

**PROJECT REPORT ON  
DAIRY FARMING WITH DESI COW**



**SUBMITTED BY**

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## CHAPTER – I

### HIGHLIGHTS OF THE PROJECT REPORT

#### A. ABOUT THE PROMOTER

S. No	PARTICULARS		ABOUT THE PROMOTER
1	NAME	:	SATHEESH R
2	ADDRESS	:	1/5A, PERAMALAI KADU, ARASAMPALAYAM, MUNJANUR (PO), TIRUCHENGODU (TK), NAMAKKAL (DT) – 637 403
3	CONTACT NUMBER	:	80153-9482
4	DATE OF BIRTH	:	04-06-1995
5	EDUCATIONAL QUALIFICATION	:	M.Sc. AGRICULTURAL ECONOMICS
6	PROJECT LOCATION	:	ARASAMPALAYAM
7	PROFESSIONAL EXPERIENCE	:	4 YEAR
8	CONSTITUTION	:	PROPRIETORSHIP
9	COMPANY NAME	:	ARS FARMS

## B. PROJECT PROFILE (FINANCIAL)

S. No	PARAMETERS		VALUES
1	Breed	:	Gir and Kankraj (Desi Breed)
2	Unit size	:	12 (6 Gir and 6 Kankraj)
3	Product	:	Milk, Cow urine, Vermicompost
4	<b>Cost of the project</b>	:	<b>1,876,900</b>
5	Bank loan	:	1,407,675
6	Margin money	:	469,225
7	Financial Indicators		
	<b>BCR at 15% DF</b>	:	<b>1.31</b>
	NPW 15% DF(Rs.)	:	1,65,389
	<b>IRR %</b>	:	<b>54.73</b>
	<b>DSCR</b>	:	<b>2.58</b>
8	Interest rate (% per annum)	:	10%
9	<b>Repayment period</b>	:	<b>5 Years</b>

## **CHAPTER – II**

### **PROJECT DESCRIPTION**

#### **INTRODUCTION**

Animal husbandry and agriculture are synergistically involved and are the important source of income and employment in rural areas. Among them, dairying provides security to farmers, especially when agriculture fails. Dairy farming is essential to millions of poor households across the country not only as a source of income but also as a major source of protein, supplementary nutrition, fertilizer, fuel and a store of wealth.

Today most of the dairies across India produce milk processed from Jersey and H.F cows. In a bid to feed our growing population we have neglected our native breeds of cows whose milk was always considered to be medicinal. Scientific evidence suggests that milk from desi cattle has several advantages over the milk of exotic European varieties of cattle like Holstein, which were introduced in India as a measure to enhance milk production through cross breeding. The nutritional value of milk of Indian cows is the highest along with many curative properties against many diseases. So, I have chosen two desi dairy breeds such as Gir and Kankraj.

#### **Production Technology**

##### **Project Location:**

Dairy farm is located in the Arasampalayam village of Mallasamudram Taluk in Namakkal district, area where assured market of milk round the year is available. It is easily accessible to the main road.

##### **Feed & Fodder:**

1. Feed should be balanced and offered twice a day with 8-10 hours interval.
2. Cow require dry matter daily @2.5 kg and 3.0 kg/100kg body weight, respectively.
3. About 2/3 parts from dry +green roughages and 1/3 part of total dry matter need should be fulfilled with concentrate mixture.
4. If green fodder is in practice of feeding the animal, concentrate mixture should have 11-12 % protein. If there is no green fodder then at least 18% protein must be in the concentrate mixture.
5. Type of feed should be changed gradually otherwise it will provide adverse effect on the digestion system of the animal.
6. Dry and green fodder should be offered just after feeding the concentrate mixture. (7) Animal should be allowed to drink fresh and clean water twice a day.
7. Animal should be offered clean, tasty, digestible, nutritious and cheap feed.
8. 40 -50 gm Sodium chloride and 2% mineral mixture should be given/day/animal.

9. For growth, milk production and pregnancy, extra ration in the form of concentrate mixture should be offered.
10. 1 kg concentrate mixture for production of each 3 kg milk in case of cattle and each 2 1/2 kg milk in Cow should be given per day.
11. Above 6 months of pregnancy, 1 kg and 1 1/2 kg concentrate mixture per day should be given to cow and Cow, respectively.
12. At least 5 kg green fodder per day must be included in the feeding of milch animal otherwise milk production will be decreased. While feeding the animal, one should behave lovely.

**Water:**

Good quality fresh water for animal drinking and for the cleaning, washing etc. is available.

**Electricity:**

Adequate supply of electricity is available.

**Labour:**

Honest, economic and regular supplies of labours are available.

**Veterinary Aid:**

Veterinary Hospital/ Doctors are available close to dairy farm located at Manjanur Village (1.4 Km from farm).

**Availability of animals:**

Pure breeds available at Gujarat, Rajasthan, but the are also available at local farms such as sri guru hi-tech dairy farm in Morpalayam, Murugan dairy farm in Namakkal. Mani farms

**Breed characteristics:**

**GIR**

S. No						
	<b>Breed</b>	Gir				
A.	<b>General Information</b>					
1.	Synonym	Bhodali, Desan, Gujarati, Kathiawari, Sorthi, and Surati				
2.	Breeding Tract	<b>State</b>	<b>District</b>			
		Gujarat	Amreli			
		Gujarat	Bhavnagar			
		Gujarat	Junagadh			
		Gujarat	Rajkot			
4.	Location	<b>Minimum</b>		<b>Maximum</b>		
		Deg	Min	Deg	Min	
	Longitude	70		72		
	Latitude	20	5	22	6	
5.	Comment on Breeding Tract	Saurashtra region of Gujarat specially area in and around Gir forest.				
6.	Main Use	Food – Milk				
7.	Comment on main use	Gir cows are good milk producers. Bullocks can drag heavy loads on all kinds of soils, be it sandy, black or rocky.				
8.	Origin	Named after the Gir forest, the geographical/origin of the breed				
9.	Adaptability to Environment	It is a hardy animal and can survive and produce in difficult environment				
B.	<b>Morphology</b>					
1.	Colour	Most of the Gir animals are pure red though some are speckled red.				
2.	Number of Horns	2				
3.	Horns Shape and Size	Horns are peculiarly curved. Starting at the base of the crown they take a sideways downward and backward curve and again incline a little upward and forward taking a spiral inward sweep, ending in a fine taper- thus giving a half moon appearance.				
4.	Visible Characteristics	Long and pendulous ears folded like a leaf. Ears hang all the time and their inside face forward.				
		<b>Male</b>		<b>Female</b>		
5.	Height (Avg. cm)	159.84		130.79		
6.	Body length (Avg. cm)	137.51		131.4		
7.	Heart girth (Avg. cm)	201.41		166.47		

8.	Weight (Avg. Kg)	544	310
9.	Birth weight (Avg. Kg)	20.77	20.77
<b>C.</b>	<b>Management</b>		
1.	Management system	Semi-Intensive	
2.	Mobility	Stationary	
3.	Feeding of adults	Grazing and Concentrate	
4.	Comments on management conditions	Gir cattle are largely bred by professional breeders known as Rabaris, Bhanoads, Maldharis, Ahirs and Charans. Calves are allowed to suck for 8 to 12 months. Milking cows are usually retained in the village while dry cows and young stock are sent for grazing. Animals are herded in a field for 3 or 4 nights by the farmers as it provides manure in the form of dung and urine.	
<b>D.</b>	<b>Performance</b>		
		<b>Average</b>	<b>Minimum</b>
			<b>Maximum</b>
1.	Age at first Parturition (Avg. Months)	46.08	39
2.	Parturition interval (Months)	13.4	0
3.	Milk yield per lactation (kg)	2110	800
4.	Milk fat (%)	4.6	3.9

**GIR FEMALE**

## KANKARAJ

S. No		
<b>A.</b>	<b>General Information</b>	
<b>1.</b>	<b>Breed</b>	<b>Kankraj</b>
<b>2.</b>	Synonym	Wadad or Waged, Vagadia, Talabda, Nagar, Bonnai.
<b>3.</b>	Breeding Tract	<b>State</b> <b>District</b>
		Gujarat                      Ahmadabad
		Gujarat                      Banas Kantha
		Gujarat                      Kheda
		Gujarat                      Mahesana
		Gujarat                      Sabar Kantha
		Gujarat                      Kutchchh
		Rajasthan                      Barmer
		Rajasthan                      Jodhpur



4.	Location	Minimum		Maximum	
		Deg	Min	Deg	Min
	Longitude	71		74	
	Latitude	21		24	
<b>5.</b>	Main use	Work - Draught and Transport; Food - Milk			
<b>6.</b>	Comment on main use	Agricultural operations and road transport in village area are mainly carried out by bullocks of this breed.			

7.	Origin	It takes its name from the name of geographical area i.e. Kank taluka of Banaskantha district in Gujarat.		
<b>B.</b>	<b>Morphology</b>			
1.	Colour	Varies from silver-grey to iron grey or steel grey. In males fore & hind quarters and hump are slightly darker than the rest of the body.		
2.	Number of horns	2		
3.	Horns shape and size	Horn are strong and curved outward and upward in a lyre shaped fashion.They are curved with skin to a longer distance as compared to other breeds.		
4.	Visible characteristics	Heaviest breed of cattle. Strong lyre shaped horns, large pendulus and open ears.		
		<b>Male</b>	<b>Female</b>	
5.	Height (Avg cm)	158	125	
6.	Body length (Avg cm)	148	123	
7.	Heart girth (Avg cm)	194	163	
8.	Weight (Avg Kg)	525	343	
9.	Birth weight (Avg Kg)	0	0	Overall 23
<b>C.</b>	<b>Management</b>			
1.	Management system	Semi-Intensive		
2.	Mobility	Stationary		
3.	Feeding of adults	Grazing, Fodder and Concentrate		
4.	Comments on management conditions	The Rabaris, Maldharis, Bharwads, Ahir and Charans are the main communities associated with breeding of the Kankrej. Animals are not tied. They are kept in paddocks of thorny bushes near human dwellings. Animals are taken out for grazing. They cover long distances during scarcity periods. Calves are not weaned. Male calves are cared better than female calves. Castor, rapeseed and sesamum are common among the oilseeds. Clusterbeen seeds are used as cattle feed. Cotton seed and oil cake are used as concentrate.		
<b>D.</b>	<b>Performance</b>			
		<b>Average</b>	<b>Minimum</b>	<b>Maximum</b>
1.	Age at first parturition (Avg.Months)	47.3	36	53
2.	Parturition interval (Months)	15.06	12	25
3.	Milk yield per lactation(kg)	1738	800	1800
4.	Milk Fat (%)	0	2.9	4.2
5.	Peculiarity of the breed	The gait of the Kankrej is peculiar to the breed; the action is smooth, there is hardly any movement of the body, the head is held noticeably high, the stride is long and even and the hind hoof is placed well ahead of the impression of fore hoof. This gait is called 1¼ paces (Swai chal) by the breeders.		

### KANKRAJ FEMALE



## CHAPTER – III

### MARKET POTENTIAL

- The people give more importance to A2 milk for their children's, and for household purpose. Especially middle class and upper middle class people prefer A2 milk.
- A number of vendors, thandai shop owners and sweet makers purchase milk in bulk one day in advance. There is good demand of milk during peak wedding season also.
- While the exotic cattle breeds may be producing higher milk but because of the concentration of A1 allele gene in their bodies, the milk they produce is much inferior in quality.
- There is an established market of various products such as cosmetics, medicines, food supplements/ items from Cow urine, dung and Cow milk.
- Since A2 milk builds up immunity, it certainly offers a big advantage over the commonly sold milk. In India, consumers are willing to pay a premium if dairy entrepreneurs will be able to sell A2 milk in pouches.
- At the same time, promotion for A2 milk will help farmers shift to traditional breeds which very well integrate with natural farming systems.

- Milk can be sold in the immediate market directly to customers, hotels, hospitals, sweet makers etc. Hotels and some general customers (can be around 30%) prefer pure Cow milk whereas hospitals, sanitariums prefer cow's milk.

#### **Marketing of milk:**

1. Source of sales
2. Place of disposal
3. Distance (km.)
4. Basis of payment

#### **Marketing of other products:**

1. Animal - age
  - a. Place of sale
  - b. Price expected
2. Vermicomposting and vermiwash

#### **Marketing survey:**

- i. My area nearest having 7 Hospitals for surrounding 5 kms.
- ii. My area population is more than 5000 people surrounding the my farms.
- iii. 30 hotels and 10 schools are available in area at the 5 kms surrounding.

#### **MAJOR DISEASES IN MY VILLAGE**

- i. Mastitis
- ii. FMD(Food and Mouth Disease)
- iii. Milk fever

## **CHAPTER – IV**

### **EXTENSION ACTIVITIES**

- ❖ Starting a dairy farming business requires planning and preparation. Before starting a dairy farm the entrepreneurs/ farmers are generally advised to undergo training.
- ❖ I contact Local Animal Husbandry Department staffs/Veterinary College/Agriculture University etc. for the purpose. However availability of training facilities & resources are inadequate. Hence, I will provide training on dairy farming to farmers both onsite and off-site.
- ❖ During training program special thrust on guidance regarding ingredients in a ration, herd health (medications and vaccinations used) & kind of records to be kept in the farm will be also given.
- ❖ For the farmers of nearby locality, visits will be arranged on my farm & they will be educated on scientific lines regarding various aspects of cattle management, manufacture of milk products, co-

operation management etc. It will help them to improve their knowledge and skill regarding scientific dairy practices so as to enable them to adopt the same.

- ❖ Consultancy will be provided for setting up of units to manufacturing and marketing of indigenous milk products.
- ❖ In order to motivate the dairy farmers to grow improved varieties of fodder and to educate them about cultural practices, also conduct demonstrations on fodder cultivation practices in farmers' field.
- ❖ I will motivate and encourage dairy farmers to keep high-yielding desi breeds animals.
- ❖ For farmers who have decided to avail loan from bank for Dairy farming, assistance will be provided to prepare their bankable project report.
- ❖ For the marketing milk & milk products, farmers will be provided necessary support & guidance.
- ❖ Visits of dairy farmers will be arranged to dairy exhibitions with the prime objective of exposing them the technological innovations.
- ❖ Nowadays internet has become important tool to get latest information. There are various websites available on dairy farm which provides useful content. This information will be shared to farmers.
- ❖ Necessary assistance will be given to farmers for setting up model cattle sheds and dairy farm units.

## **CHAPTER – V**

### **SWOT ANALYSIS**

#### **Strengths:**

1. The desi cows have a good immunity system and are easily acclimatized to our local conditions, hence the hassle & cost of disease is less
2. Cow urine is used for therapeutic purposes in traditional Indian medicine, Ayurveda. In Ayurveda, it is claimed to be helpful in the treatment of leprosy and cancer.
3. Desi Cow Milk helps in reducing acidity, (a common problem today)
4. Provide regular income to the dairy entrepreneurs
5. Cow urine used for farmers helps crop insect replant.
6. Favorable Government policies for development of desi cow livestock sector.
7. Increase the link between rural production areas and urban markets.

**Opportunities:**

1. Cost of desi cow milk production in my district is low when compare to cross breeds.
2. Scope exists for higher milk yield through better use of crop residues and other feeds.
3. Improving availability of animal health care facilities.
4. Better returns because of increased awareness in consumers about A2 milk.
5. Good scope exists for value-added products like peda, kova, desserts, puddings, custards, sauces, stirred yogurt, nectars and sherbets.
6. Latest packaging technology can help retain nutritive value of packaged products and extend their shelf-life.

**Weakness:**

1. Lower productivity of animals.
2. Labour shortage and high wage rate in dairy farming.
3. Limited investment or delay in the availability of funds in setting up or expansion of milk procurement.

**Threats:**

1. Natural calamities like floods, drought, diseases that can affect feed to cattle/cattle population.
2. Dwindling fodder resources.
3. Seasonal fluctuations in milk production.
4. Middlemen still control a very large proportion of the milk procurement. Serious efforts need to be taken to eliminate them from the supply chain.

**CHAPTER-VI****ECONOMICS OF THE PROJECT****A. BASICS & PRESUMPTIONS**

S. No	PARTICULARS	UNIT	
	QUANTITY		
I.	<b>Techno-economic parameters</b>		
1	Floor space (sqft) per adult animal	Sq.ft	50
	Floor space (sqft) per calf	Sq.ft	20
	Inter-Calving period(lactation days 285 + dry days 115 Days)		400
	Rate of interest of bank loan	%	10
	Repayment period	Years	5
	Freshly calved female Desi Cows in 1st or 2nd lactation & Calves more than 2 years old will be purchased in two batches at an interval of 5 to 6 months.		

	Once the young animal reared within the herd that is ready to calve, would replace the oldest animal.	
	The animals apart from 1st, 2nd or 4rd lactations are assumed to be sold off to maintain constant herd size.	
	Male calves are assumed to be sold off.	
	Cost of rearing calves is not considered as it will be nullified by their sale value.	
II.	<b>Expenditure norms</b>	
	Cost of Desi Cow (adult) including transportation	Rs./animal 85,000
	Cost of bull frozen semen	Rs./animal/year 1,000
	Cost of construction of shed	Rs./sq.ft 400
	Cost of concentrate feed	Rs./kg. 28
	Cost of green fodder	Home grown
	Cost of dry fodder	Rs./kg. 10
	Rate of construction of labour quarter, store room	Rs./sq.ft 400
	Cost of chaff cutter (power operated)	Rs. 25,000
	Electric motor	Rs. 25,000
	Cost of equipment per animal	Rs. 1,500
	Nos. of unskilled labour required	Nos. 2
	Cost of unskilled labour per annum	Rs. 100,000
	Cost of veterinary aids	Rs./animal/annum 1,500
	Cost of electricity and water	Rs./month 2,000
	Milking machine with accessories	Ls. 65,000
	Cost of liquid nitrogen cryocan	Rs. 25,000
	Insurance	% 5
III.	<b>Income norms</b>	
	Milk yield per Desi Cow per day	Ltrs. 8
	Selling price of milk	Rs./ltrs. 70
	Production of manure	Tonn/year/cow 5
	Selling price of vermicompost	Rs./ton 4,000

## B. TOTAL COST OF PROJECT

S. No	PARTICULARS	UNIT	UNIT RATE (Rs.)	QUANTITY	AMOUNT (Rs.)
I.	<b>Capital Cost</b>				
1.	Land & site development				
	Land				Own
	Site development	Ls.			25,000
				<b>Total</b>	<b>25,000</b>
2.	Buildings				
	Shed for adult animal	Sq.ft.	400	600	240,000
	Shed for adult calves	Sq.ft.	400	240	96,000
	Shed for vermicompost	Sq.ft.	200	120	80,000
	Cryocan storage and office room	Sq.ft.	400	100	40,000
	Store room	Sq.ft.	200	150	30,000

	Cow urine tank	Ls.			10,000
	Water tank	Ls.			50,000
				<b>Total</b>	<b>546,000</b>
3.	Cost of Animals				
	Cost of desi cow including transportation	Nos.	85,000	12	1,020,000
				<b>Total</b>	<b>1,020,000</b>
4.	Plant and Machinery				
	Milking machine with accessories	Nos.	65,000	1	65,000
	Chaff cutter (power operated)	Nos.	25,000	1	25,000
	Electronic motor	Nos.	25,000	1	25,000
	Generator set	Nos.	50,000	1	50,000
	Cost of liquid nitrogen cryocan	Nos.	25,000	1	25,000
	Pipe line and sprinkler setup	Nos.	5,000	1	5,000
	Cost of equipment's like milk cane, buckets etc.,	per animal	1,500	12	18,000
	Cost of electrification	Ls.			10,000
	Contingencies (project formulation, consultancy, travelling etc.)				20,000
				<b>TOTAL-A</b>	<b>1,809,000</b>
II.	<b>Working Capital</b> (for first month of first batch)				
	Cost of concentrate feed for first batch for first month	/day/animal	180	180	32,400
	Cost of bull frozen semen	/animal/ year	1000	10	10,000
	Insurance for the first batch	Animal	%	5	25,500
				<b>TOTAL-B</b>	<b>67,900</b>
	<b>TOTAL COST OF PROJECT</b>			<b>TOTAL (A+B)</b>	<b>1,876,900</b>

### C. MEANS OF FINANCE

S. No	PARTICULARS	UNIT	UNIT RATE	AMOUNT Rs.
1	Term loan	%	75	1,407,675
2	Own contribution	%	25	469,225
3	<b>Subsidy entitlement @36% from NABARD under AC &amp; ABC Scheme</b>			<b>675,684</b>

## D. PROJECTED PROFITABILITY

### 1. FEEDING SCHEDULE PER DAY

S. No	Feeding Stuff	Cost/Kg.	Lacation Period		Dry Period	
		Rs.	Quantity Kg.	Amount Rs.	Quantity Kg.	Amount Rs.
1	Concentrate feed	28	5	140	2	56
2	Green fodder	-	25	Home grown	20	Home grown
3	Dry fodder	10	4	40	5	50
			<b>Total</b>	<b>180</b>		<b>106</b>

### 2. Lactation/ Dry chart

PARTICULARS		I Year	II Year	III Year	IV Year	V Year
I.	Lactation Days					
First batch of Animals						
Nos. of animals		6	6	6	6	6
Lactation days per Desi cow per year		256	285	282	285	284
<b>Sub Total-A</b>		<b>1,512</b>	<b>1,710</b>	<b>1,692</b>	<b>1,710</b>	<b>1,704</b>
Second batch of Animals						

Nos. of animals	6	6	6	6	6
Lactation days per Desi cow per year	150	240	242	242	244
<b>Sub Total-B</b>	<b>900</b>	<b>1,440</b>	<b>1,452</b>	<b>1,470</b>	<b>1,464</b>
<b>TOTAL (A+B)</b>	<b>2,412</b>	<b>3,150</b>	<b>3,144</b>	<b>3,162</b>	<b>3,168</b>
<b>II. Dry Days</b>					
First batch of Animals					
Nos. of animals	6	6	6	6	6
Dry days per Desi cow per year	109	80	83	80	81
<b>Sub Total-A</b>	<b>654</b>	<b>480</b>	<b>498</b>	<b>480</b>	<b>486</b>
Second batch of Animals					
Nos. of animals	6	6	6	6	6
Dry days per Desi cow per year	0	120	120	120	120
<b>Sub Total-B</b>	<b>-</b>	<b>750</b>	<b>738</b>	<b>738</b>	<b>726</b>
<b>TOTAL (A+B)</b>	<b>654</b>	<b>1,230</b>	<b>1,236</b>	<b>1,218</b>	<b>1,212</b>

### 3. Projected Profitability

(Value in Rs.)

S. No	PARTICULARS	UNIT	UNIT	RATE QUANTITY	I Year	II Year	III year	IV Year	V Year
I.	<b>Income</b>								
1.	Sale of Milk Total milk production (Total lactation days * milk yield per day/animal)	Ltrs.			19,296	25,200	25,152	25,296	25,344

	Selling price of milk per ltrs	Rs.			70	70	70	70	70
	Income from milk Rs.				1,350,720	1,764,000	1,760,640	1,770,720	1,774,080
2.	Sale of culled animals				22,752	75,600	105,840	151,200	151,200
3.	Sale of vermicompost	Ton	4,000	60	120,000	240,000	240,000	240,000	240,000
4.	Selling of cow urine	Ltrs.	20	1,728	17,200	34,560	34,560	34,560	34,560
	<b>TOTAL (A)</b>				<b>1,510,672</b>	<b>2,114,160</b>	<b>2,141,040</b>	<b>2,196,480</b>	<b>2,199,840</b>
<b>II.</b>	<b>Expenditure</b>								
	Feed during lactation period	/animal	180	3,150	434,160	567,000	565,920	569,160	570,240
	Feed during dry period	/animal	106	1,230	69,324	130,380	131,016	129,108	128,472
	Cost of cultivation of green fodder	acre/annum	10,000	2	20,000	20,000	20,000	20,000	20,000
	Cost of vermicompost production @25% of sales				30,000	60,000	60,000	60,000	60,000
	Electricity, water	Rs./month	2,000	12	24,000	24,000	24,000	24,000	24,000
	Unskilled workers	/annum	100,000	2	200,000	200,000	200,000	200,000	200,000
	Veterenery aids	/animal	1,500	12	18,000	18,000	18,000	18,000	18,000
	Insurance	%	5		60,500	60,500	60,500	60,500	60,500
	Transportation	Rs./month	5000	12	60,000	60,000	60,000	60,000	60,000
	Marketing expenses @ 1% total sales				13,582	19,027	19,300	19,840	19,840
	<b>TOTAL (B)</b>				<b>929,566</b>	<b>1,158,907</b>	<b>1,158,736</b>	<b>1,160,608</b>	<b>1,161,052</b>
<b>III</b>	<b>NET INCOME</b>	<b>TOTAL (A-B)</b>			<b>581,106</b>	<b>955,253</b>	<b>982,304</b>	<b>1,035,872</b>	<b>1,038,788</b>

#### E. FINANCIAL ANALYSIS

(Value in Rs.)

PARTICULAR	I Year	II Year	III Year	IV Year	V Year
<b>CAPITAL COSTS</b>	<b>1,809,000</b>				
Recurring costs	929,566	1,158,907	1,158,736	1,160,608	1,161,052
<b>TOTAL COST</b>	<b>2,738,566</b>	<b>1,158,907</b>	<b>1,158,736</b>	<b>1,160,608</b>	<b>1,161,052</b>

Benefit	1,510,672	2,114,160	2,141,040	2,196,480	2,199,840
Depreciated value of buildings @ 10%	54,600	49,140	44,226	39,803	35,826
Depreciated value of plant & machinery @ 15%	33,450	28,432	24,168	20,542	17,461
<b>TOTAL BENEFIT</b>	<b>1,598,722</b>	<b>2,191,732</b>	<b>2,209,434</b>	<b>2,256,865</b>	<b>2,253,127</b>
Net Income	-11,39,844	1,032,825	1,050,698	1,096,257	1,092,075
Discounting factor @ 15 %	0.87	0.76	0.66	0.57	0.50
NPV cost @ 15% DF	23,81,362	876,300	761,888	663,581	577,248
NPV benefits @ 15 % DF	1,390,193	1,657,264	1,452,739	1,290,370	1,120,202
<b>NPW @ 15% DF</b>	<b>1,65,389</b>				
<b>BCR @ 15 % DF</b>	<b>1.31</b>				
Discounting factor @ 60%	0.63	0.39	0.24	0.15	0.10
NPV cost @ 60% DF	17,11,604	452,698	282,895	177,095	110,727
NPV benefits @ 60 % DF	999,201	856,145	539,413	344,370	214,875
NPW @ 60% DF	218,987				
<b>BCR @ 60 % DF</b>	<b>1.080</b>				
<b>IRR %</b>	<b>54.73</b>				

#### F. TERM LOAN REPAYMENT

Rate of Interest - % per annum : 10

Opening balance of Term loan : 1,407,675

(Value in Rs.)

Year	Loan Outstanding	Net Income	Principal	Interest	Total Repayment	Net Surplus	DSCR
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1	1,407,675	581,106	281,535	140,767.5	422,302.5	158,804	1.37
2	1,126,140	955,253	281,535	112,614	394,149	561,104	2.42
3	844,605	982,304	281,535	84,461	365,996	616,309	2.68
4	563,070	1,035,872	281,535	56,307	337,842	698,030	3.06
5	281,535	1,038,788	281,535	28,153.5	309,689	729,100	3.35
						<b>Average</b>	<b>2.58</b>