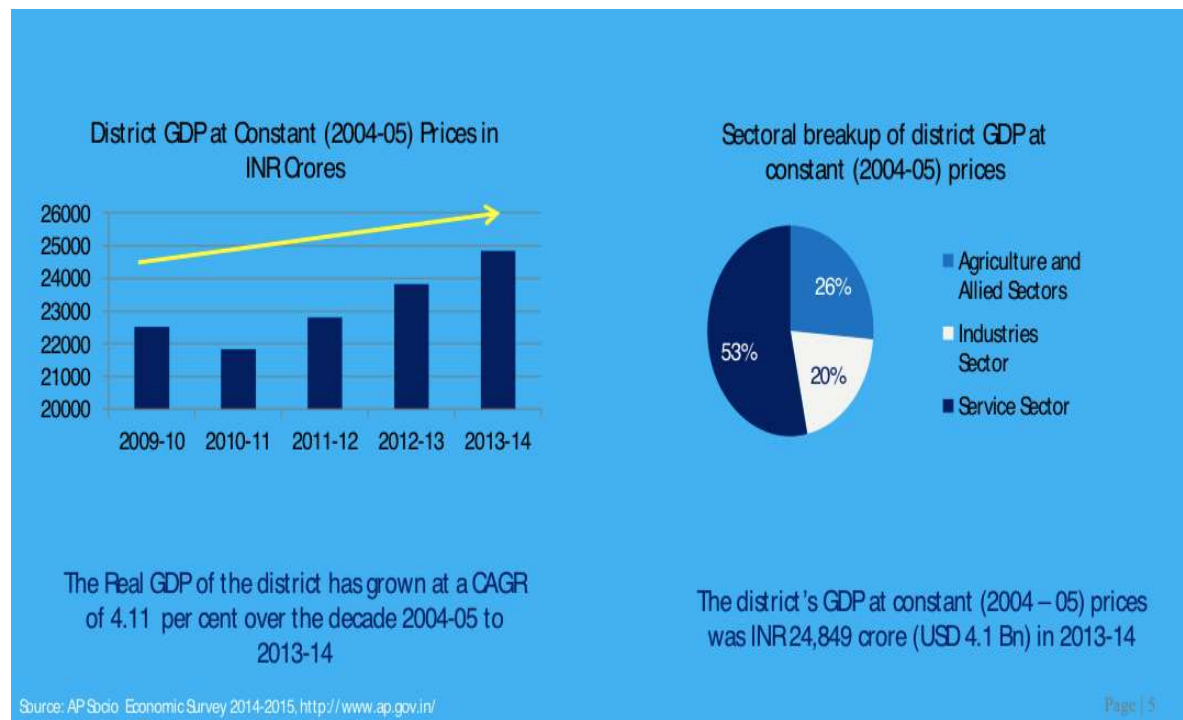
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The GVA to the industrial and service sector is contributed from construction, electricity, manufacturing, unorganised trade and transport.

PARTICULARS	INVESTMENT (INR CRORE)	EMPLOYMENT (Nos)
Large & Mega Industrial Projects established	13,836	49,873
Micro Small and Medium Enterprises established	2,039.85	1,21,939

Sr. No	HEAD	UNIT	PARTICULARS
1	REGISTERED INDUSTRIAL UNIT	No.s.	2,743
2	TOTAL INDUSTRIAL UNIT	No.s.	2,743
3	REGISTERED MEDIUM & LARGE UNIT	No.s.	156
4	ESTIMATED AVG. NO. OF DAILY WORKER EMPLOYED IN SMALL SCALE INDUSTRIES	No.s.	20,565
5	EMPLOYMENT IN LARGE AND MEDIUM INDUSTRIES	No.s.	31,497
6	NO. OF INDUSTRIAL AREA	No.s.	24
7	TURNOVER OF SMALL SCALE IND.	IN LACS	NA
8	TURNOVER OF MEDIUM AND LARGE SCALE INDUSTRIES	IN LACS	NA

Source: Ministry of MSME



2.4 Infrastructure

The total of core road network of the district is 1,274.067 km (791.669 mi). It includes, 613.289 km (381.080 mi) of existing and a proposed length of 660.780 km (410.590 mi). The total rail network of the district is 171.34 km (106.47 mi).

The National Highway 5 connecting Chennai and Howrah passes through this district. Rajahmundry, Tuni and Samalkot are the railway junctions in the district. The Chennai to Howrah rail line also passes through this district.

Roadways

Kakinada is connected to Visakhapatnam (152 Km) via NH 5, to Hyderabad (489 Km) via NH 9 and NH 5, to Bangalore(880 Km) via AH 45

Railways

- ▶ Kakinada is a railway terminus. It has four railway stations.
- ▶ Through a branch line, Kakinada is connected to Samalkot Junction (13 km) which is on the Chennai-Howrah trunk line, where almost all express trains stop to connect Kakinada with the important places of the country



Airways

The nearest airport is located at Rajahmundry, about 65 km from Kakinda. Rajahmundry City Airport has services to Chennai, Hyderabad, Vijayawada and Rajahmundry.

Agriculture

The main occupation of the district is agriculture where more than 24% of the population is engaged. At the same time more than 60% of the population are non-workers which is a potential force available for self-employment and industrial purposes. Paddy is the main crop, which occupies more than 50% of the area and also dominates in yield and production in comparison to all other crops.

The district also tops the production of coconut and banana cultivation in the State. The main source of irrigation is canals followed by tube wells and tanks, Godavari Central Delta and Godavari Eastern Delta are the main source of major irrigation. East Godavari District has got the unique distinction of having marine, inland and brackish water pisciculture. It has a coastline of 144 kms. Fire clay, china clay, Graphite and Laterite are the important mineral resources available and clusters of industries based on these minerals are flourishing in the district.



Geography and climate

East Godavari district occupies an area of 10,807 square kilometres (4,173 sq mi), comparatively equivalent to Indonesia's Sumba Island. The district has hilly terrain to the west and plains to the east. To the east of the district lies the Bay of Bengal. The district headquarters Kakinada lies on the coast. The district receives rainfall from June to October; both southwest and northeast monsoon contribute to the rainfall. Average rainfall varies widely from 100 centimetres at the northern part of the coast to 140 centimetres at the extreme western parts of the hills.

Resources

East Godavari is famous for **agriculture** because of fertile lands which are adequately irrigated throughout the year. Thanks to Sir Arthor Cotton Who turned entire Godavari region to fertile position with his wonderful engineering mind, he constructed **Dowlesawaram Barrage** Across the river Godavari. And it is the most prosperous district in the state and is the one of richest district in the country. Statistically it is a potential hinterland for **oil and natural gas reserves** in the country as many areas are identified as richest sources for oil and Natural gas in Godavari basin.



Culture

The culture of East Godavari district is a rich traditional one in all parts of the district, and reflects the true culture of Andhra Pradesh. It is known for Veda-pandits, the Godavari River and the hospitality of the people. The Telugu language originated in this district (in Rajahmundry or Rajamahendri). East Godavari District has produced several stalwarts in area of culture, music, art and cinema. Poet and writer Devulapalli east godavarisastri, famous Musician and Singer M.Balamuralieast godavari (Mangalampalli Balamurali east godavari), P.B. Srinivas, Adurthi Subba Rao, C. Pullaiah, actress Jaya Prada belong to this district, freedom fighter, social worker and politician Durgabai Deshmukh.

Divisions

The district is divided into 6 revenue divisions and 60 revenue Mandals among which 58 are rural and 2 are urban. The district has 57 Mandal Praja Parishads and 1,011 Gram Panchayats and nine municipalities and two municipal corporations. Total number of villages in the district is 1,379.

Education

The primary and secondary school education is imparted by government, aided and private schools, under the School Education Department of the state. As per the school information report for the academic year 2015-16, there are a total of 5,986 schools. They include, 29 government, 3,452 mandal and zilla parishads, 1 residential, 1688 private, 2 model, 12 Kasturba Gandhi Balika Vidyalaya (KGBV), 285 municipal and 517 other types of schools. The total number of students enrolled in primary, upper primary and high schools of the district are 722,123.

PARTICULARS	NUMBER OF INSTITUTES 2014-15	TOTAL STUDENTS 2014-15
Govt. Degree Colleges	15	10279
Private Aided Degree Colleges	11	10469
Junior Colleges in the State 2013-14		362 (Number of Institutes)

Source: Andhra Pradesh, Socio economic survey – GoAP 2014-15, <http://www.ap.gov.in>

PARTICULARS	NUMBER OF INSTITUTES (2014-15)	TOTAL INTAKE (2014-15)
Engineering Colleges	67	32660
MBA Colleges	70	490
MCA Colleges	41	2800
M. Tech Colleges	46	2233

Source: Andhra Pradesh, Socio economic survey – GoAP 2014-15, <http://www.ap.gov.in>

District has universities located at Rajahmundry City such as Adikavi Nannaya University Rajahmundry, Telugu University, Acharya NG Ranga Agricultural University. There are numerous educational institutes with Jawaharlal Nehru Technological University, Kakinada, District Institute of Education and Training (DIET) in Rajahmundry, established in 1989 for the benefit of teacher trainees and in-service teachers. There are many educational institutions that provide education in different fields such as Engineering, Medical, Law, Pharmacy, Polytechnic and Postgraduate colleges etc. Some of the notable universities, colleges are Rangaraya Medical College in Kakinada and Govt Pithapuram Rajah College, Kakinada.

Demographics

According to the 2011 census East Godavari district has a population of 5,154,296.[10] This gives it a ranking of 19th in India (out of a total of 640 districts) and 2nd in the state.[10] The district has a population density of 477 inhabitants per square kilometre (1,240/sq mi). Its population growth rate over the decade 2001–2011 was 5.1%. East Godavari has a sex ratio of 1005 females for every 1000 males, and a literacy rate of 71.35%.[10]

East Godavari district has a total population of 51,51,549; 25,69,419 and 25,82,130 male and female respectively. There was change of 5.10 percent in the population compared to population as per 2001 census. The census data states a density of 477 in 2011 compared to 454 in 2001.[11] Average literacy rate of East Godavari in 2011 was 71.35% compared to 65.48% in 2001. On a gender basis, male and female literacy was 74.91% and 67.82% respectively. With regards to sex ratio in East Godavari, it stood at 1005 per 1000 males compared to the 2001 census figure of 993. The average national sex ratio in India is 940 as per the 2011 census.[citation needed]

There were total 4,92,446 children under the age of 0-6 against 6,13,490 of 2001 census. Of total 492,446 male and female were 2,50,086 and 2,42,360 respectively. The child sex ratio as per census 2011 was 969 compared to 978 in 2001. In 2011, children under 0-6 formed 9.56% of East Godavari district compared to 12.52% in 2001.

Household indicators

In 2007–2008 the International Institute for Population Sciences interviewed 1019 households in 38 villages across the district.[12] They found that 92.5% had access to electricity, 96.7% had drinking water, 50.4% toilet facilities, and 30.9% lived in a pucca (permanent) home.[12] 28.6% of girls wed before the legal age of 18 and 79% of interviewees carried a BPL card.

- ▶ East Godavari District's literacy rate of its urban population is 80.78 per cent which is much above the national average
- ▶ The district's literacy rate has grown from 65.48 per cent to 70.99 per cent over the years 2001 – 2011
- ▶ The district's population constitutes over 6 per cent of the state's population
- ▶ The district has a progressive sex ratio of 1006

Chapter 3

An overview of Printing Sector

3.1 Introduction

Printing is a process for reproducing text and images, typically with ink on paper using a printing press. It is often carried out as a large-scale industrial process, and is an essential part of publishing and transaction printing. It is one of the ancient activities man has been carrying over to this day.

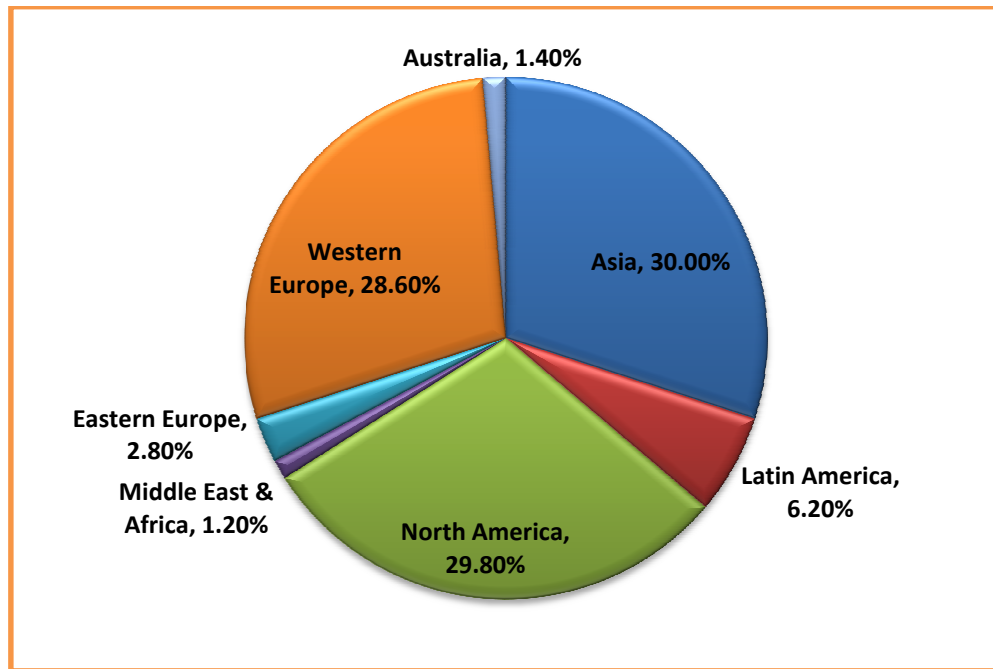
3.2 World Printing Sector

Over the years, the printing industry has grown in all parts of the globe. The advent of TV and Internet has not affected the growth of and requirement for printing professionals. The industry has made giant strides in recent times in improving its machinery in terms of the scope, technology and speed. Computers and electronics have invaded all the departments of printing, improving quality and speed of the jobs executed with the consequent enhancement of costs enormously. In fact, the arrival of computers has complemented the printing business and has played a vital role in increasing its status as a clean profession.

The global printing market is expected to have a strong upward momentum and is estimated to be US\$ 721 billion in the year 2011. In 2008 North America held the largest market share with 31.2%. Asia is expected to become the market share leader due to emerging markets in the region and it expected to hold 34.9% of the market share by 2014.

Printing is one of USA's largest manufacturing Industries accounts for 29.8% of the market value in 2011 (\$214 bn), Europe (east and west) accounts for 31.5% (\$225 bn) and Asia for the remaining 30% (\$217 bn), however a large part of this growth in Asia is driven by China who also exports \$24 billion of print based products

Region wise world market share 2011



Print market rankings, 2000-11

Country	2000	2005	2011	Country	2000	2005	2011
United States	1	1	1	India	11	11	8
Japan	2	2	2	Australia	13	13	14
China	5	4	3	Netherlands	14	14	15
Germany	3	3	4	South Korea	18	15	16
UK	4	5	5	Sweden	17	16	18
France	6	6	6	Indonesia	21	20	13
Italy	7	7	7	Belgium	19	17	19
Canada	8	8	10	Austria	20	19	21
Spain	10	9	12	Hong Kong	15	18	20
Brazil	9	12	9	Norway	22	21	14
Mexico	12	10	11	Russia	37	24	17

Source: NPES/PRIMIR/PIRA

3.3 Indian Printing Sector

Indian printing industry has undergone many revolutionary changes. India is becoming one of the major print producers and manufacturer of printed products for the world market. The Indian printing industry is highly fragmented. The newspapers and magazine publishing section has the large printers mainly apart from a few in package, label and commercial printing. About 77% of the printing houses are family owned and hence closely held.

Printing sector has evolved from a manufacturing industry into a service industry. The segments of graphic design, print quality and capability have achieved global standard. Newspapers, books, catalogues, packaging products and other publications such as coffee table books have come up to the international standards as well.

There are approximately more than 160,000 Printing Presses with more than 250,000 big, small and medium printers in active operation all over the country, employing 1.6 million work forces. The Indian Printing Industry is well established and presently growing at 12% per annum. According to NPES / PRIMIR report India is the world's fastest growing market with a projected 73% rate of growth from 2006-2011. Domestic per capita consumption for paper is the lowest in India at 6kg compared to the South Asian and the world average of 11 kgs and 53 kgs respectively. India with a population of 1.2bn is emerging as significant print markets with great long term potential and fastest growing print markets.

Fastest growing print markets, 2006-11 (US\$ million)

Rank	Country	2006	2011	Growth 2006-11
1	India	\$12,131.0	\$20,990.7	73.0%
2	Russia	\$4,257.8	\$7,192.0	68.9%
3	Venezuela	\$877.8	\$1,419.3	61.7%
4	Ukraine	\$529.6	\$848.8	60.3%
5	China	\$41,200.0	\$65,934.1	60.0%
6	Malaysia	\$3,504.3	\$5,503.0	57.0%
7	Indonesia	\$6,096.5	\$9,547.8	56.6%
8	Romania	\$718.2	\$1,112.2	54.8%
9	Turkey	\$2,110.9	\$3,227.9	52.9%
10	Brazil	\$12,552.2	\$19,192.2	52.9%
11	Poland	\$3,004.7	\$4,579.2	52.4%
12	Thailand	\$596.9	909.4	52.4%

Most of the large printers are found in big cities of Delhi, Kolkata, Mumbai, Bangalore, Hyderabad and Chennai. Also, Sivakasi in Southern India has emerged as a commercial printing hub.

It accounts for a major share of exports. India today has more than 50 printing institutes across the country in the private as well as public sector which are imparting training to more than 4000 printing professionals including M-Tech/ Degree/Diploma holders and others into the mainstream industry every year.

AIFMP's official journal "Printing Times", published since 1977, is a key contribution to the Indian print scene. The major drawback of Indian printing industry is poor export due to its quality parameters. Export of printed materials from India for 2009-10 is 0.51% of the total global exports in 2009.

Products	Exports from India during 2009-10 (euro millions)
Cartons, Boxes, Cases, Bags, etc.	52.444
Registers, Account Books, Note Books, etc	75.308
Paper or Paperboard, Labels of all kinds, etc.	16.602
Printed Books, Newspapers, Pictures, etc.	192.382
Total	336.736

Chapter 4

Details of Printing Cluster Kakinada

4.1 Age of the Cluster

The printing cluster in Kakinada is 80 years old consisting of 150 units scattered across the city providing printing services to various customers and institutes.

4.2 Location

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



1.3 Nature of the cluster

The units present in the cluster are Micro Units. 100% Micro Units.

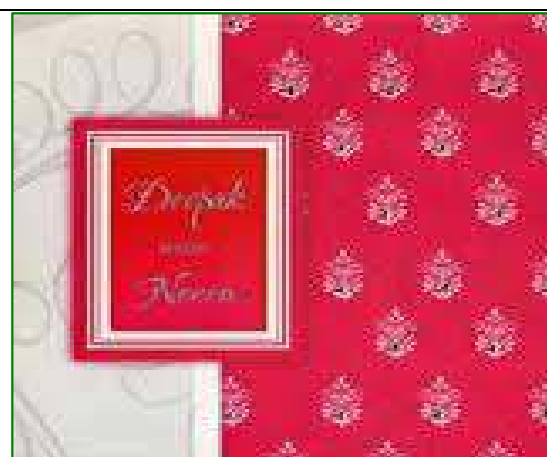
4.4 Products of the cluster

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

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

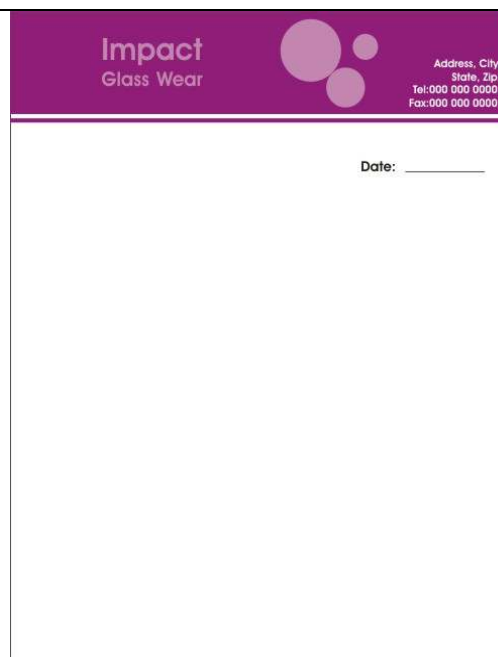
 <p>A template for an ID card. It features a blue header with 'COMPANY NAME'. Below is a photo of a woman, followed by fields for 'FULL NAME', 'ADDRESS:', and 'Signature:'. The background has a light blue world map.</p>	 <p>A collection of various business card designs. Some include names like Julie Miller, Annie Harkins, Steve Mitchell, and Tony Breen. There are also logos for 'Corina Marin' and 'FlexGen'.</p>
<p>ID Cards</p>	<p>Business Cards</p>
 <p>A collection of colorful pamphlets. One is for 'Hastie Fence Company', another for 'EUROPA Wine Tasting', and others for 'About Us Renewable Fuels Ethanol & Biodiesel' and 'Fifties Diner'.</p>	 <p>A 2014 calendar with a decorative orange and red background. It features a framed illustration of Lord Ganesha at the top. The calendar grid shows months from January to December. There are fields for 'Logo', 'COMPANY NAME', and 'ADDRESS PHONE NO' at the bottom.</p>
<p>Pamphlets</p>	<p>Calendars</p>



Wedding Cards



Posters



Company Letter heads

4.5 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.

4.6 About Printing Cluster Kakinada

The Kakinada Printing Cluster Consists of 150 Units located in Kakinada. 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.

Chapter5

Diagnostic Study Findings

5.1 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.

5.2 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 Rajahmundry. There is a prevalent dealer network in Hyderabad, Vijayawada, Rajahmundry and Kakinada.

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

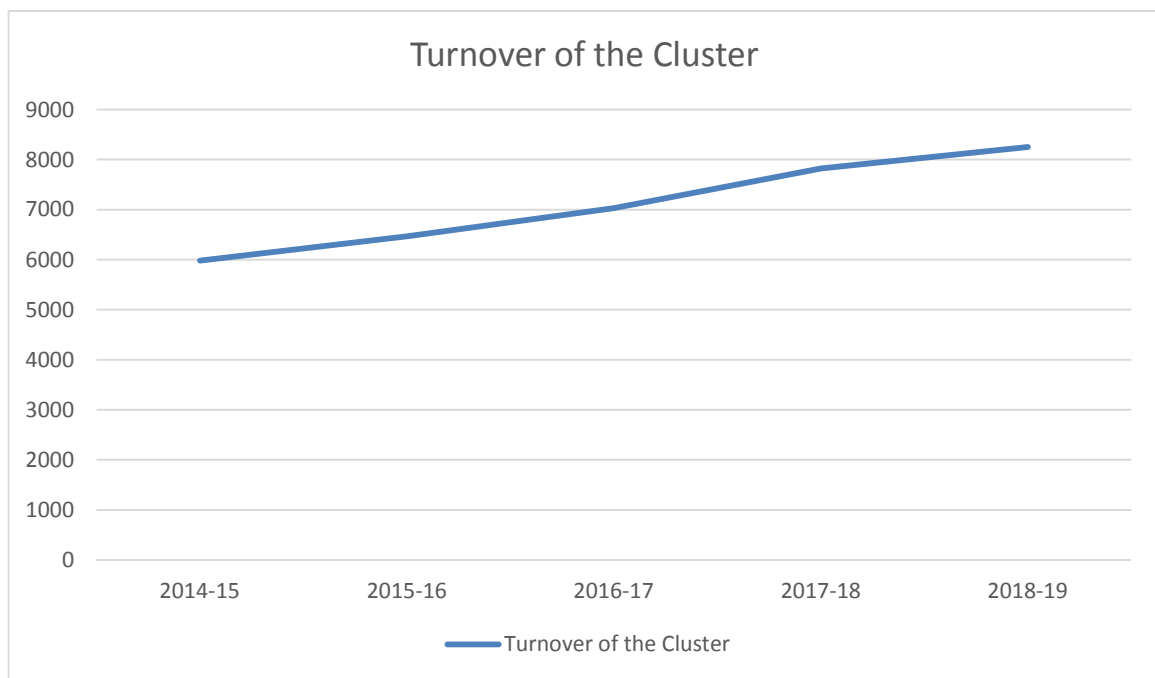
A Sizes (mm)		B Sizes (mm)		C Sizes (mm)	
A0	841 x 1189	B0	1000 x 1414	C0	917 x 1297
A1	594 x 841	B1	707 x 1000	C1	648 x 917
A2	420 x 594	B2	500 x 707	C2	458 x 648
A3	297 x 420	B3	353 x 500	C3	324 x 458
A4	210 x 297	B4	250 x 353	C4	229 x 324
A5	148 x 210	B5	176 x 250	C5	162 x 229
A6	105 x 148	B6	125 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.

5.3 Turnover of the Cluster

Year	2014-15	2015-16	2016-17	2017-18	2018-19
Turnover in lakhs	5982	6467	7031	7821	8250

The cluster has a progressive performance and turnover statistics over the last five years.



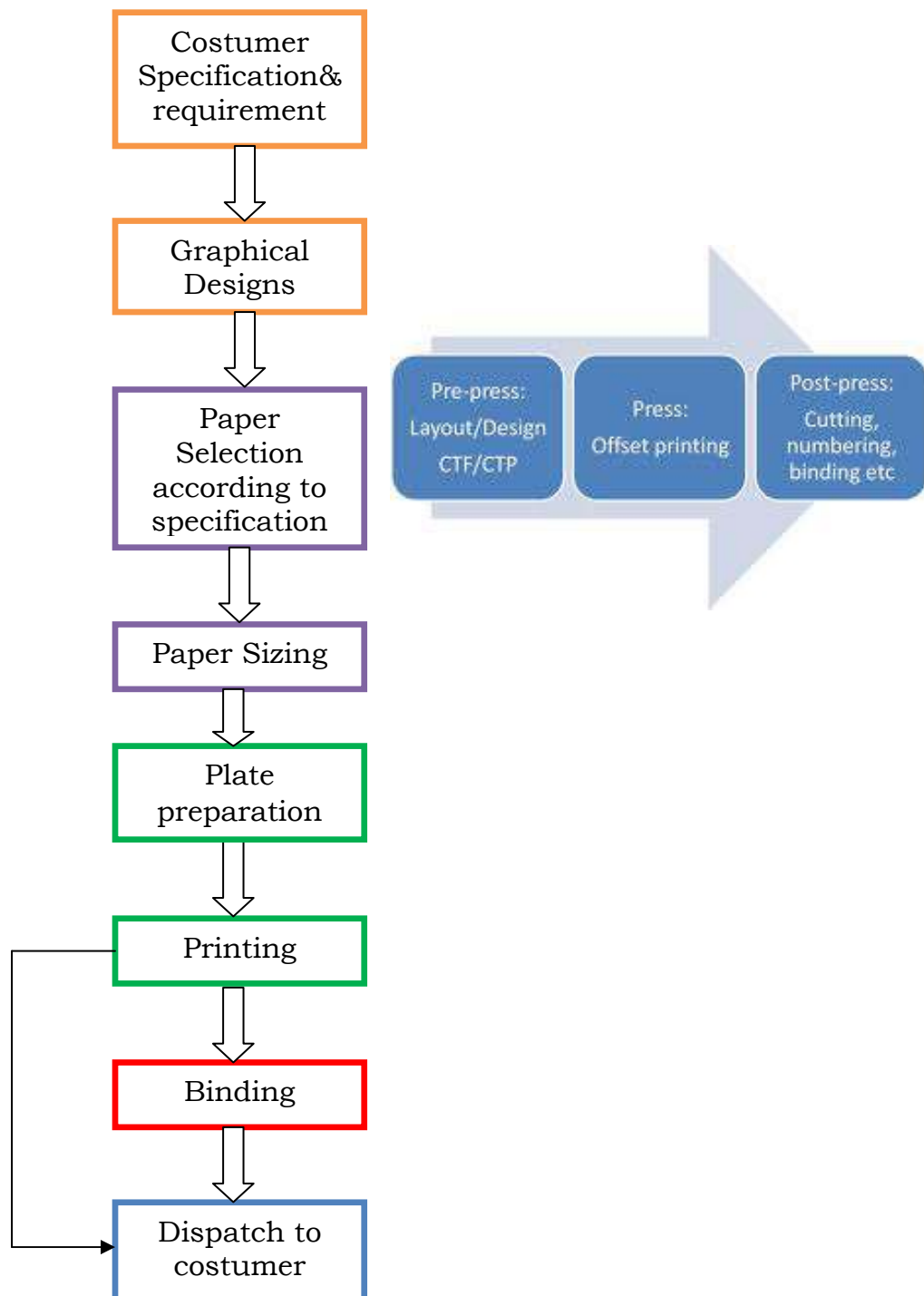
5.4 Employment at the Cluster

The Micro units on average employ 6 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 900 people and an additional indirect employment of 3000 people.

Detailed category of Employment in the cluster

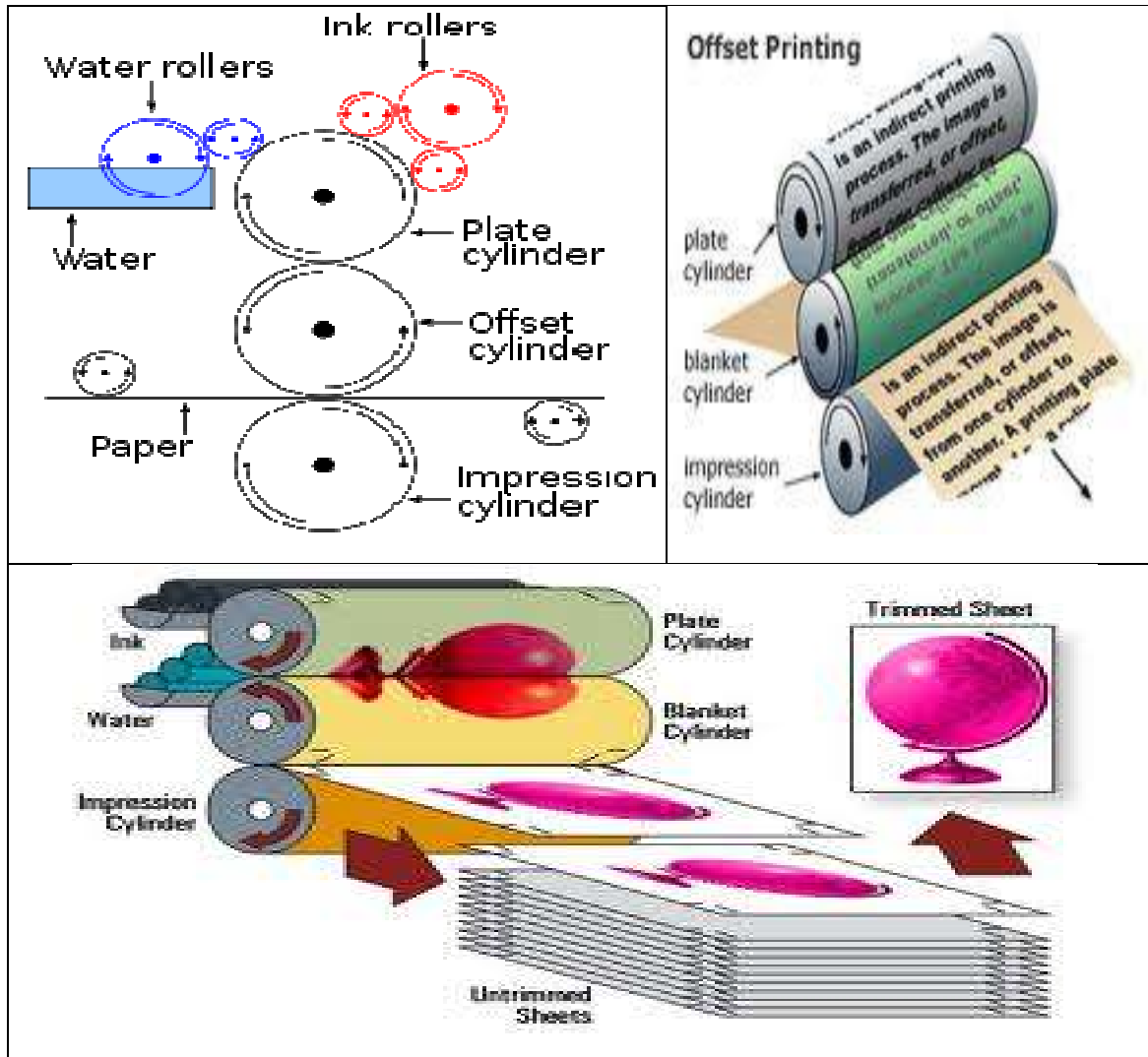
Sl. No.	Employment Category	Numbers	Percentage
Gender Based Employment			
1	Men	630	70%
2	Women	270	30%
	Total	900	

5.5 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.

5.6 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, brochures, 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 Kakinada and surrounding taluks and districts. The Cluster products are exported also in terms of packaging material and other printed material.

5.7 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 ETP, Training, Design Development and Marketing facilities.

5.8 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.

5.9 Hard Intervention Proposed

Some of the hard interventions that are required to address the Problems of the cluster are:

1. Common Facility Center with computer to Plate Making Facility

A common facility center with CTP machine, will help in producing plates for offset printers which will be digital impression on the plate. This will be easy to create and economical the cluster units will bring in their designs and have the plate produced within a short period of time.

2. Common Facility Center with Multi colour printer-Double Dummy

This facility will have an advanced Multi colour printer where in the cluster units can print high resolution colour print outs which will help the cluster units to cater niche market demands also.

3. Common Facility Center with Single Dummy printer

This center will have a variable printer which if established will help the cluster units print variable bar codes & numbers without incurring any extra expenditure and will be able to venture into newer market areas

4. Common Facility Center with Post Press Finishing Machines

A Common Facility Center with finishing machineries like cutter machines, UV, aqueous coating, die punching machine etc. will help the cluster units to give their products good finishing looks which will have a high acceptance in the market and by the customer.

5. CFC with Design software and training facility

This facility will help in providing training to the new workforce required by the printing industry as well as upgrade the skill levels of the workers employed by the cluster units. This center will train the new workforce according to the printing industrial standards and will help the cluster employs keep up and upgrade their skill with change in technology.

5.10 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 tickets and 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.

5.11 Projected Performance of the Cluster after Proposed Interventions

Area	Present Scenario	After Intervention
Units	150 units	250 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 = 900 Indirect = 3000	New Direct = 1000 New Indirect = 5000
Exporting units	Nil	25 unit
Turnover of cluster	Rs. 82 Crore (2018-2019)	Rs 110 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%

5.12 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.

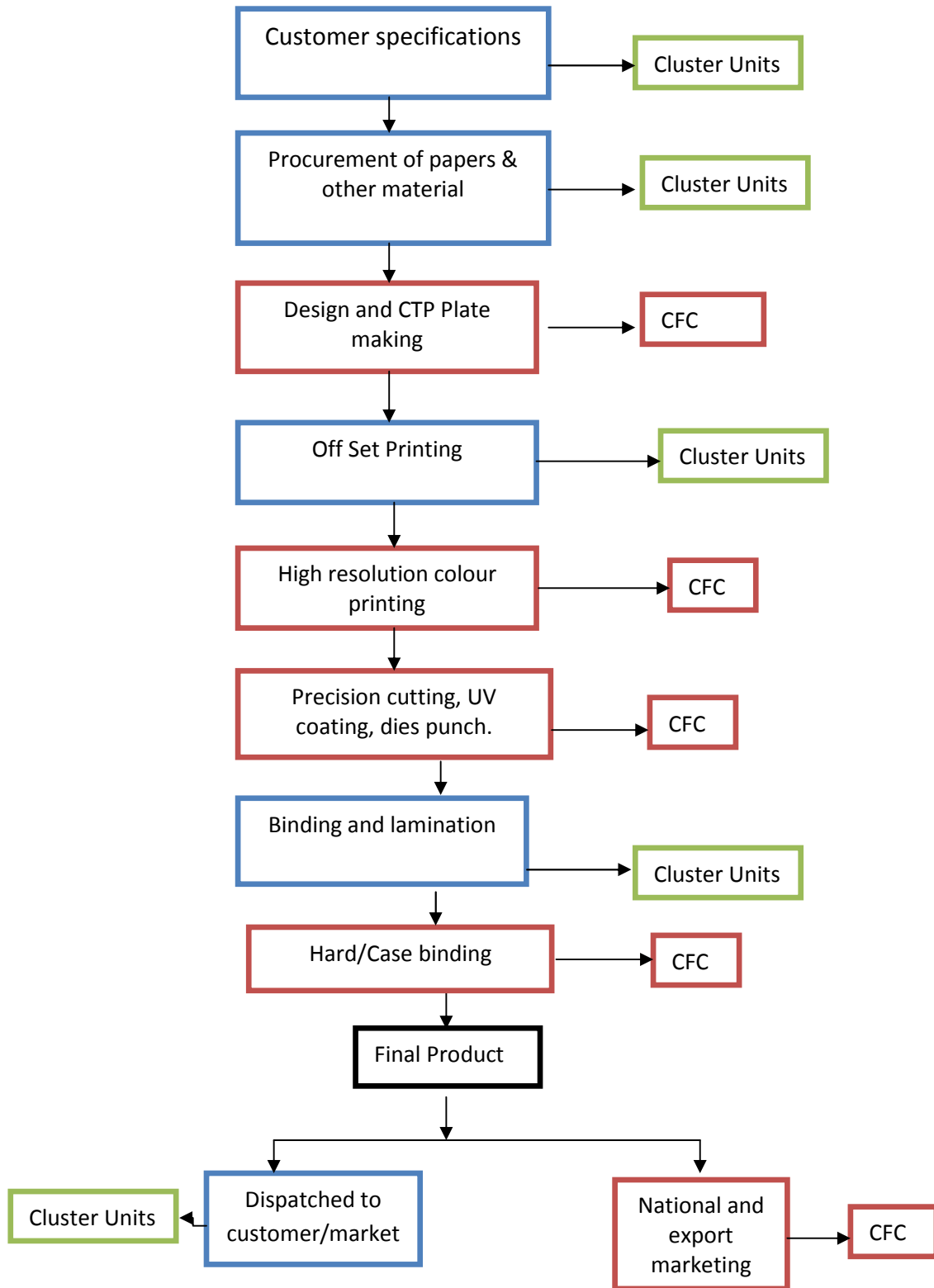
A common facility center is very much needed in order to keep up with the changing trends necessary interventions are needed at the base level. If a CFC is established the cluster units will be tremendously benefited. The original licensed version software at the CFC will only be used for training purpose 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 diaries, 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 Rajahmundry 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

5.13 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.



5.14 Cluster Units



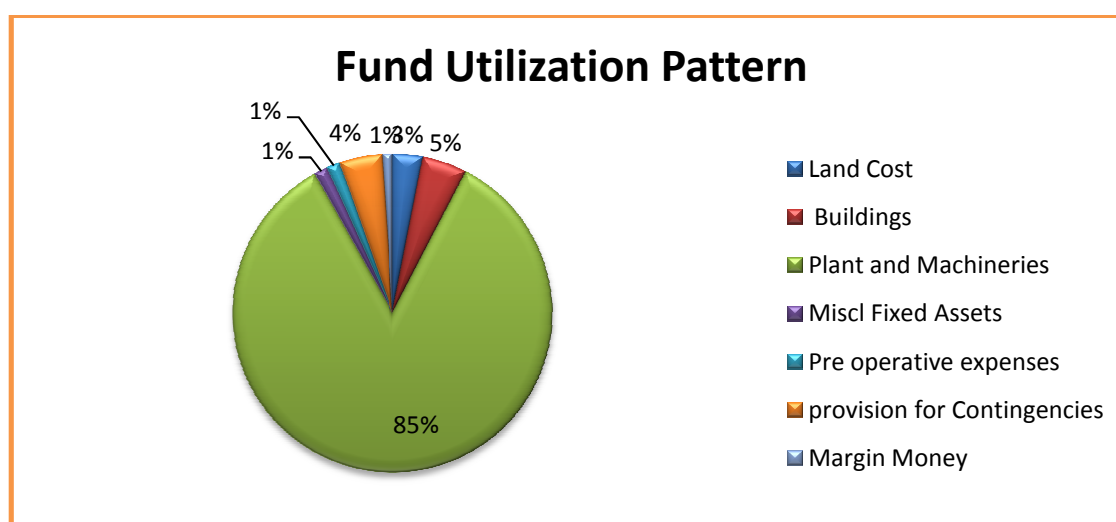
Chapter 6

Project Highlights

6.1 Total Cost of Project

Sl. No.	Project Components	Amount in lakhs	% of Project Cost
1	Land Cost 0.5 Acres for 30 years	45.0	3.05%
2	Buildings	66.75	4.52%
3	Plant and Machineries	1245.25	84.37%
4	Miscl Fixed Assets	20.00	1.36%
5	Pre operative expenses	20.00	1.36%
6	provision for Contingencies	63.60	4.31%
7	Margin Money	15.40	1.04%
Total Project cost		1476.00	100.00%

The Total cost of the project has been estimated to be Rs. 1476.00 Lakhs which includes lease amount for land, building construction cost and machinery cost.



6.2 Means of Finance/Contribution Breakup

Sl. No.	Means of finance	Amount in Rs. lakhs	percentage of Project Cost
1	SPV	147.60	10%
2	Govt. Of Andhra Pradesh	147.60	10%
3	Govt. of India	1180.80	80%
Total		1476.00	100%

6.3 Proposed Building Cost



Sl. No.	Description	Area (Sft)	Amount In Rupees	Rate (Rs./Sft)
1	LAND DEVELOPMENT & BOUNDARY WORK			
1.1	LAND LEVELING, COMPOUND WALL & GATES		1250000.00	
1.2	SEWAGE & STORM WATER DRAINS		200000.00	
	TOTAL		1,450,000.00	
2	BUILDING COSTS (CIVIL WORKS)			
2.1	Administrative Building	600.00		1400.00
2.2	Computer to Plate CTP Machine Setup	500.00	625000.00	1250.00
2.3	Multi Colour Offset Printing Single Dummy Setup	500.00	625000.00	1250.00
2.4	Multi Colour Printing Machine Double Dummy Setup	500.00	625000.00	1250.00
2.5	Automatic Paper Cutting Machine, Size 45"	400.00	500000.00	1250.00
2.6	Folding Machine 23 x 36	500.00	625000.00	1250.00
2.7	Gumming Machine 6 Clamp	500.00	625000.00	1250.00
2.8	Lamination Machine	200.00	250000.00	1250.00
2.9	4 Hi Web Double Reel Stand with Quarter Page Folder	400.00	500000.00	1250.00
2.10	Digital Offset Machine	200.00	250000.00	1250.00
2.11	Sheetfed Offset Machine Double Crown	200.00	250000.00	1250.00
2.12	Training Section	600.00	750000.00	1250.00
2.13	Canteen	400.00	500000.00	1250.00
2.14	Sanitary Section	200.00	250000.00	1250.00
	TOTAL	5,700.00	4,875,000.00	1,260.71
3	INTERNAL ROADS		200,000.00	
4	WATER SUPPLY SERVICES-(Lumpsum)		100,000.00	
5	LANDSCAPING & SOCIAL FORESTRY-(Lumpsum)		50,000.00	
	Grand Total		6,675,000.00	

6.4 Proposed List of Machinery

Sl. No.	Machine Name	No	Cost In Rupees	Total Cost	FOB= Amount + Amount*20%
1	Computer to Plate CTP Machine Setup	1	5084000	5084000	6100800
2	Multi Colour Offset Printing Single Dummy Setup	1	31160000	31160000	37392000
3	Multi Colour Printing Machine Double Dummy Setup	1	42640000	42640000	51168000
4	Automatic Paper Cutting Machine, Size 45"	1	2378000	2378000	2853600
5	Folding Machine 23 x 36	1	2296000	2296000	2755200
6	Gumming Machine 6 Clamp	1	1476000	1476000	1771200
7	Lamination Machine	1	656000	656000	787200
8	4 Hi Web Double Reel Stand with Quarter Page Folder	1	10660000	10660000	12792000
9	Digital Offset Machine	1	3772000	3772000	4526400
10	Sheetfed Offset Machine Double Crown	1	1968000	1968000	2361600
11	Diesel Generator-200kva	1	1230000	1230000	1476000
12	Computers, Scanner, Printer	1	451000	451000	541200
	Total				12,45,25,200

6.5 Machinery Description & Use in Cluster

Suprasetter-A 75 with online Processor

	
Suprasetter A 75	CTP plate

CTP machine: Computer to plate (CTP) is an imaging technology used in modern printing processes. In this technology, an image created in a Desktop Publishing (DTP) application is output directly to a printing plate which is then used in the offset printers for mass production. The plates from the CTP has more sharpness, accuracy and detailed information. This an advanced machinery which will be very helpful to the cluster units as the plates are produced in less time, and are more consistent with lower cost as compared to traditional methods. The plates produced will have high resolution of 2500 dpi.

Multi Colour Offset Press



This machine is a multi-colour offset printing machine. It is one of the most advanced printing machines, it produces an incredible thin film on dampening solution and achieves a perfect ink/water balance. The inking unit temperature control ensures consistent printing conditions with low ink consumption.

The Machine can print a broad spectrum of materials from flimsy paper right up to materials 0.8mm thick. The present cluster offset printers lack all these features and are not multi-colour. The cluster units will use this machines to print high resolution work and for packaging material. Through this machine the cluster units will be able to get printing contracts from Multi-national companies and will be able to export their printed products as the cluster units will be able to diversify their products.

	
<p>Multi colour high resolution printed material</p>	<p>Printed packaging material</p>

Multi Colour-Printing machine-Single Dummy





Machines are highly suitable for number printing & bar coding, Bills, Lottery Tickets, Scratch Cards, Personalized Cheque Book, company logos, addresses on envelopes & similar applications. It is a form of digital printing, including on-demand printing, in which elements such as text, graphics and images may be changed from one printed piece to the next, without stopping or slowing down the printing process and using information from a database or external file.

It is not dependent on plates and it uses computer databases and digital print devices and highly effective software to create high-quality documents, with a look and feel comparable to conventional offset printing. It can print unique documents/numbers with customized messages for each customer. The cluster units will use this machines primarily to print bar codes, numbers, Quick response codes etc., by using this machine the cluster units can venture into newer market areas broadening their market reach.

	
<p>Bar, Numbering and QR codes</p>	<p>Company Invitations</p>

High Speed Cutter Polar

	
<p>High Speed Cutter</p>	

high-speed cutters deliver excellent added value which uses the OptiKnife knife changing system, which is very easy for operation. With its large variety of programmable additional functions, this high-speed cutter offers impressively short make-ready times and high efficiency.

It gives maximum precision and profitability as it is a modern programmable cutting machines. In the case of increasing demand, the cutters can be upgraded to form cutting systems by adding peripheral equipment. This machine will be used by the cluster to cut and trim printed materials and photo albums.

CNC programmable paper cutting machine



It is a paper cutting machine with two different motors for paper presser and paper cutter, it is for cutting paper sheets, rims, rolls and cardboard paper. This machine has an inclined blade cutting patented technology any paper can be cut easily with inclined blade design. The cluster units will use this machine to cut unprinted raw paper, for example the cluster units buy A3 format rim papers and cut it to A4 size which will be cheaper when compared to A4 rim paper and papers having higher gsms(800 gsm) can be cut very easily by using this machine.

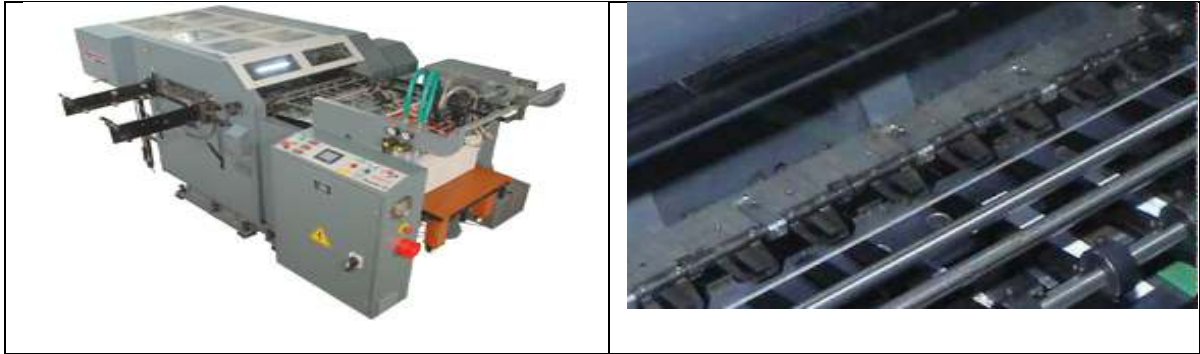


Paper Folding machine

This is a folding machine which folds the papers continuously, numerically and uniformly for different sizes it is used for booklet, magazines, textbooks, diaries etc.

This machine will help the cluster units in folding printed paper produced in their individual units precisely and uniformly.

Automatic Die Punching Machine



Automatic Die Punching Machine

The automatic die punching machine consists of automatic sheet-fed flatbed die-punching and creasing machine designed to handle even the most intricate and detailed designs this machine is used to die punch and crease at folding.

This reliable and high precision die punching machine is the perfect answer to meet the growing demand of medium and large format printers as well as packaging units. The cluster units will bring in their printed material on cardboards, gloss paper and corrugated paper and have then die punched and creased in this machine.



Die punched and creased printed material

6.6 Power Requirement

Sl. No.	Machine Name	power in Kw	8 hour shift	300 days	Rate/Unit @ Rs. 6.00 Amount = Bill
1	Computer to Plate CTP Machine Setup	5	40	12000	72000
2	Multi Colour Offset Printing Single Dummy Setup	28	224	67200	403200
3	Multi Colour Printing Machine Double Dummy Setup	2.5	20	6000	36000
4	Automatic Paper Cutting Machine, Size 45"	2.5	20	6000	36000
5	Folding Machine 23 x 36	20	160	48000	288000
6	Gumming Machine 6 Clamp	5	40	12000	72000
7	Lamination Machine	5.5	44	13200	79200
8	4 Hi Web Double Reel Stand with Quarter Page Folder	1.5	12	3600	21600
9	Digital Offset Machine	4.5	36	10800	64800
10	Sheetfed Offset Machine Double Crown	10	80	24000	144000
11	Miscellaneous	60	480	144000	864000
Total		144.5			2080800

6.7 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.

6.8 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.

6.9 Organizational Set Up/ Manpower Requirement

CFC Machining Section -Manpower					
Sl No	Designation	No	Monthly Salary-(Rs.)	Total/Month (Rs.)	Annual Salary-(Rs.)
1	CTP-Operator	1	15000	15000	180000
2	Offset- Operators	2	12500	25000	300000
3	Data Printing Operator	1	12500	12500	150000
4	Cutter Machine Operators	2	12000	24000	288000
5	Folding Machine Operator	1	12000	12000	144000
6	Case Maker Machine Operator	4	12000	48000	576000
7	Single Clamp Book Binding Operator	1	12000	12000	144000
7	Lamination Machine Operators	2	12500	25000	300000
8	Automatic Die Punching Operator	1	12500	12500	150000
9	Maintenance Engineers	2	18000	36000	432000
10	Electrician	1	12500	12500	150000
11	Unskilled Workers	2	9000	18000	216000
	Total	20			3030000/-

Training Centre-Manpower					
Sl. No.	Particulars	No	Salary-(Rs.)	Total/Month-(Rs.)	Annual Salary-(Rs.)
1	Training Staff	5	15000	75000	900000/-

Administrative Section-Manpower					
Sl. No	Designation	No	Monthly Salary-(Rs.)	Total/Month-(Rs.)	Annual Salary-(Rs.)
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	2	7000	14000	168000
7	ETP/STP Maintaining Staff	2	10000	20000	240000
	Total	11			1560000/-

Total Employment at the CFC = 36,

Total Annual salaries Rs 54,90,000/-

Chapter7

Implementation Schedule

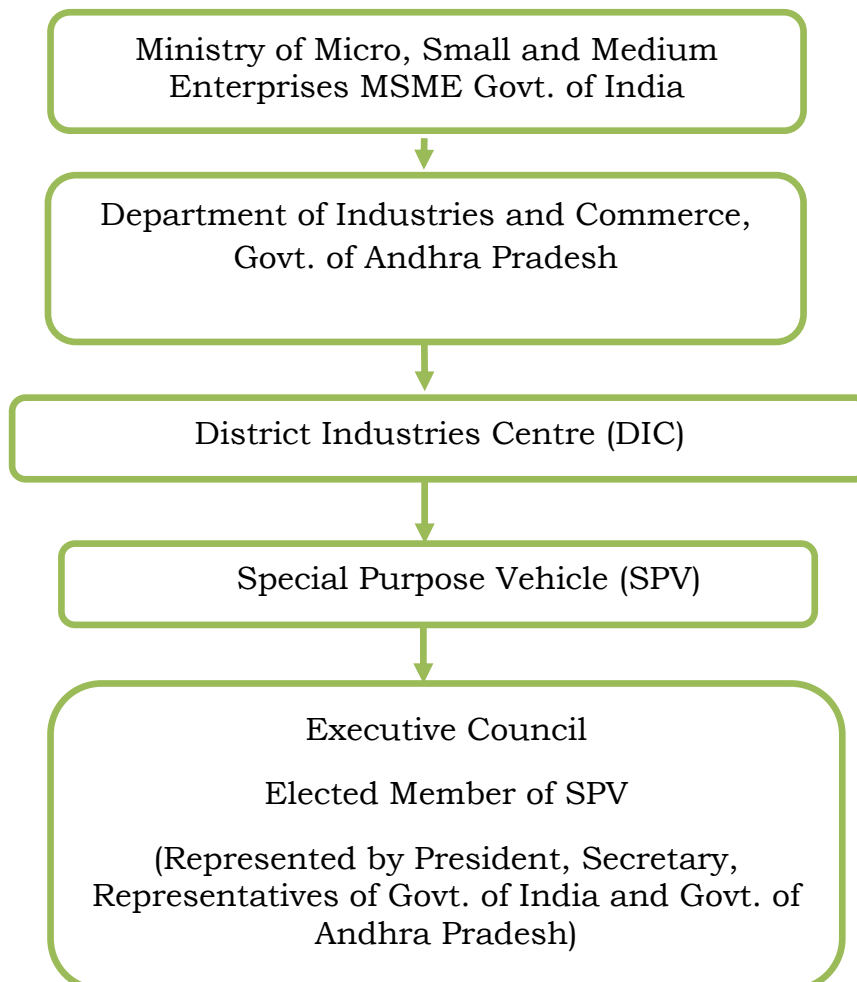
Implementation Schedule and Agencies Agencies

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: Department of Industries and Commerce, 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 8

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	Machine Name	Capacity=Plates/ Hour	8 Hour Shift	Annual Plate Production (300 days)	Charges(Rs)/ Plate	Annual Income
1	Computer to Plate CTP Machine Setup	25	200	60000	50	3000000
	Multi Colour Offset Printing Single Dummy Setup	Paper Prints/Hour	8 Hour Shift	Annual Prints	Charges(Rs)/ Paper	Annual Income
2	Multi Colour Printing Machine Double Dummy Setup	15000	120000	36000000	1	36000000
3		4000	32000	9600000	0.75	7200000

Sl. No	Machine Name	Hour Rate (Rs)	8 Hour Shift	Annual Revenue (300 Days)
4	Automatic Paper Cutting Machine, Size 45"	75	600	180000
5	Folding Machine 23 x 36	250	2000	600000
6	Gumming Machine 6 Clamp	50	400	120000

Sl. No	Machine Name	Book Casing/ Hour	8 Hour Shift	Annual Book Casing	Charges For Book Casing	Annual Income
7	MEGABOUND Case Maker Machine Model Active Plus	450	3600	1080000	25	27000000
8	MEGABOUND Single Clamp Book Binding	400	3200	960000	10	9600000
Sl. No	Machine Name	Coating Sheets/Hour	8 Hour Shift	Annual Coating	Coating Cost(Rs)	Annual Income
9	Lamination Machine	4000	32000	9600000	0.75	7200000
		Die Prints/Hour	8 Hour Shift	Annual Prints	Cost (Rs)	Annual Income
10	Automatic Die Punching Machine	4000	32000	9600000	1	9600000
Total Revenue Generated						100500000

Training Centre				
Sl. No	Courses	No Of Students/Year	Fees	Annual Income
1	DTP Course	100	2500	250000
2	Plate Making Course	100	2000	200000
3	Coral Draw/Page Maker/ Photo Shop	100	5000	500000
4	Printing Technology	100	7500	750000
5	Printing Finishing (Cutting, Binding Etc)	100	1500	150000
	Total			1850000

Total revenue generated at 100% utilization is Rs 10,23,50,000/-

Chapter 9

Project Financial Calculations For Sustainability

9.1 Financial Feasibility of the Project

Rs. Lakhs		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Years		0	1	2	3	4	5	6	7	8	9	10
PROJECT COST												
Land Lease Cost		45.00	3.0%									
Land Development & Buildings		66.75	4.5%									
Plant and Machineries		1245.25	84.4%									
Miscl Fixed Assets		20.00	1.4%									
Pre operative expenses		20.00	1.4%									
provision for Contingencies		63.60	4.3%									
Margin Money		15.40	1.0%									
Total Project cost		1476.00	100%									
SOURCES												
SPV	10%	147.60										
State Govt	10%	147.60										
GoI	80%	1180.80										
Bank Borrowings		0.00										
Total Project cost		1476.00										
GRANTS												
OPENING BALANCE		0.00	1476.00	1476.00	1476.00	1476.00	1476.00	1476.00	1476.00	1476.00	1476.00	1476.00
GRANT		1476.00	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		1476.00	1476.00	1476.00	1476.00	1476.00	1476.00	1476.00	1476.00	1476.00	1476.00	1476.00

9.2 Depreciation Calculation (WDV)

Rs. Lakhs		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
		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		66.75	66.75	60.08	54.07	48.66	43.79	39.42	35.47	31.93	28.73	25.86
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		66.75	66.75	60.08	54.07	48.66	43.79	39.42	35.47	31.93	28.73	25.86
less Depreciation	10%	0.00	6.68	6.01	5.41	4.87	4.38	3.94	3.55	3.19	2.87	2.59
Net Value		66.75	60.08	54.07	48.66	43.79	39.42	35.47	31.93	28.73	25.86	23.27
Plant & Machineries		1245.25	1245.25	1072.04	922.92	794.54	684.02	588.87	506.96	436.44	375.73	323.47
additions/deletions												
Total Gross value		1245.25	1245.25	1072.04	922.92	794.54	684.02	588.87	506.96	436.44	375.73	323.47
less Depreciation	14%	0.00	173.21	149.12	128.38	110.52	95.15	81.91	70.52	60.71	52.26	44.99
Net Value		1245.25	1072.04	922.92	794.54	684.02	588.87	506.96	436.44	375.73	323.47	278.47
Mis fixed Assets		20.00	20.00	16.38	13.42	10.99	9.00	7.37	6.04	4.94	4.05	3.32

additions/deletions												
Total Gross value		20.00	20.00	16.38	13.42	10.99	9.00	7.37	6.04	4.94	4.05	3.32
less Depreciation	18%	0.00	3.62	2.96	2.43	1.99	1.63	1.33	1.09	0.89	0.73	0.60
Net Value of		20.00	16.38	13.42	10.99	9.00	7.37	6.04	4.94	4.05	3.32	2.72
pre operative expenses		20.00	20.00	16.00	12.80	10.24	8.19	6.55	5.24	4.19	3.36	2.68
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		20.00	20.00	16.00	12.80	10.24	8.19	6.55	5.24	4.19	3.36	2.68
less Depreciation	20%	0.00	4.00	3.20	2.56	2.05	1.64	1.31	1.05	0.84	0.67	0.54
Net Value		20.00	16.00	12.80	10.24	8.19	6.55	5.24	4.19	3.36	2.68	2.15
provision for contingencies		63.60	63.60	57.24	51.51	46.36	41.73	37.55	33.80	30.42	27.38	24.64
additions/deletions												
Total Gross value		63.60	63.60	57.24	51.51	46.36	41.73	37.55	33.80	30.42	27.38	24.64
less Depreciation	10%	0.00	6.36	5.72	5.15	4.64	4.17	3.76	3.38	3.04	2.74	2.46
Net Value		63.60	57.24	51.51	46.36	41.73	37.55	33.80	30.42	27.38	24.64	22.18
TOTAL ASSETS & DEPRECIATION												
Gross value		1460.60	1460.60	1266.73	1099.71	955.79	831.73	724.76	632.51	552.92	484.25	424.97
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		1460.60	1460.60	1266.73	1099.71	955.79	831.73	724.76	632.51	552.92	484.25	424.97
less Depreciation		0.00	193.87	167.02	143.92	124.06	106.97	92.25	79.59	68.68	59.28	51.18
Net Value		1460.60	1266.73	1099.71	955.79	831.73	724.76	632.51	552.92	484.25	424.97	373.79

9.3 Working Capital Computation

Rs. Lakhs		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
		0	1	2	3	4	5	6	7	8	9	10
Raw Materials (Raw Materials)	0.9		16.31	16.81	16.81	16.81	17.32	17.32	17.32	17.32	17.32	17.32
Sundry Debtors (Revenues)	0.8		46.16	49.46	49.46	49.46	52.76	52.76	52.76	52.76	52.76	52.76
wages & salaries	1.2		4.58	4.67	4.76	4.86	4.95	5.05	5.15	5.26	5.36	5.47
Utilities	1		2.84	2.40	2.40	2.40	2.49	2.49	2.49	2.49	2.49	2.49
short Term loans and Advances(Rev)	0.25		13.79	14.77	14.77	14.77	15.76	15.76	15.76	15.76	15.76	15.76
Total Current Assets			83.68	88.12	88.21	88.31	93.28	93.37	93.48	93.58	93.68	93.79
Sundry Creditors(Materials)	1		8.27	8.86	8.86	8.86	9.46	9.46	9.46	9.46	9.46	9.46
Loans & Advances(Revenue)	0.25		13.79	14.77	14.77	14.77	15.76	15.76	15.76	15.76	15.76	15.76
Total Current Liabilities			22.06	23.64	23.64	23.64	25.21	25.21	25.21	25.21	25.21	25.21
Net Working Capital			61.61	64.48	64.57	64.67	68.06	68.16	68.26	68.37	68.47	68.58
Margin Money	25%		15.40	16.12	16.14	16.17	17.02	17.04	17.07	17.09	17.12	17.14
BALANCE W/C BANK FINANCE			46.21	48.36	48.43	48.50	51.05	51.12	51.20	51.27	51.35	51.43
INTEREST CALCULATION	15%		6.93	7.25	7.26	7.28	7.66	7.67	7.68	7.69	7.70	7.71

9.4 Capacity Utilisation, Revenue Generation and Material Cost

		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
		0	1	2	3	4	5	6	7	8	9	10
Percentage utilisation	1	100%	70%	75%	75%	75%	80%	80%	80%	80%	80%	80%
Growth till full capacity												

PROJECTED SALES REVENUE

Rs. Lakhs		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
REVENUE PROJECTIONS												
REVENUE												
TOTAL REVENUE FROM MACHINES		945.50	661.85	709.13	709.13	709.13	756.40	756.40	756.40	756.40	756.40	756.40
Total Revenue		945.50	661.85	709.13	709.13	709.13	756.40	756.40	756.40	756.40	756.40	756.40
Growth				7%	7%	0%						

		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Rs. Lakhs		0	1	2	3	4	5	6	7	8	9	10
MATERIAL COST	%TO REVENUE	100%										
OTHER INDIRECT MATLS	15%	141.83	99.28	106.37	106.37	106.37	113.46	113.46	113.46	113.46	113.46	113.46
TOTAL MATERIAL COST		141.83	99.28	106.37	106.37	106.37	113.46	113.46	113.46	113.46	113.46	113.46
			15%	15%	15%	15%	15%	15%	15%	15%	15%	15%

9.5 Breakeven Analysis

		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Rs. Lakhs		0	1	2	3	4	5	6	7	8	9	10
VARIABLE EXPENSES	1											
Direct Materials	15%	141.83	99.28	106.37	106.37	106.37	113.46	113.46	113.46	113.46	113.46	113.46
Fuel cost	0.0%		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Direct wages	4%	2%	25.98	26.50	27.03	27.57	28.12	28.68	29.26	29.84	30.44	31.05
power	2%	20.81	14.57	15.61	15.61	15.61	16.65	16.65	16.65	16.65	16.65	16.65
Interest on Working Capital			6.93	7.25	7.26	7.28	7.66	7.67	7.68	7.69	7.70	7.71
TOTAL VARIABLE EXPENSES			146.75	155.73	156.27	156.82	165.88	166.46	167.04	167.64	168.25	168.87
TOTAL CONTRIBUTION(Rev-Variable cost)			515.10	553.40	552.86	552.30	590.52	589.94	589.36	588.76	588.15	587.53
FIXED EXPENSES	1	FBS										
Salaries & wages	4%	2%	28.92	29.50	30.09	30.69	31.30	31.93	32.57	33.22	33.88	34.56
Power fixed	2.00%		13.24	13.24	13.24	13.24	13.24	13.24	13.24	13.24	13.24	13.24
Administration & Sales Expenses	3.0%		19.86	21.27	21.27	21.27	22.69	22.69	22.69	22.69	22.69	22.69
Repair and maintenance	4.0%		26.47	28.37	28.37	28.37	30.26	30.26	30.26	30.26	30.26	30.26
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			193.87	167.02	143.92	124.06	106.97	92.25	79.59	68.68	59.28	51.18
TOTAL FIXED EXPENSES			282.36	259.39	236.89	217.63	204.46	190.37	178.34	168.08	159.35	151.93
BREAKEVEN SALES			362.80	332.38	303.85	279.42	261.89	244.08	228.89	215.94	204.93	195.60
BREAKEVEN POINT(%)	43%		55%	47%	43%	39%	35%	32%	30%	29%	27%	26%

9.6 Projected Profit & Loss

Rs. Lakhs		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
NET REVENUE(NET SALES)			661.85	709.13	709.13	709.13	756.40	756.40	756.40	756.40	756.40	756.40
MATERIAL COST	15%		99.28	106.37	106.37	106.37	113.46	113.46	113.46	113.46	113.46	113.46
FUEL COST	0.0%		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXPENSES												
WAGES	4%		25.98	26.50	27.03	27.57	28.12	28.68	29.26	29.84	30.44	31.05
SALARIES	4%		28.92	29.50	30.09	30.69	31.30	31.93	32.57	33.22	33.88	34.56
POWER	10%		27.80	28.84	28.84	28.84	29.88	29.88	29.88	29.88	29.88	29.88
REPAIR & MAINTENANCE	4.0%		26.47	28.37	28.37	28.37	30.26	30.26	30.26	30.26	30.26	30.26
ADMINISTRATION & SELLING EXPENSES			26.47	28.37	28.37	28.37	30.26	30.26	30.26	30.26	30.26	30.26
TOTAL EXPENSES	35%		234.93	247.94	249.06	250.20	263.28	264.47	265.68	266.92	268.18	269.47
OPERATING PROFIT(PBIDT)	65%		426.92	461.19	460.07	458.92	493.12	491.93	490.72	489.48	488.22	486.93
INTEREST WORKING CAPITAL	1%		6.93	7.25	7.26	7.28	7.66	7.67	7.68	7.69	7.70	7.71
PBDT	63%		419.99	453.93	452.80	451.65	485.46	484.26	483.04	481.79	480.52	479.22
DEPRECIATION	29%		193.87	167.02	143.92	124.06	106.97	92.25	79.59	68.68	59.28	51.18
NET PROFIT BEORE TAX	34%		226.12	286.91	308.88	327.59	378.50	392.01	403.45	413.11	421.24	428.04
INCOME TAX	10%		64.25	83.53	90.93	97.18	112.94	117.36	121.07	124.16	126.74	128.88
NET PROFIT AFTER TAX	24%		161.87	203.39	217.94	230.41	265.56	274.65	282.39	288.95	294.50	299.16
NET PROFIT AS % TO NET REVENUE	0%		24%	29%	31%	32%	35%	36%	37%	38%	39%	40%
AVERAGE NET PROFIT TO REVENUE			34.18%									
CUMULATIVE PROFIT & LOSS BAL			161.87	365.26	583.20	813.61	1079.17	1353.82	1636.21	1925.16	2219.65	2518.81

9.7 Projected Balance Sheet (Rs. Lakhs)

Rs. Lakhs	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
	0	1	2	3	4	5	6	7	8	9	10
ASSETS											
Gross Fixed Assets	1460.60	1460.60	1266.73	1099.71	955.79	831.73	724.76	632.51	552.92	484.25	424.97
less depreciation	0.00	193.87	167.02	143.92	124.06	106.97	92.25	79.59	68.68	59.28	51.18
Net Fixed Assets	1460.60	1266.73	1099.71	955.79	831.73	724.76	632.51	552.92	484.25	424.97	373.79
Total Current Assets	0.00	83.68	88.12	88.21	88.31	93.28	93.37	93.48	93.58	93.68	93.79
Cash/Bank Balance	15.40	355.74	725.43	1087.27	1441.72	1813.39	2180.27	2542.22	2899.82	3253.57	3603.88
TOTAL ASSETS	1476.00	1706.15	1913.26	2131.27	2361.75	2631.43	2906.16	3188.62	3477.65	3772.22	4071.46
LIABILITIES											
RESERVES & SURPLUSES											
Govt. Grant	1476.00	1476.00	1476.00	1476.00	1476.00	1476.00	1476.00	1476.00	1476.00	1476.00	1476.00
profit/Loss	0.00	161.87	365.26	583.20	813.61	1079.17	1353.82	1636.21	1925.16	2219.65	2518.81
TOTAL RESERVES & SURPLUSES	1476.00	1637.87	1841.26	2059.20	2289.61	2555.17	2829.82	3112.21	3401.16	3695.65	3994.81
Current Liabilities	0.00	22.06	23.64	23.64	23.64	25.21	25.21	25.21	25.21	25.21	25.21
Short Term Loans	0.00	46.21	48.36	48.43	48.50	51.05	51.12	51.20	51.27	51.35	51.43
TOTAL LIABILITIES	1476.00	1706.15	1913.26	2131.27	2361.75	2631.43	2906.16	3188.62	3477.65	3772.22	4071.46

9.8 (DEPRECIATION CALCULATION (INCOME TAX))

Rs. Lakhs		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
		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		66.75	66.75	60.08	54.07	48.66	43.79	39.42	35.47	31.93	28.73	25.86
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		66.75	66.75	60.08	54.07	48.66	43.79	39.42	35.47	31.93	28.73	25.86
less Depreciation	10%	0.00	6.68	6.01	5.41	4.87	4.38	3.94	3.55	3.19	2.87	2.59
Net Value		66.75	60.08	54.07	48.66	43.79	39.42	35.47	31.93	28.73	25.86	23.27
Plant & Machineries		1245.25	1245.25	1058.46	899.69	764.74	650.03	552.52	469.65	399.20	339.32	288.42
additions/deletions												
Total Gross value		1245.25	1245.25	1058.46	899.69	764.74	650.03	552.52	469.65	399.20	339.32	288.42
less Depreciation	15%	0.00	186.79	158.77	134.95	114.71	97.50	82.88	70.45	59.88	50.90	43.26
Net Value		1245.25	1058.46	899.69	764.74	650.03	552.52	469.65	399.20	339.32	288.42	245.16
Mis fixed Assets		20.00	20.00	18.00	16.20	14.58	13.12	11.81	10.63	9.57	8.61	7.75
additions/deletions												

Total Gross value		20.00	20.00	18.00	16.20	14.58	13.12	11.81	10.63	9.57	8.61	7.75
less Depreciation	10%	0.00	2.00	1.80	1.62	1.46	1.31	1.18	1.06	0.96	0.86	0.77
Net Value of		20.00	18.00	16.20	14.58	13.12	11.81	10.63	9.57	8.61	7.75	6.97
pre operative expenses		20.00	20.00	16.00	12.80	10.24	8.19	6.55	5.24	4.19	3.36	2.68
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		20.00	20.00	16.00	12.80	10.24	8.19	6.55	5.24	4.19	3.36	2.68
less Depreciation	20%	0.00	4.00	3.20	2.56	2.05	1.64	1.31	1.05	0.84	0.67	0.54
Net Value		20.00	16.00	12.80	10.24	8.19	6.55	5.24	4.19	3.36	2.68	2.15
provision for contingencies		63.60	63.60	57.24	51.51	46.36	41.73	37.55	33.80	30.42	27.38	24.64
additions/deletions												
Total Gross value		63.60	63.60	57.24	51.51	46.36	41.73	37.55	33.80	30.42	27.38	24.64
less Depreciation	10%	0.00	6.36	5.72	5.15	4.64	4.17	3.76	3.38	3.04	2.74	2.46
Net Value		63.60	57.24	51.51	46.36	41.73	37.55	33.80	30.42	27.38	24.64	22.18
TOTAL ASSETS & DEPRECIATION												
Gross value		1460.60	1460.60	1254.78	1079.28	929.58	801.86	692.86	599.79	520.30	452.39	394.35
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		1460.60	1460.60	1254.78	1079.28	929.58	801.86	692.86	599.79	520.30	452.39	394.35
less Depreciation		0.00	205.82	175.50	149.69	127.72	109.01	93.07	79.49	67.91	58.04	49.62
Net Value		1460.60	1254.78	1079.28	929.58	801.86	692.86	599.79	520.30	452.39	394.35	344.73

9.9 INCOME TAX CALCULATION

INCOME TAX CALCULATION												
Rs. Lakhs		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
		0	1	2	3	4	5	6	7	8	9	10
Profit as per Books			226.12	286.91	308.88	327.59	378.50	392.01	403.45	413.11	421.24	428.04
Add back depreciation as per books			193.87	167.02	143.92	124.06	106.97	92.25	79.59	68.68	59.28	51.18
Depreciation as per Income Tax			205.82	175.50	149.69	127.72	109.01	93.07	79.49	67.91	58.04	49.62
Total Income			214.17	278.43	303.11	323.93	376.45	391.20	403.55	413.88	422.48	429.59
Corporate Tax @ 30%	30%		64.25	83.53	90.93	97.18	112.94	117.36	121.07	124.16	126.74	128.88

9.10 INTERNAL RATE OF RETURN

Rs. Lakhs		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
		0	1	2	3	4	5	6	7	8	9	10
Inflows												
Profit after Tax			226.12	286.91	308.88	327.59	378.50	392.01	403.45	413.11	421.24	428.04
Add Depreciation			193.87	167.02	143.92	124.06	106.97	92.25	79.59	68.68	59.28	51.18
Add Interest			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Add Tax			64.25	83.53	90.93	97.18	112.94	117.36	121.07	124.16	126.74	128.88
Total Inflows			484.24	537.46	543.73	548.83	598.40	601.62	604.10	605.95	607.26	608.10
Out Flows												
Capital Expenditure		-1460.60										
Increase in working Capital			-61.61	-2.86679								
Total Outflows		-1460.60	-61.61	-2.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Cash flows - Pre Tax		-1460.60	422.63	534.59	543.73	548.83	598.40	601.62	604.10	605.95	607.26	608.10
Project IRR		34%										
Net Cashflows Post Tax		-1460.26	358.38	451.06	452.80	451.65	485.46	484.26	483.04	481.79	480.52	479.22
Project IRR-Post Tax		27%										

9.11 NPV CALCULATION

		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
		0	1	2	3	4	5	6	7	8	9	10
Net Cash flows - pre tax		-1460.60	422.63	534.59	543.73	548.83	598.40	601.62	604.10	605.95	607.26	608.10
NPV FACTOR	39%		0.72	0.52	0.37	0.27	0.19	0.14	0.10	0.07	0.05	0.04
NET PRESENT VALUE -PRE TAX	0.39	1286.63	304.05	276.69	202.46	147.02	115.32	83.41	60.26	43.48	31.35	22.59
Net Cashflows Post Tax		-1460.26	358.38	451.06	452.80	451.65	485.46	484.26	483.04	481.79	480.52	479.22
NET PRESENT VAUE-POST TAX	28%		0.76	0.57	0.43	0.33	0.25	0.19	0.14	0.11	0.08	0.06
	0.32	1279.48	271.50	258.88	196.87	148.77	121.14	91.55	69.18	52.27	39.50	29.84

9.12 RETURN ON CAPITAL EMPLOYED (ROC)

		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
		0	1	2	3	4	5	6	7	8	9	10
Profit after tax			161.87	203.39	217.94	230.41	265.56	274.65	282.39	288.95	294.50	299.16
Capital Employed												
Net Fixed Assets			1266.73	1099.71	955.79	831.73	724.76	632.51	552.92	484.25	424.97	373.79
Net Working Capital			61.61	64.48	64.57	64.67	68.06	68.16	68.26	68.37	68.47	68.58
Total capital Employed			1328.34	1164.19	1020.36	896.40	792.83	700.67	621.19	552.61	493.44	442.36
ROCE			12%	17%	21%	26%	33%	39%	45%	52%	60%	68%
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 otype 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.

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