

**DPR** | DETAILED  
PROJECT REPORT

# JAVAGAL COIR CLUSTER

JAVAGAL, HASSAN DISTRICT

*Submitted to*  
**COIR BOARD**

**Ministry of MSME, Government of India**

*Submitted by*



**Foundation for MSME Clusters**  
(ISO 9001:2008 Certified Organisation)

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## LIST OF ACRONYMS

1	<b>BIS</b>	<b>Bureau of Indian Standards</b>
2	BEP	Break Even Point
3	CCRI	Central Coir Research Institute
4	CFC	Common Facilities Centre
5	CGTMSE	Credit Guarantee Trust for Micro, Small and Medium Enterprises
6	CICT	Central Institute of Coir Technology
7	CLCSS	Credit Linked Capital Subsidy Scheme
8	CUY	Coir UdyamiYojana
9	CVY	Coir VikasYojana
10	DIC	District Industries Centre
11	DRDA	District Rural Development Agency
12	DPR	Detailed Project Report
13	FICEA	Federation of Indian Coir Exporters Association
14	FI	Financial Institution
15	IRR	Internal Rate of Return
16	KSFC	Karnataka State Coir Federation
17	KVIC	Khadi& Village Industries Commission
18	MSME	Micro Small & Medium Enterprises
19	MoMSME	Ministry of Micro Small & Medium Enterprises
20	MSMEDI	Micro Small Medium Enterprise Development Institute
21	MDA	Market Development Assistance
22	NABARD	National Bank for Agri& Rural Development
23	NMCP	National Manufacturing Competiveness Program
24	NPV	Net Present Value
25	NH	National Highway
26	NTDC	National Technology Development Corporation
27	ROCE	Return on Capital Employed
28	SFURTI	Scheme of Fund Under Rejuvenation of Traditional Industries
29	TI	Technical Institution
30	TL	Term Loan
31	EC	Working Capital
32	PC & MF	Project Cost and Means of Finance
33	UPS	Uninterrupted Power Supply

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## PART - I

### CHAPTER – 1 CLUSTER PROFILE

#### 1.1 Background

SFURTI is a cluster based scheme to promote and strengthen the traditional village industries. The scheme was commenced in the year 2005 and was initiated by the ministry of MSME, Govt. of India.

Under the scheme so far 96 Khadi and village industries and 26 coir clusters have been approved and are under various stages of implementation. In the year 2014 the guidelines of SFURTI have been revamped and it is expected to cover 800 clusters under 12<sup>th</sup> five years plan.

Coir Board with the help of Commissioner of Industries, Government of Karnataka has identified several coir clusters and entrusted the task of preparation of DSRs to EDII, Ahmedabad. The DSRs for have been approved by subsequent Scheme Steering Committee meetings for DPR preparation. One of the clusters is Javagal cluster of Hassan District. M/s Foundation for MSME clusters has been appointed as the Technical Agency and entrusted with the task of preparing the DPR.

The present report pertains to the Detailed Project Report along with action plan for Soft Interventions and Business Plan for Hard Interventions.

#### 1.2 Regional Setting of cluster

Javagalvillage is located in the Arsikere taluk of Hassan district in Karnataka. There are 7 major defibering units producing around 1312 tonnes of fibre per day with an aggregate turnover of Rs.210 lakhs. These units are directly employing 140 artisans and providing indirect employment to at least 360 people through forward and backward linkages.

#### 1.3 Location

Javagal is located at a distance of 40 kms from the district capital of Hassan and 216 kms from the state capital of Bangalore.

The nearest railway station is at Arsikere town and it is also well connected by road.

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Javagal is surrounded by Belur Taluk towards west, Kadur Taluk towards North, Chikmagalur Taluk towards west, Chickmagalur Taluk towards west.

Hassan district where Javagal is located, is in the south eastern part of Karnataka and is bounded by Tumkur, Chickmagalur, Davanagare and Bellary and is 194 kms away from the state capital of Bengaluru. The District was formerly a part of Malanadu area and due to deforestation; it has become a separate Semi-Malanad District. Like most of the other districts in the State, this district also derives its name from the Head Quarter town of Hassan. The geographical area of Hassan district is 6,845 Sq.Kms, which accounts to 3.58 per cent of the state. The district is one of the smaller districts in Karnataka State.

NH48, NH206 passes through Hassan district through a length of 246 Km. The district has 15322 Km of surface roads. The nearest port is Mangalore port and the nearest airport is Bengaluru international airport (168 kms).

(Source: <http://www.onefivenine.com/india/villag/Hassan/>)

## 1.4 Evolution of the Coir Industry in the District

Hassan has the second largest coconut area in the State. Nearly 14% of area under coconut cultivation in Karnataka is from this district. The district comprises of 8 taluks, of which Arisekere and Channarayapatna were selected under the study as cluster spread is in these blocks. Of the 8 Taluks in Hassan, Arisekere and Channarayapatna contributes maximum towards the coconut production in the district (almost 81%). Average holding size as per survey findings is 0.74 Ha. Coconut palm density for the district is found to be 141 per Ha. whereas the bearing palm density is 106 per Ha.

Around 40 years ago *Kurl-on* has set up its fibre unit as back ward integration for its mattress making unit in Arisekere town. The first coir unit in Arisekere Taluk was set up during 1970s such as Siddeswara and Renuka coir industries. The earliest units set up however, were not survived as the industry is quite sensitive to cost fluctuations and environmental factors.

However with the success of Kurl on and some of the workers from it have started their own defibering, curled yarn and activated carbon units in various villages of the cluster which is apart from the unit established by Karnataka State Coir Development Corporation. Even the Karnataka Coir Federation also started their units by early 2000.

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In the year 2000-02, most of the units were shut down due to an outbreak of disease in the coconut plantations. The industry has recovered since then and by 2014, the production has increased by many folds and today the fibre production has reached 40000 MT per annum.

## 1.5 Demography and growth Trends in cluster region

Javagal village has a population of 7809 of which 3909 are males while 3900 are females as per Population Census 2011.

Population of children with age 0-6 is 754 which make up 9.66 % of total population of village. Average Sex Ratio of Javagal village is 998 which are higher than Karnataka state average of 973. Child Sex Ratio for the Javagal as per census is 862, lower than Karnataka average of 948.

(Source: <http://www.census2011.co.in/data/village/615452-javagal-karnataka.html>)

### Growth trends at district level

There are 78 factories, 16 industrial estates and 10,883 MSME units with investments of Rs.1975 million and 47,307 workers employed in these.

The prominent sectors are in the realm of food processing and tourism.

SEZs: Hassan district has established SEZs in textiles, food processing, pharma and electronic hardware.

The details of existing micro, small & artisan enterprises in the district are as follows:

Sl.No	Type of Industry	Number of Units	Investment (Lakh Rs.)	Employment
1	Agro Based, Food & Beverage	2013	6985.41	11172
2	Cotton textile	192	452.00	438
3	Woollen, silk & artificial Thread based clothes. Garments	1792	2322.14	5637
4	Jute & jute based	-	-	-
5	Wood/wooden based furniture	2020	2708	7031
6	Paper & Paper products, printing	234	696.61	1050

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7	Leather based	333	378.74	1420
8	Chemical/Chemical based	360	939.28	1715
9	Rubber, Plastic & petro based	223	589.9	991
10	Mineral based	214	2334.15	1433
11	Metal based (Steel Fab.)	86	346.56	402

(Source: District Industry Centre, Hassan)

There is an increasing trend in the number of industrial units being registered in Hassan (across large, medium and small industries) after a short lull between 2006 and 2009, as shown in the figure:

Year	Number of Units Registered	Employment	Investment (Lakh Rs.)
2004-05	467	2139	2403
2005-06	562	2295	3823
2006-07	485	2296	2823
2007-08	361	3722	4402
2008-09	290	2038	2560
2009-10	544	1604	1127
2010-11	642	1541	1872
	<b>12503</b>	<b>51997</b>	<b>25603</b>

(Source: District Industry Centre, Hassan)

## Coir Industry in Hassan District

Coir, the agro-based rural industry, provides sustenance to about ten thousand families in Hassan of which 80% is women from the weaker section.

The concentration of coir industry in the District was due to the abundant availability of raw material, skilled labour and natural facilities of backwaters and lagoons within the easy reach. There are nearly 100 coir industrial establishments and most of them are micro/cottage household units engaged in the processing and manufacture of coir and coir products.

SL No	Year	Area(Ha)	Production(Lakh Nuts)	Productivity(Nuts/Ha)
1.	2005 - 2006	61775.00	2564.94	4153
2.	2006 - 2007	61788.00	2565.47	4153
3.	2007 - 2008	61805.00	2968.79	4804
4.	2008 - 2009	61880.00	3471.67	5611
5.	2009 - 2010	62256.00	4426.51	7111

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6.	2010 - 2011	62390.00	4040.12	6476
7.	2011 - 2012	62575.00	6221.56	9943
8.	2012 - 2013	63056.00	6208.83	9847
9.	Average Production in the Year group(2000-13) :	60055.23	3454.27	5752

Source: [www.coconutboard.gov.in](http://www.coconutboard.gov.in)

## 1.6 Human Development Aspects at cluster region

- Javagal village has higher literacy rate compared to Karnataka. In 2011, literacy rate of Javagal village was 81.98 % compared to 75.36 % of Karnataka.
- In Javagal Male literacy stands at 87.70 % while female literacy rate was 76.34 %.
- Average literacy rate of Hassan in 2011 was 76.07 (an increase from 68.63 in 2001)
- Sex ratio is also commendable with 998 females per 1000 males.
- HDI of Javagal stood at 0.54119 according to Karnataka state Human Development Report 2005 and this has also improved significantly as shown:

Si No	Name of the District/State	HDI			GDI		
		1991	2001	% change	1991	2001	% change
1.	Hassan	0.519	0.639	23.12	0.507	0.630	24.26
2.	Karnataka	0.541	0.650	20.14	0.525	0.637	21.34

(Source: Government of Karnataka (2006) Karnataka Human Development Report 2005)

## 1.7 Socio Economic aspects

According to the Dr. Nanjundappa High Power Committee on Regional Imbalances Redressal Report of Karnataka State, Arsikeretaluk has been considered as one of the backward taluks in Hassan district. Per capita income of the district is Rs 19,277 .The percentage of BPL population is 11.55%.

Majority of the people are Hindus such as, Lingayath, Vokkaligas, and Edigs. The sub clusters to be targeted have a significant SC population.

The income of major unit holders ranges between Rs. 20000 to 30000 per month, whereas for artisans it is Rs. 300 to 400 per day if skilled and Rs.150 to 200 per day for semi/unskilled.

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(Source:<http://www.census2011.co.in/data/village/>)

## 1.8 Key Economic Activities in the district

The major industries in Hassan are of textiles, pharma, dairy, electronic hardware, IT and ITES with a number of SEZs established in these sectors. The region also has a huge scope for food processing industries and is recognized as an agri export zone. Tourist and religious centres such as Belur, Halabeedu, Ramanathapura, Gorur, BisleGhat, and Shravanbelagola are also aplenty here.

There is 3,93,500 hectares of land under agriculture. Coffee, Black Pepper, Potato, Paddy and Sugarcane are the major agricultural crops, Horticulture is also prominent in the area with extensive plantations of Coconut, Areca nut, Cocoa and Oil palm as well as spices , vegetables, flowers and fruits.

(Source: [bounteouskarnataka.com/.../DistrictProfile-Hassan.pdf](http://bounteouskarnataka.com/.../DistrictProfile-Hassan.pdf))

## 1.9 Infrastructure

**Power:** While power generation is handled by various organisations like NTPC, KPCL, etc.; power transmission is efficiently managed by Chamundeshwari Electricity Supply Corporation Ltd. The district has no major power generation units.

**Water:** Cauvery, Hemavathi and Yagachi rivers are flowing in this district. Hemavathy reservoir at Gorurare the main dam while Yagachi and Vatehole are the other two small reservoirs in the district. The ground water level is low.

**Education:** Hassan has 2998 primary schools, 508 High schools and 149 junior colleges. In higher education segment, the district has 5 engineering colleges, 2 medical colleges and 3 polytechnics besides 15 general colleges. The district has 274 public libraries.

**Health:** The district has 98 Primary Health Centres, 8 Allopathic Hospitals and 39 private hospitals. Dispensaries and drug shops are also available in plenty in the district. The district has been the centre for various healthcare initiatives at Government level like TB control programme, polio immunization programme, etc.

(Source: [bounteouskarnataka.com/.../DistrictProfile-Hassan.pdf](http://bounteouskarnataka.com/.../DistrictProfile-Hassan.pdf))

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## CHAPTER 2

### CLUSTER PRODUCT AND PRODUCTION PROCESS

#### 2.1 Product Profile:

The main activity in cluster is defibering in order to produce fibre, curled yarn and ropes using fully or semi-automated machinery. They also produce pith as a by-product but its utilization is minimum and it is sold to nurseries and manure producing agents.

#### 2.2 Production Process

**Raw material:** Around 20,000 husks are used per day per unit for production of fibre per unit. This is procured from the husk merchants at the rate of Rs.500-600 for 1000 husks who in turn collect the produce of the local farmers .

**Defibering:** There are 7 defibering units that produce fibre, curled ropes and pith as a by-product. For this process, motorized machines with flat beater arms, operating inside steel drums are made use of. Separation of the bristle fibers is done by hand or in a machine consisting of a rotating drum fitted with steel spikes. Separation of the mattress fibers from the pith is completed by washing the residue from the de-fibering process and combing through it by hand or tumbling it in a perforated drum or sieve. The clean fibers are spread loosely on the ground to dry in the sun.

**Finishing:** Bristle fibres will be further processed are rolled and tied into loose bundles for storage. Major units are using manual operated press to create compact bales. All the units are making use of semi-automated bundle presser for creating bundles.

Several of the household units and women SHGs are making use of traditional charkas for yarn spinning but productivity of these are low, i.e. about 25kgs per day.

#### Analysis of production Process:

- Husk price can fluctuate widely with seasons – it has doubled since last year due to deficient rainfall and production. This adversely affects net production and breakeven costs.
- There is excess availability of pith and all unit owners are finding the dumping of this pith a huge problem. Almost 3 tonnes of pith are produced for every tonne of fibre produced, of which only 10-15% is being utilized currently for manure.

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## 2.3 Value Chain

### 2.3.1 Husk to Fibre (output of 1 MT fibre)

Activity	Present Value Chain	
	Cost (In Rs.)	(Cumulative)
12,000 husks/day at Rs 500/1000 husks	6000	6000
Defibering-12,000 husks for 1 tonne of fibre	2500+5000+1000 (labor + Electrical/diesel+ misc. charges)	14,500
Selling price at Manufacturer (10% on cost of production)	1450	15,950
Yarn making Charges from 1 ton fibre (20 % wastage thus 800 KG of yarn)	7500	23450
Selling price of 800 KGs of Yarn (10% on cost of production)	2400	25850

### 2.3.2 Pith Block Making value chain (Post CFC)

Activity	Value chain post CFC	
	Cost (In Rs.)	Cumulative
14,000 kg pith (Requirement of 1 machine/day)	5000	5,000
Screening, Cleaning, Dyeing, Processing + labor+ Misc. Charges	42,000 +12,500+ 2,500	62,000
Sale of 4800 kg pith block per machine at Rs. 16/kg	14,800 (24%)	76,800

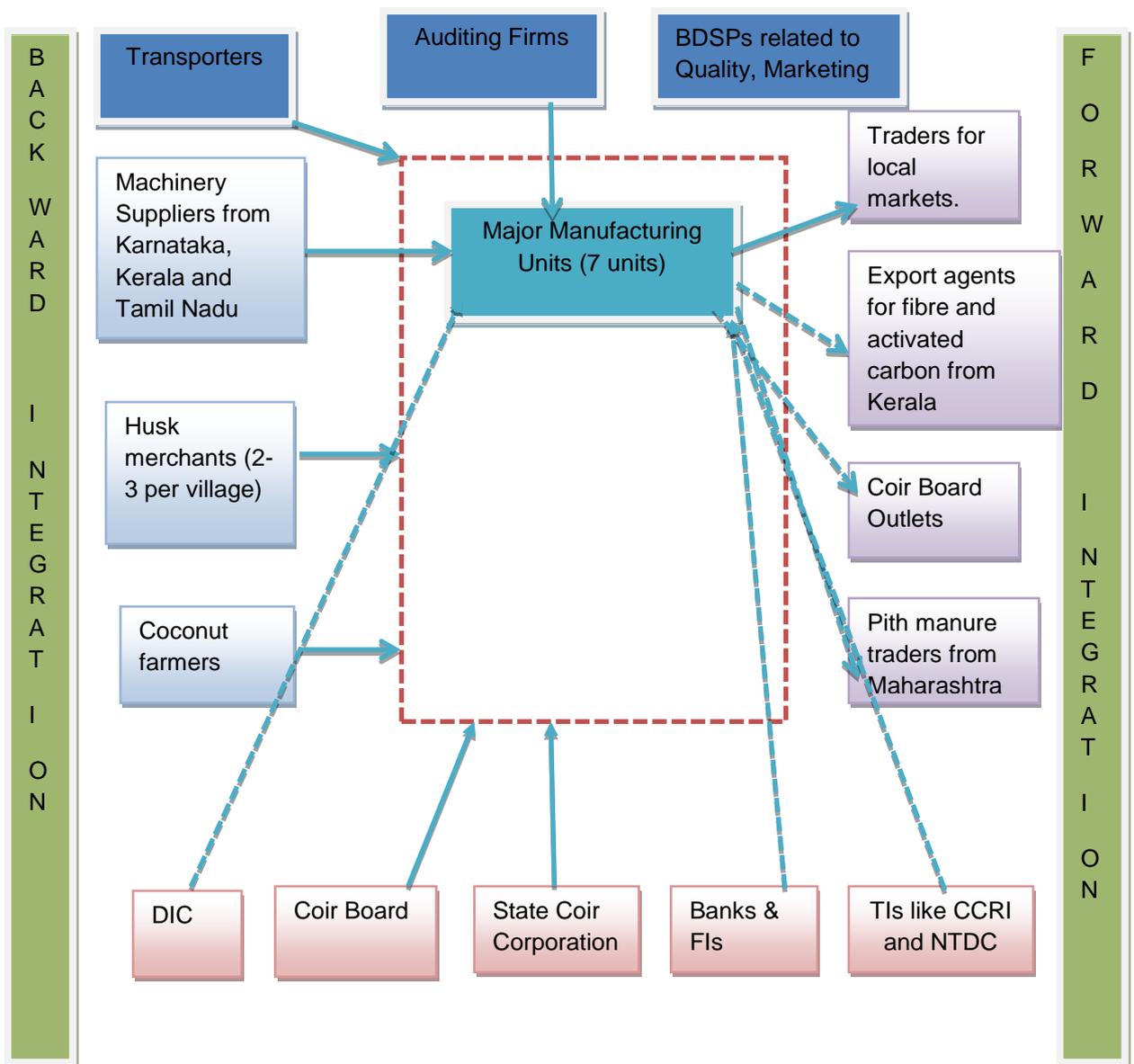
#### Analysis of value chain

*At present, due to the high price of good quality husks and involvement of middlemen in the marketing process, the margins for fibre and curled yarn is very low and reaching a breakeven point can get difficult.*

*Pith is an untapped resource that need not be bought as it is available in plenty with all units. Thus, manufacture of pith blocks at a common facility centre may allow them to realize higher margins than that gained through their main manufacturing processes.*

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## 2.4 Cluster Map



- Index:
1. Dotted square box around core cluster firms indicate poor inter-firm linkage
  2. Dotted arrow represents weak linkages
  3. Solid arrow represents strong linkages
  4. Lack of arrow represents absence of any linkages
  5. Double sided arrow represents two way linkages

## 2.5 Principal Stakeholders

There are around 7 major defibering and curled yarn units including major and minor units. There are 2-3 husk merchants in every village of the taluk. Some of the fibre manufacturers also supply their curled ropes to *Kurl-on* mattress ltd that has a unit in Arsikere town. Other than the above, house hold units and workers in the major units

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have also been considered as principle firms. Linkage among the various coir producing villages in the taluk is good while as cluster level it is weak.

## **Backward linkages**

The raw material suppliers are coconut farmers and husk merchants who supply minor and major units with husk, most of which is from local plantations. Some units also procure a small percentage from Kerala. The common machinery put to use are buster, beater and screener for defibering, 2 ply automatic yarn spinning machine or charkas for spinning and mat frames for mat making. These are supplied by machinery suppliers from Tamil Nadu, Karnataka and Kerala. At the pith processing unit, machinery was fully imported from Mexico.

## **Forward Linkages**

The coconut fibre is mainly sold to local traders who further sell it to markets in Arsikere and Bangalore. Some of the bigger defibering units also sell their products to export agents who supply to China. Value added products like mats and trays from the Karnataka Coir Federation units are sold solely at their outlets around the state.

## **Other Support Institutions**

Coir Board provides technical support to these units like sharing ideas on value addition of the products and imparting skill development trainings. The units also avail of subsidies meant for village industries from the Khadi or Coir Board. For availing credit, units generally approach Canara bank and State Bank of Mysore.

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## CHAPTER 3

### MARKET ASSESSMENT AND DEMAND ANALYSIS

The coir manufacturing industry is producing coir mats, matting and other floor coverings, which was started in India on a factory basis, over a hundred years ago when the first factory was set up in Alleppey in 1859 by the Late Mr. James Darragh, an adventurous Irish born American national. Enterprising Indians followed the trail blazed by this foreigner. India accounts for more than two-thirds of the world production of coir and coir products. Amongst the coconut growing countries of the world India ranks 3rd after Philippines and Indonesia with 1.2 Million hectares of coconut growth and an average production of 6620 Million nuts.

Indian coir industry is an important cottage industry contributing significantly to the economy of the major coconut growing states and Union Territories of India, i.e., Kerala, Tamilnadu, Andhra Pradesh, Karnataka, Maharashtra, Goa, Orissa, Assam, Andaman and Nicobar, Lakshadweep, Pondicherry, etc. Modern machines were introduced into the coir industry in the late 1960's. About 5.5 lakh persons get employment in this industry. India exports around Rs.1000 crores of coir and coir products annually. Coconut husk is the basic raw material for coir products. Coir or Cocos - Nature's wonder Fibre is extracted from the protective husk of the Coconut.

#### 3.1 Coir Products and their applications

A score of varieties/grades of coir yarn are produced and each variety is associated with certain specific characteristics, used for industrial, agricultural and domestic applications. The exhaustive range of floor coverings, hardwearing door mats, durable Mattings and rugs, crush-proof pile carpets, heavy flowered Mourzouks, etc. in a variety of dimensions enhance the elegance of the place of choice. These products are either hand-woven by expert craftsmen or are aesthetically manufactured on modern mechanised looms.

Other products of coir are, Geo-Textiles which are inexpensive, quick and effective in Civil Engineering practices. Rubberised coir, a blend of coir and latex, offers mattresses and cushioning for restful comfort and Pith which is now being widely used in agriculture as a natural hydroponic growing medium.

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## 3.2 Domestic and Global markets for coir

The domestic market for coir products is currently estimated at Rs 2,000 crore and this is expected to grow to Rs 3,500 crore by 2017. The state of Kerala is responsible for about 80% of India's coir market. The coir industry in Kerala employs almost 3.5 lakh people. Over 50% of the coir fibre produced annually throughout the world is consumed mainly in India.

The exports of coir and coir products from India during 2014-15 have reached 1630.30 crores which is an increase by Rs. 154 crores from previous year. During the year 2014-15, 6, 26,666 MT of coir and coir products were exported from the country as against 5, 37,040 MT exported during preceding year. The increase in quantity and value works out to 16.7% and 10.5% in comparison with 2013-14. Coir pith, fibre, handloom mats, coir rope, curled coir, coir rugs and coir mats registered a growth ranging from 12 to 45%, coir yarn tufted mat, power loom mat, handloom matting, and coir geo textiles and rubberised coir recorded decline ranging from 5 to 51%.

China is the major importer of coir fibre for manufacturing mattress boards for their domestic requirement. They are focussing further to import more coir pith/ grow bags for horti/ agriculture requirements. The coir handloom products export has shown marginal increase by quantity but no increase by value comparing last year.

Coir fibre with export earnings of Rs, 419.23 crores constituted 26% of total export of coir products from the country. Similarly coir pith with an export of Rs. 432.95 crores constituted to 27% of total exports. All other value added items put together constitutes 47% of total exports. During the year 2014-15 coir and coir products from the country were exported to 115 countries around the globe. China topped the importing countries with 28.6% in value and 39% in quantity. USA emerged as the second largest importer of coir from India with a share of 21.3%. Coir exports from India now have new markets such as Russia and Latin America.

(Source: website of Coir Board)

## 3.3 Programs to promote Coir Products

Programs for coir industry aims at increased utilisation of coconut husk for production of coir fibre, growth of the domestic market, strengthening of research and development to find out new uses of coir fibre especially in the areas of geo-fabric, acquiring of new technology like Vinyl backed coir products. Mechanisation in all areas of production like

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the fibre, spinning and weaving are implemented in a phased manner without affecting employment to make Indian coir products competitive in the export market. Modernisation of coir units has been propelled by providing incentives for installation of modern equipment's to make the coir industry more productive and labour friendly. Some of the common attributes are it provides excellent insulation against temperature and sound.

## 3.4 Major associations involved in coir promotion

FICEA is the Confederation of Coir and also allied products exporters of India. FICEA, under its single umbrella, has to its credit all the Exporter Associations of coir from the country namely- the Indian Coir Exporters Chamber, Indian Coir Association, Coir Shippers Council, Travancore Coir Mats and Mating Manufacturers Association and The Coir Pith and Allied Products Manufacturers and Exporters Association, which exports about 1000 crores worth of Coir and Coir Products from the country. It voices the problems and difficulties being faced by the coir industry in general and the exporters in particular.

(Source: Indian Mirror.com)

## 3.5 Analysis

- *Cluster firms never capitalised, the growing export market for coir yarn and mats, which are its major products. All the firms are depending only on domestic traders who in turn by exporting are making major profits. There is a need for cluster firms to opt for direct export market.*
- *With the existing production process, cluster firms are capable of making pith, for which no conscious efforts were made. In fact cluster firms can opt for a Common Pith making unit, if economics of scale for individual units is adverse.*
- *Linkage of cluster firms never gone beyond coir board; it is high time for at least major manufacturers to be the members of FICEA, which can facilitate in direct marketing.*
- *There is a huge untapped market in countries like Russia and Latin America for coir mats and pith, which cluster firms need to tap. However for any exports firms need to understand international quality norms and upgrade their facilities accordingly.*

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## CHAPTER - 4

### SWOT AND NEED GAP ANALYSIS

#### 4.1 Cluster SWOT

The SWOT analysis of the Cluster is based on the status of the cluster, production process and market analysis.

##### 4.1.1 Strength

- Abundance of raw material
- Presence of state coir corporation and federation which have technical knowhow and experience
- Huge market demand for the coir, coir pith products.
- Established local market channels
- Most of the units are having mechanised defibering and curling machines.
- There is no shortage of labour as the coir industry is well established in the area.
- Availability of requisite logistics and physical infrastructure facilities

##### 4.1.2 Weakness

- Limited or nil utilization of pith.
- Limited efforts on value added products like matting, pith block making and pith manure to capture wider markets.
- Lack of proper infrastructural facilities for mat making, pith block/ manure making, resulting in heavy dependency on one or two products.
- Limited skill sets of workers with reference to advanced pith product making, yarn making and mats and mattings making
- Poor linkage with banks and FIs
- Limited awareness on Government Schemes like Coir UdyamiYojana, NMCP, CLCSS, and CGTMSE etc.
- Limited market skills with specific reference to export market procedures
- Lack of awareness on quality standards on coir industry
- Limited entrepreneurial skills among unit holders and artisans
- Absence of linkage with support institutions mainly to artisans
- Linkage with BDS providers is absent

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## 4.1.3 Opportunities

- Growing market demand for eco-friendly value added coir products like pith blocks, manure etc.
- Growing demand for curled coir from mattress making sub sector
- Huge local demand for mats and global demand for mattings
- Presence of latest technologies for pith blocks manufacturing, whereby lignin content is removed using R.O system water.
- Presence of coir specific Technical Institutions like CCRI
- Availability of advanced machinery in spinning, mat making and pith block making in the market at reasonable prices
- Presence of sector specific promotional agencies like Coir Board, CCRI, FICEA to help in the areas of grant, soft loans, market promotion and skill development.
- Coir Board is ready to support with cluster programme
- Young entrepreneurs are eager to enter the coir industry.
- The climate is conducive for coir pith production since the area has only two months of rain in an year

## 4.1.4 Threats/ Challenges

- Coconut plantations are highly prone to pests and crop diseases.
- There is high degree of competition in the market for value added products in coir.
- Machinery required for pith processing is quite expensive and is mostly imported.
- Best quality pith blocks production is water intensive, requiring the cleanest water, preferably R.O treated.
- Industry is adversely affected by frequent fluctuations in husk prices.

## 4.2 Need Gap Analysis

### 4.2.1 Technology

There are very limited facilities for value added products like pith block making and manure making mainly due to their capital intensive nature, which individual firms cannot afford. Even the mat and matting facilities are mainly confined to units run by corporation and federation. Lack of finance and awareness are the major issues for restricted product mix. Thus there is a need to establish pith block and manure making units in all the sub clusters. Similarly there is also a need to upgrade/ establish 2 & 3

# Javagal Coir Cluster

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ply yarn making, mat and matting making based on the requirement and interest among the sub cluster groups.

## 4.2.2 Marketing

Fibre and curled ropes are provided to traders and export agents and there is no direct marketing of products except to the *Kurl-on* outlet. Karnataka Coir Federation units are producing many value added products in comparison to private units, but they have very low market visibility and are available only at the federation outlets in the state.

Since there is a huge demand for pith blocks abroad, there is a need to organise training on market development. There is also a need to link with end users like KurlOn for curled rope, D Mart, Big bazaar, Metro for mats, ecommerce portals like Alibaba, Indiamart, Pepperfry, for sale of mats and mattings, yarn etc.

## 4.2.3 Finance

Canara Bank and State Bank of Mysore are the major banks approached for availing loans. There is a need to impart training on financial management and training to the unit owners by organizing EDPs. There is also a need to organise an awareness workshop on Public Support Schemes with the help of NABARD, KVIC, MSMEDI, and local DIC.

## 4.2.5 Quality

For 2 ply coir yarn made manually, the cluster firms are required to follow IS 14596 and for other coir products IS 2295 have been framed. There is also IS 1410: 2001 for coir ropes. Similarly there is an IS 11420 for coir mats. Even to make coir pith DOC.TXD 25 (1164), the standards are under making by BIS. Unless the cluster forms won't understand the specifications and standards of BIS, their chances of exporting and supplying to major market chains will be difficult. Thus there is a need to educate cluster firms on quality standards with the help of CCTRI through a training program.

## 4.2.6 Linkage with Institutions:

At present the cluster firms are having linkage only with Coir Board. There is a need to link them with CCTRI for quality skill up gradation, FICEA for export market promotion,

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MSME-DI for leveraging NMCP scheme, Banks not only to avail credit facility but also benefit under CGTMSE, DIC for EM registration and availing state schemes, NABARD to avail schemes like Rural Mart, UPNRM.

## 4.2.3 Suggested Market Plan for the Cluster

### PITH BLOCKS AND PITH MANURE



Coir pith blocks are generally exported in brick form, have caught on well as a soil conditioner and are also being used as a growing medium/substitute for peat moss. It is used for horticultural purposes, in greenhouses and also for commercial and domestic gardening. Pith compost is also a good source of organic manure and it has been successfully used in enhancing the productivity and yield of various agricultural crops.

The advantages of pith as a growing medium are:

- It has proven higher yields and is conducive for horticulture and floriculture.
- It is free from weeds and pathogens and is within safe EC and pH standards.
- It is free from all soil diseases.
- It offers high resistance to most root diseases.
- Ensures high oxygen levels for drainage.

**Demand for pith blocks:** Pith blocks are in huge demand globally, especially in Australia, European and Middle Eastern countries. Even locally and nationally, pith manure and pith blocks are demanded by various farmer societies, nurseries and agro traders. As there is ready demand for these products, familiarization with traders and export agents can be achieved through the buyer seller meets proposed under the soft interventions.

**Business model of CFC:** The estimated aggregate production of pith manure is 210 MT whereas for pith block it is 1.5 lakh nos. in optimal year of operation (3<sup>rd</sup> year). Concerned SPVs have already held discussions with local nurseries and those in Maharashtra, traders for supply of manure and blocks. The expected segment wise consumption of pith block and manure are given in the following tables:

# Javagal Coir Cluster

		Pith Manure		Expected consumption
		Potential Customers		
Market Channel	Local	1	Algundagi Agro services, Hubali, ,	100 MT
		2	Sri Nanjundeswara Nursery, Konanur	
		3	Kissan Agro Centre, BM Road, Hassan	
		4	Nandanam Nursery, Palaya	
		5	Sri Krishna Nursery, Chennarayapattana	
		6	Agri mart, Mysore	
	Pan India Level	1	K Shanti Seeds Pune	100 MT
		2	Krishna Agro services Nashik,	
		3	GEE ESS, Bombay	
		4	Green movers, Tamil Nadu	
	Export	1	SMS Exporters, Pollachi	50 MT
		2	Asian Coir products, Coimbatore	
		3	Shaa Pith Media Company, Pollachi	
		<b>Total</b>		<b>210 MT</b>

		Pith Blocks		Expected consumption( in lakh no's)
		Potential Customers		
Market Channel	Pan India Level	1	Jain Irrigation Systems Ltd, Maharashtra	0.5
		2	S.S Mehatha, Salem	
		3	Prakruthi Agro Cocopeat, Bengaluru	
		4	United Global traders, Mumbai	
		5	Harish coconut products pvt. ltd, Pollachi	
	Export	1	Mnidharma Biotech Pvt Ltd, Chennai	1.00
		2	Dutch plantin, Netherland	
		3	Kob and sons, Gudiyattam	
		4	Runver Exports, Chennai	
		<b>Total</b>		<b>1.5 lakhs</b>

## MATS

The cluster through its CFCs is estimated to produce 8600 Nos. of Mats, which has good demand in local markets. There is a good demand from super market chains. In

# Javagal Coir Cluster

In addition to super markets the private departmental stores and handloom and handicraft showrooms of Govt. and other Quasi-Govt. agencies are also potential buyers. SPVs are also contemplating to sell online by registering with portals like Trade India and India Mart.

Linkages can be established with these supermarket chains through coir mat traders as mentioned below:

		Coir Mats		Expected consumption (In Nos)
		Potential Customers		
Market Channel	Pan India Level		Gaurav Enterprises, Pune	6500
			S.P.P Enterprises, Madurai	
			Bharat Mat Bazar, Kholapur	
			Karnataka State Coir Co-op Federation Ltd.	
	Online		Come Trade	2100
			Tradeindia.com	
			Indiamart	
			Paytm	
		<b>Total</b>		8600

## MATTINGS

Mattings have good demand at government offices, banks, government guest houses and other institutions. Karnataka Coir Federation outlets in Hassan are also procuring coir mattings for the same. Besides this, there are several private traders and export agents who are supplying for hotels, stadiums, halls both in India and abroad. SPV already held discussions with few of the agents who are willing to buy, once the CFC is established.

		Coir Mattings		Expected consumption (In Sq. Meters)
		Potential Customers		
Market Channel	Local		Karnataka State Coir Co-operative Federation Ltd	9000
	Pan India Level		Bhadra Tarpaulin Industries, Bangalore	12000
			Nandi Tarpaulin Industries, Bangalore	
			MagudamImpex, Chennai	

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	<b>Total</b>	21000
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## CHAPTER – 5

### PROFILE OF THE IMPLEMENTING AGENCY

#### 5.1 Institutional Structure

The Karnataka State Coir Co-Operative Federation was established in the year 1961 with the main objective of developing coir industry through co-operative movement in Karnataka state. This Federation is having 72 primary coir Co-operative societies as its affiliated member societies. There are more than 17 production centre where in all coir products are manufactured apart from this as per the customer demand, new varieties of coir products are also manufactured and sold. The Federation is also having 14 sales outlets and 3 Mobile sales van wherein different types of coir mats, matting cushions, rubberized mattresses, pillows etc. are display and sold.

The Federation is having godown facilities for storage and security of coir products at Bangalore and Arsikere. The Main manufacturing activities are coir fibre (Brown fibre and green husk fibre). Mats Matting, Geo-textiles, Curled coir required for Rubberized coir industry and other value added products. The Federation has provided employment to about 1500 unskilled persons in rural area out of which 90% are women. The main objective of the Federation is as follows:-

- To assist and support primary coir Co-operative societies.
- To provide Training.
- Supply of raw- materials
- Marketing of coir products
- Technical guidance

#### 5.2 Governance Structure

The Organisational structure reflects Board of Directors, headed by President with 11 more members. At present Shri Hanumanta Gowda is the President of the federation. The Board of Directors is ably assisted by Office Staff headed by Managing Director.

#### 5.3 Operational Profile

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The regular operations are taken care of by office 48 member office staff, headed by Managing Director, who will not only take care of HO operations but also field offices and sales outlets. The federation has 5 sales managers, 15 Coir Supervisors of grade I and II based on their seniority, 2 depot managers, other than support staff.

## 5.4 Management Profile

The Board of Directors will take care of overall administration, while Managing Director along with staff will take care of the operational part. Each member of the federation has been entrusted with a specific task like marketing, input procurement, finance, training, raw material procurement, product/ quality upgradation.

The Board of Directors has been supported by Secretarial staff, which will take care of operational management at ground level, besides sales operations. Dr. H.R. Arun Kumar is present Managing Director of the Federation who has vast experience in textile and coir industry.

The Federation is having 16 production centres spread across the state, with each one headed by an official of Superintendent/ Supervisor rank person.

## 5.5 Financial Position

The Federation is aiming for 6 crore sales turnover during the current year. The Federation is having a Fixed Asset of Rs.2,54,50,670 and Paid-Up Share Capital is Rs.329.22 lakhs out of which, share capital from state government is Rs.329.00 lakhs.

#### 6.1 Project Rationale, frame work and strategy

The cluster has unique issues and also few common problems related to finance and cluster concepts, other than hard interventions. Thus there is a need to stress on soft interventions at the initial stage so as to improve the capacities of stakeholders, which will propel them to establish and run requisite hard interventions in a sustainable way. Bankers meets, exposure visits, Skill Development Programs, EDPs etc. are few of the major soft interventions planned.

Hard interventions will be addressed, only after the implementation of important basic level soft interventions as second phase preferably in the 3<sup>rd</sup> quarter of 1<sup>st</sup> year, so as to make the project a sustainable venture. Once the soft and hard interventions are completed based on the additional requirement, leveraging of other public support schemes may be planned. The strategy is given as below:

The cluster is having 7 units and more than 500 artisans who are mainly making fibre and 3 units are making curled rope. No emphases given for product diversification/ value addition like pith blocks, manure, 2 ply yarn, mat and matting making. This is resulting in limited income and market penetration. There is a need to organise SDPs on 2 ply yarn making, mat and matting, pith processing and composting.

Once the members were capacitated with SDPs, establishment of common facilities for pith block and pith processing, mat and 2 ply yarn making can be considered as midterm objective.

#### **Addressing common issues:**

The cluster firms are not aware of cluster concepts with limited inter member trust, limited awareness on government schemes like NMCP, CLCSSS, and CGTMSE etc. The linkage with banks and FIs are also limited. Lack of entrepreneurial capabilities is one of the reasons for their limited linkage with banks and limited market penetration. They also lack awareness on export policies and procedures. Thus there is a need to implement few soft interventions at cluster level like organising EDPs, awareness workshop on government schemes, interface with banks and exposure visit to Polachi in

# Javagal Coir Cluster

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TN. These interventions are planned in the first year itself and will be organised at Javagal, which is the central point for the cluster.

## 6.2 Project Objective

Major objectives of implementing SFURTI in the cluster are:

- To address the issues of each sub cluster based on their requirement, need and products manufactured, which ultimately strengthen the cluster per se.
- To improve the aggregate cluster production by introducing part mechanisation and upgradation of existing equipment.
- To improve the social capital of the cluster by capacitating the IA and SPV.
- To establish requisite Common Facilities for value added products
- To strengthen linkages of cluster firms with support institutions and relevant BDSPs so as to make the proposed interventions sustainable
- To encourage direct marketing by cluster firms instead of existing trader controlled sales
- To improve entrepreneurial skills of principal stakeholders so as to gain confidence to opt for export marketing besides improving linkages with banks and FIs

## 6.3 Focus Products/ Services

The major focus product in cluster is pith blocks and pith manure. 2 Ply Yarn, Mats and mattings are additional focus products for cluster.

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## Part – II

### CHAPTER – 7 PROJECT INTERVENTIONS

#### 7.1 Soft Interventions

The planned soft interventions are given as below:

##### 1. Javagal:

1. Training Programmes & SDPS				
1	2 week training program on pith composting (1 Nos)	Q2-Q3	60 house hold units, and workers in manufacturing units	60 artisans trained in Pith manure making
2	2 week training program on pith block making (1 Nos)	Q2-Q3	60 house hold units, and workers in manufacturing units	60 artisans trained in Pith block making
3	4 week training on 2 Ply yarn making ( 1No)	Q2-Q3	40 workers and major manufacturers	40 participants will be trained in yarn making
4	4 week training program on mats and mattings making ( 2 Nos)	Q3 – Q4	60 artisans and workers	60 artisans and workers trained in mats and matting making
2. Trust Building				
5	Launch workshop	Q1	100 cluster firms and artisans from 4 sub clusters	Information dissemination regarding launch of CDP in the cluster
6	Study tour to Polachi Cluster	Q2	30 manufacturers, artisans including members of IA/ SPV and CDA	Stakeholders to understand better self-governance mechanisms, direct marketing
7	Organising 2 EDPs	Q3	50 entrepreneurs	50 participants will adopt better management practices
3. Building Awareness on various Government Schemes				
8	Awareness Workshop on Government Schemes ( 2Nos)	Q2	100 manufacturers and household units	At least 100 firms get awareness on various schemes like PMEGP, NMCP, CGTSME
9	Interface with Bankers (3 Nos)	Q2-Q3	100 manufacturers and household units	100 stakeholders to understand banking procedures and documentation
4. Marketing				
10	Launching of cluster level Website	Q5-Q6	All cluster firms and artisans	For promotion of products through e-commerce

# Javagal Coir Cluster

11	Organising buyer-seller meet at Arisikere( 2nos)	Q5-Q6	80 member and non-member manufacturing units	Help the principle firms to understand buyer requirements and led to direct marketing.
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## 7.2 Hard Interventions

### 7.2.1 Pith Manure and pith block Unit

There are 7 units making fibre out of husk, on an average they are making 1 ton of fibre per unit, which means 3 tons of pith per unit. Thus per day total pith production is 20 to 30 Tons, which is sold without any value addition at a through away price of Rs. 600 per MT to farmers. If value additions like manure/ blocks are made out of this pith, the sale realisation may increase by 200 to 300% depending on the product.

Thus all the 7 units are seeking pith composting cum block making unit as common facility which can make 200 to 250 pith blocks per days. Total machinery cost is coming to Rs. 23.98 lakhs. One of the members of SPV is having 2.0 acres of land, which is sufficient for the CFC and he will give it on lease. The entire produce will be sold on common brand basis, since the output quantity is limited. **SPV will take care of market and production activities.**

#### Common value addition centre

The cluster firms are planning to establish a processing centre for making of 2 ply yarn, mats and mattings. AT present cluster firms are mainly depending on fibre for marketing which is a basic raw material with minimum profit margins. If cluster firms could able to make 2 ply yarn, their income may increase by 100% and turnover by 150%, thus make these units and depending artisans self-sufficient without seasonality.

2 Ply yarn making machine, mating making Anupam Power loom (1 Meter 2 Nos and 2 meters 2nos), door mat making accessories are the major machinery requirements. The facility will also have a quality testing lab which is essential for all pith making units. The entire machinery cost is coming to Rs. 56.44 lakhs.

All the products like pith manure, pith block, mattings, mats will be sold on common brand by the SPV.

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## CHAPTER – 8 SOFT INTERVENTIONS

Detailing of soft interventions as per the suggested guidelines is given as below:

### 8.1 Common interventions

#### 8.1.1 Proposed Program: Launch Workshop

**Course outline:** To make cluster stakeholders aware of the proposed activities and their expected outcomes.

**Duration:** Half day

**Batch Size:** 50 cluster firms including manufacturers, house hold units, and workers

**Trainers and their details:** Not applicable

**Training deliver method:** Not applicable

**Details of infrastructure required:** Excepting a venue, projector and LCD no other infrastructure is required

**Availability of Infrastructure:** Karnataka Coir Federation is having hall which will be used for organising the event.

**Cost of training program:**

Venue Cost	2000
Local TA/ DA	5000
Refreshments 50 persons @ Rs. 100 per head	5000
Photo & Video expenses, LCD & Projector Expenses	10000
Literature	3000
<b>Total</b>	<b>25,000</b>

#### 8.1.2 Proposed Program: Study tour to Polachi Cluster

**Course outline:** Stakeholders to understand better self-governance mechanisms, direct marketing

**Duration:** 2 days

**Batch Size:** 20 manufacturers, artisans including members of IA/ SPV and CDA

**Trainers and their details:** Not applicable

**Training deliver method:** Not applicable

**Details of infrastructure required:** Not applicable

**Availability of Infrastructure:** Not applicable

**Cost of training program:**

# Javagal Coir Cluster

<b>Organising Study tour to Polachi</b>	
travel expenses 20 SPV/ IA members other than CDA @ Rs. 1000 per head	20000
Lodging & Boarding for members @ Rs. 1000 per head x 1 days	20000
Misc. expenses incl. local transport	10000
<b>Total</b>	<b>50000</b>

## 8.1.3 Proposed Program: Interface with Bankers (3Nos)

**Course outline:** Stakeholders to understand banking procedures and documentation

**Duration:** One day

**Batch Size:** 40 manufacturers and household units

**Trainers and their details:** Not applicable

**Training delivery method:** Not applicable

**Details of infrastructure required:** Excepting a venue, projector and LCD no other infrastructure is required

**Availability of Infrastructure:** Karnataka Coir Federation is having hall which will be used for organising the event.

**Cost of training program:**

<b>Interface with bankers</b>	
Venue Cost	2000
Local TA/ DA	5000
Refreshments 40 persons @ Rs. 100 per head	4000
Photo & Video expenses, LCD, Projector	10000
Literature	4000
<b>Total</b>	<b>25000</b>

## 8.1.4 Proposed Program: Awareness Workshop on Government Schemes

**Course outline:** 100 firms get awareness on various schemes like PMEGP, NMCP, and CGTSME

**Duration:** One day

**Batch Size:** 50 manufacturers and household units

**Trainers and their details:** Not applicable

**Training delivery method:** Not applicable

**Details of infrastructure required:** Excepting a venue, projector and LCD no other infrastructure is required

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**Availability of Infrastructure:** Karnataka Coir Federation is having hall which will be used for organising the event.

**Cost of training program:**

<b>3. Awareness Workshop on Govt. schemes</b>	
Venue Cost	2000
Local TA/ DA	5000
Refreshments 50 persons @ Rs. 100 per head	5000
Photo & Video expenses, LCD & Projector	5000
Literature	3000
<b>Total</b>	<b>20000</b>

## 8.1.5 Proposed Program: E Commerce Portal

**Course outline:** For promotion of products through e-commerce

**Duration:** Continuous dynamic website

**Batch Size:** Not applicable

**Trainers and their details:** Not applicable

**Training delivery method:** Not applicable

**Details of infrastructure required:** Not applicable

**Availability of Infrastructure:** Not applicable

**Method of selection of consultant:** selection of consultant will be done in bidding process.

**Cost of program:** 2.00 lakhs as BDSP fees

## 8.1.60 Proposed Program: Organising Buyer Seller Meets (2nos)

**Course outline:** Help the principle firms to understand buyer requirements and led to direct marketing.

**Duration:** One day

**Batch Size:** 10

**Trainers and their details:** Not applicable

**Training delivery method:** Not applicable

**Details of infrastructure required:** Venue, LCD, Projector, Tables and Chairs, partitions

**Availability of Infrastructure:** Will be organised in a hotel at Chikballapur

**Method of selection of trainer:** Not applicable

**Cost of training program:**

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<b>Organising BSMs</b>	
Venue Cost	20000
Local TA/ DA	10000
Travel	10000
Refreshments 20 persons @ Rs. 300 per head	6000
Photo & Video expenses	20000
Literature	14000
<b>Total</b>	<b>80000</b>
<b>For 2 meets</b>	<b>160000</b>

## 8.1.7 Proposed Program: Organising EDP

**Course outline:** Capacitate principle firm owners in better management practices.

**Duration:** 3 days

**Batch Size:** 15

**Trainers and their details:** Not applicable

**Training delivery method:** Not applicable

**Details of infrastructure required:** Venue, LCD, Projector, Tables and Chairs, partitions

**Availability of Infrastructure:** Will be organised in conference hall of Karnataka Coir Federation

**Method of selection of trainer:** EDII, Bangalore will be hired to organise EDPs, due to their vast experience in the field.

**Cost of training program:**

<b>Organising EDPs</b>	
Venue Cost	5000
Local TA/ DA	5000
Travel	5000
Refreshments 20 persons @ Rs. 100 per head x 3 days	4000
Photo & Video expenses, CLD, Projector	10000
Literature	1000
<b>Total</b>	<b>30000</b>

## 7.1.8 Proposed Program: 2 week training program on pith manure and separate 2 week training on pith block making (2 Nos)

**Course outline:** 60 artisans trained in pith product making

**Duration:** 2 weeks

**Batch Size:** 30

**Trainers and their details:** Central Institute of Coir Technology, Bangalore is a research institute of Coir Board, an autonomous body, under the control of Ministry of

# Javagal Coir Cluster

Agro and Rural Industries, Government of India. It has vast experience in conducting such programs. Even pith block making supplier will also be involved in training.

**Training delivery method:** Class room sessions followed by practical sessions on machines

**Details of infrastructure required:** Venue (preferably at campus), LCD, Projector, Tables and Chairs

**Availability of Infrastructure:** Venue (preferably at campus), LCD, Projector, Tables and Chairs

**Method of selection of trainer:** As per the norms, selection of trainers has to be done in bidding process. However coir based institutions is limited as such direct selection is preferred.

Venue Cost	10000
travel expenses for faculty	10000
Local TA/ DA	5000
Stiffened for participants 30 persons @ Rs. 150 per head x 10 days	45000
Refreshments 30 persons @ Rs. 100 per head x 10 days	30000
Faculty Fees	30000
Photo & Video expenses	10000
Literature & Misc. expenses	20000
<b>Total</b>	<b>160000</b>
<b>For 2 Nos.</b>	<b>320000</b>

## 7.1.9 Proposed Program: 4 week training program on 2-ply yarn making

**Course outline:** 40 workers and major manufacturers

**Duration:** Four weeks

**Batch Size:** 40

**Trainers and their details:** The Central Coir Research Institute is one of the prime research centres of Coir Board (Recognised by the Department of Science & Technology, Government of India). The Institute has infrastructure for imparting training to students to acquire in depth knowledge in the processing of coir and coir products. Hence it will also provide training sessions on 2 ply yarn making.

**Training delivery method:** Class room sessions followed by practical sessions on machines

**Details of infrastructure required:** Venue (preferably at campus), LCD, Projector, Tables and Chairs

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**Availability of Infrastructure:** Venue (preferably at campus), LCD, Projector, Tables and Chairs

**Method of selection of trainer:** As per the norms, selection of trainers has to be done in bidding process. However coir based institutions is limited as such direct selection is preferred.

**Cost of training program:**

Venue Cost	10000
travel expenses for faculty	10000
Local TA/ DA	5000
Stifund for participants 40 persons @ Rs. 150 per head x 20 days	120000
Refreshments 40 persons @ Rs. 100 per head x 20 days	80000
Faculty Fees	30000
Photo & Video expenses	10000
Literature & Misc. expenses	5000
<b>Total</b>	<b>270000</b>

## 7.1.10 Proposed Program: 4 week training program on mats and matting making

**Course outline:** 60 artisans and workers

**Duration:** Four weeks

**Batch Size:** 60

**Trainers and their details:** :The Central Coir Research Institute is one of the prime research centre of Coir Board (Recognised by the Department of Science & Technology, Government of India).The Institute has infrastructure for imparting training to students to acquire in depth knowledge in the processing of coir and coir products. Hence it will also provide training sessions on mats and mat making.

**Training delivery method:** Class room as well as practical sessions on machinery.

**Details of infrastructure required:** Venue, Tables and Chairs

**Availability of Infrastructure:** Venue (preferably at campus), LCD, Projector, Tables and Chairs

**Method of selection of trainer:** As per the norms, selection of trainers has to be done in bidding process.

**Cost of training program:**

Venue Cost	10000
travel expenses for faculty	10000
Local TA/ DA	5000
Stifund for participants 30 persons @ Rs. 150 per head x 20 days	90000
Refreshments 30 persons @ Rs. 100 per head x 20 days	60000
Faculty Fees	30000

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Photo & Video expenses	10000
Literature & Misc. expenses	10000
<b>Total</b>	225000
<b>For 2 Nos.</b>	4,50,000

Activity wise budget for Soft Intervention Action Plan is given as below:

S No.	Name of activity	Timeline	GOI Grant	State Contribution	SH contribution	Total required Fund
<b>A. Common cluster level interventions</b>						
1	Launch Workshop	Q1	0.25	0	0	0.25
2	Study tour to Pollachi	Q1	0.50	0	0	0.50
3	Interface with bankers	Q2-Q3	0.25	0	0	0.25
4	Awareness workshop on Govt. Schemes (2 Nos)	Q2-Q3	0.20	0	0	0.20
5	Proposed: E Commerce portal	Q5-Q6	2.00	0	0	2.00
6	Proposed: Organising BSMs (2 Nos)	Q5-Q6	1.60	0	0	1.60
7	Proposed: Organising EDP	Q2-Q3	0.3	0	0	0.3
8	2 week training on pith manure making	Q1-Q2	1.6	0	0	1.6
9	2 week training pith block making (2 Nos)	Q3-Q4	1.6	0	0	1.6
10	4 week training on 2 ply yarn making	Q2-Q3	2.7	0	0	2.7
11	4 week training on mats and matting making (2 Nos)	Q3-Q4	4.50	0	0	4.50
	<b>TOTAL</b>		<b>15.5</b>	<b>0</b>	<b>0</b>	<b>15.5</b>

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## CHAPTER – 9 HARD INTERVENTIONS

### Reasons for pith block cum manure unit:

- Hassan is one of the major coir fibre producing areas in the country with an estimated production of more than 30000 MT per annum. The ratio of coir pith to fibre is 1:3, which means the pith production is coming to 80000 to 90000 MT per annum. Out of which at present only 10% is value added as manure by one private unit and another maintained by Coir Corporation. Remaining 90% is either sold to farmers at through away price or kept in the units for longer periods, resulting in air pollution and limited price realisation.
- On an average Javagalcluster is thus wasting 20000 to 25000 MT of coir pith per annum, which can be value added as pith blocks or manure which have good domestic and international market.

### 9.1 Javagal Sub Cluster

#### 9.1.1 Pith Block & Manure Making Unit:

##### Proposed intervention

At present no unit is having pith manure or block making facility due to its capital intensive nature. Moreover the production of pith by individual unit is not large enough to make either manure or blocks. Thus the cluster firms as of now are either dumping the pith or selling to farmers at through away prices. An estimated 2 to 3 tons of pith is made as by product during defibering by each unit, thus an estimated 30 to 40 MT of pith is generated per day in the cluster, which is substantial. Thus a common pith block cum manure making unit is planned in the cluster, with a production capacity of 1200 pith blocks per day (Each 5 KG) and 300 MT of manure per annum. The proposed facility will work one shift per day for 300 days.

##### Land details

1.3 acres of land is available which is agriculture land which needs to be converted for commercial use with Mr.Shomasheker J S, one of the key members of the cluster. The

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address of the land is DoddakodiHalli Road, Javagal Circle, Arisikere Block, and Hassan District. Power and ground water are already available in the land.

## Proposed capacities

1 Pith block making machine with a capacity of 150 blocks per hour besides the production capacity of manure is estimated at 300 MT per annum.

## Proposed equipment's/ machines etc.

Details of machines are given as below:

S.No.	Name of the machinery	capacity	qty	Total Amount
<b>1. Pith Manure and Pith Block centre</b>				
1	Pith Block making m/c	150 block per hour	1	1998000
2	Testing equipment's		1	399600

## Master Plan/ Detailed engineering drawings

A detailed master plan along with civil estimates are given as **annexure – 58**

## Project Cost

The combined project cost including civil estimates for both pith making and processing centre are given below:

Sl.No	Particulars	Already incurred	To be incurred	Total Cost
A	Land	-	-	-
	land Development	-	-	-
B	Building & other Civil Works	-	35.00	35.00
C	Plant and machinery			
	a. indigenous	-	80.42	80.42
	b.import	-	-	-

# Javagal Coir Cluster

D	Lease Deposit & Electricity Deposit	-	-	-
E	Technical consultancy fee	-	-	-
F	Miscellaneous fixed assets	-	1.05	1.05
G	Erection / installation charges	-	-	-
H	Preliminary expenses	-	0.50	0.50
I	Pre-operative expenses	-	2.00	2.00
J	Provision for contingencies			
	a. buildings (@2%)	-	0.70	0.70
	b. Plant & Machinery (5%)	-	4.02	4.02
	c. Other fixed assets	-	-	-
K	Working capital	-	13.31	13.31
	Total :	-	137.00	137.00

## Operation and maintenance model

Production basis: To make the facility more sustainable, entire capacity will be sold on common brand basis, where SPV itself will buy the raw material and sell the blocks/manure directly to clients. In this option, the SPV is expected to sell blocks at the rate of Rs. 50 per block and manure at a price of Rs. 3800 per MT.

The unit is expected to generate revenue of Rs. 72.00 lakhs and production costs of Rs. 50.00 lakhs, thus giving Rs. 5.00 lakhs as surplus in the first year of operation.

## Business Plan

The business plans of each sub cluster are given in the detailed business plan Chapter (No: 14).

## Implementation schedule

The civil construction is expected to be complete 1<sup>st</sup> quarter of the first year of the project implementation. Purchase and erection of machinery will be done by first quarter of 2<sup>nd</sup> year and plant is expected to start its commercial operations by end of second year. It is expected to reach breakeven in the first year of operation.

# Javagal Coir Cluster

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## **Any other information pertaining to the project**

The facility will be mainly used by major manufacturers and the plant capacity is also designed in such a way to meet their requirements. However a provision will be made in the bylaws that even any house hold unit can also use the facility if required.

### **9.1.2 Common Processing Centre (CPC):**

#### **Proposed intervention**

At present the cluster firms are mainly making only fibre and there is a need to opt for value addition/ product diversification. Considering the local market demand and skill sets of workers, it has been planned to make mats and mattings. Even the raw material required for such products viz. yarn will also be made in the proposed CPC. Double Head Spinning for making of yarn, anupam power loom for matting, frame looms for mat making are the major machines required.

#### **Land details**

1.3 acres of land is available which is agriculture land which needs to be converted for commercial use with Mr.Shomasheker J S, one of the key members of the cluster. The address of the land is DoddakodiHalli Road, Javagal Circle, Arisikere Block, and Hassan District. Power and ground water are already available in the land.

#### **Proposed capacities**

- 1 Double Head Spinning machine with a capacity of 40 KG per Hour per machine and the units is proposed to have 6 such machines thus total capacity is coming to 240 KG per hour/ 1440 KG per day.
2. Anuapm Power Loom will have a capacity of 20 metres per day with one shift of operation.
3. 2 Frame Looms of 20 mats per day each capacity has been considered based on the local market requirement.

#### **Proposed equipment's/ machines etc.**

Details of machines are given as below:

# Javagal Coir Cluster

S.No.	Name of the machinery	capacity	qty	Total Amount
<b>Common Processing entre</b>				
1	Fully automatic Double Head Spinning machine with auto feeder	40 KG per hour per M/c	6	2138400
2	<b>Anupam Power Looms</b>	<b>20 Meters per Day per M/c</b>	4	2073600
3	<b>Yarn Dyeing Unit</b>	<b>100 KG yarn</b>	1	108000
4	<b>Frame Looms</b>	<b>20 Mats per Day per M/c</b>	2	324000
5	Green House		1	1000000
	Total			5644000

## Master Plan/ Detailed engineering drawings

A detailed master plan along with civil estimates are given as **annexure – 59**

## Project Cost

The combined project cost already given above:

## Operation and maintenance model

Production basis: To make the facility more sustainable, entire capacity will be sold on common brand basis, where SPV itself will buy the raw material and sell the mats, mattings, blocks/ manure directly to clients. In this option, the SPV is expected to sell blocks at the rate of Rs. 50 per block and manure at a price of Rs. 3800 per MT, mats at the rate of Rs. 50 per mat and mattings Rs. 150 per meter.

The unit is expected to generate revenue of Rs. 41.76 lakhs and production costs of Rs. 35.00 lakhs, thus giving Rs. 6.00 lakhs as surplus in the first year of operation.

## Business Plan

# Javagal Coir Cluster

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The business plans of each sub cluster are given in the detailed business plan Chapter (No: 14).

## **Implementation schedule**

The civil construction is expected to be complete second quarter of the second year of the project implementation. Purchase and erection of machinery will be done by third quarter of 2<sup>nd</sup> year and plant is expected to start its commercial operations by end of second year. It is expected to reach breakeven in the first year of operation.

## **Any other information pertaining to the project**

The facility will be used not only for major manufacturers but also by house hold units.

# Javagal Coir Cluster

## CHAPTER – 10

### PROJECT COST AND MEANS OF FINANCE

#### 10.1 Project Cost

The cost of project include cost of implementing Soft Interventions, Hard Interventions, IA fees and TA fees with a total project span of 2 years. However for SI and HI the aggregate project costs are given. Following table shows the aggregate cost of project:

Aggregate Project Cost		Rs.In lakhs
Sl.No	Particulars	Total Cost
I. Hard Interventions		
A	Land	-
	land Development	0.00
B	Building & other Civil Works	35.00
C	Plant and machinery	-
	a. indigenus	80.42
	b.import	-
D	Lease Deposit &Electricity Deposit	00.00
E	Technical consultancy fee	-
F	Miscellaneous fixed assets	1.05
G	Erection / installation charges	-
H	Preliminary expenses	0.50
I	Pre-operative expenses	2.00
J	Provision for contingencies	-
	a.buildings (@2%)	0.70
	b.Plant& Machinery (5%)	4.02
K	Working capital	13.31
	<b>Total for Hard Interventions</b>	<b>137.00</b>
II. Provision for Soft Interventions		<b>15.50</b>
III. IA Fees		<b>20.00</b>
IV. TA Fees (SI + HI)		<b>9.46</b>
<b>Total (I+II+III+IV)</b>		<b>181.96</b>

# Javagal Coir Cluster

## 10.2 Means of Finance

Means of finance is mainly confined to SFURTI Grant and Promoter's equity. Promoters are willing to contribute on their own and are not taking any unsecured loans for the project. Thus the details of means of finance are given as below:

Means of Finance		
Sl.No.	Particulars	Total
	<b>Equity</b>	
A	Equity from SPV (25% of HI)	34.25
B	Subsidy: central govt.	147.71
C	Subsidy : state govt.	-
	<b>Total</b>	<b>181.96</b>

As per the guidelines 100% grant is considered for implementation of SI plan. For Hard interventions 75% grant is considered. Remaining 25% will be brought by SPVs as their contribution. IA fee is coming to Rs. 20.00 lakhs which is within maximum cap of Rs. 20.00 lakhs. TA fees are calculated as 8% of SI+HI and are coming to Rs. 9.46 lakhs. Thus the total project cost is coming to 181.96 lakhs in which Gol grant is 147.71 lakhs, which is with in maximum cap for Minor Cluster i.e. Rs. 150 lakhs.

## 10.3 Project Phasing

As indicated, project will be implemented in 2 years of time. While first year concentration will be more on implementation of Hard interventions and initiation of SI, the second year will not only completion of HI but also completion of SI. By third Year, there will not be any SI and only strengthening of established CFCs will be given priority. Accordingly the following phasing has been suggested:

# Javagal Coir Cluster

Sl.No	Particulars	1st Year	2nd Year	3rd Year	Total
A	Land (Lease)	0.00	0.00	0.00	0.00
	land Development	0.00	0.00	0.00	0.00
B	Building & other Civil Works				0.00
	Civil Works	24.50	10.50	0.00	35.00
C	Plant and machinery				
	a. indigenous	56.29	24.12	0.00	80.42
	b.import				
D	Lease Deposit &Electricity Deposit	0.00	0.00	0.00	0.00
E	Technical consultancy fee				
F	Miscellaneous fixed assets	0.00	1.05	0.00	1.05
G	Erection / installation charges	0.00	0.00	0.00	0.00
H	Preliminary expenses	0.25	0.25		0.50
I	Pre-operative expenses	1.00	1.00		2.00
J	Provision for contingencies				
	a.buildings (@2%)	0.00	0.70		0.70
	b.Plant& Machinery (10%)	2.81	1.21		4.02
	c.Other fixed assets	0.00	0.00	0.00	0.00
K	Working capital	0.00	13.31		13.31
<b>G</b>	<b>Provision for Soft Interventions</b>	<b>7.75</b>	<b>7.75</b>	<b>0.00</b>	<b>15.50</b>
<b>H</b>	<b>IA Fees</b>	<b>6.67</b>	<b>6.67</b>	<b>6.67</b>	<b>20.00</b>
<b>I</b>	<b>TA Fees (75% of SI+HI)</b>	<b>3.15</b>	<b>3.15</b>	<b>3.15</b>	<b>9.46</b>
	<b>Total</b>	<b>102.43</b>	<b>69.71</b>	<b>9.82</b>	<b>181.96</b>
		<b>1st Year</b>	<b>2nd Year</b>	<b>3rd Year</b>	<b>Total</b>
I.	<b>GoI Grant under SFURTI</b>	81.21	56.68	9.82	147.71
II.	<b>State Contribution if any</b>	0.00	0.00	0.00	0.00
III.	<b>Promoters Equity</b>	21.21	13.04	0.00	34.25
	<b>Own Sources</b>	0.00	0.00	0.00	0.00
	<b>Unsecured loans</b>	0.00	0.00	0.00	0.00
Total		102.43	69.71	9.82	181.96

# Javagal Coir Cluster

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## CHAPTER 11

### PLAN FOR CONVERGENCE OF INITIATIVES

Coir industry in Hassan is very huge in numbers, but not in product diversification and value additions. Lack of cohesiveness among members, poor credit linkages with banks, resistance to adopt new technologies due to lack of awareness are some of the bottle necks which are preventing cluster to grow and compete with clusters like Polachi or Gubbi. Thus any convergence initiatives should follow common plan to address issues like establishment of manufacturing units by artisans and international market exposure.

#### 11.1 Common Issues and convergence initiatives:

During the survey it was observed that there are many house hold artisans who have zeal to establish their own defibering, and mat making units. These artisans once capacitated with planned SDPs, need to be encouraged to apply under Coir UdyamiYojanaand PMEGP Scheme. Thus in the second and third year at least 50 capable artisans will be targeted to be covered under such schemes.

In spite its sheer size and products made, exports from Hassan coir industry, nowhere compared to Polachi, Tumkur or Rajahmundry. Lack of awareness on international markets, client requirements are the major reasons observed. Thus there is a need to expose at least 7 major manufacturers to international fairs like Great Britain Fibre Art Fair organised every year in August at South Jordan, USA, Art and Craft Design Fair organised in Edinburg, UK again in the month of August every year. Market Development Assistance Scheme of MoMSME can be leveraged for such participations.

The common convergence activities planned and their tentative estimates are given as below:

# Javagal Coir Cluster

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S.No	Activity	Number of firms/artisans targeted	Tentative project Cost (In Rs.)	Scheme contribution	Bank Loan	Promoter Contribution
1	Establishment of defibering/mat making units by artisans under Coir Udyami Yojana	10	10 Nos. x Rs. 5,00,000 = Rs.50,00,000	20,00,000	25,00,000	5,00,000
2	International Exposure visits under MDA	10	10 batch @ Rs. 10,00,000 = Rs. 10,00,000	05,00,000	0	5,00,000
	Total		60,00,000	25,00,000	25,00,000	10,00,000

# Javagal Coir Cluster

## CHAPTER - 12

### ENHANCED PROJECT COST WITH CONVERGENCE OF SCHEMES

Overall project cost which is including grant under SFURTI, Stakeholder contribution, and co-funding by MoMSME (MDA Scheme), Coir Board (Coir UdyamiYojana) as grant, which is given as below. A component wise break up is give as per the format.

(Rs. In lakhs)

S.No	Component	Total	Grant under SFURTI	Bank Finance	State Contribution	Grant from other schemes (PMEGP, CUY, MDA)	Stakeholder Contribution
1	Soft Interventions	15.50	15.50	0.00	0.00	0.00	0.00
2	Hard Interventions (under Core SFURTI)	137.00	102.75	0.00	0.00	0.00	34.25
3	Convergence (establishment of new units and international expo visits)	60.00	0	25.00	0.00	25.00	10.00
4	IA Fees	20.00	20.00	0	0	0	0
6	Technical Agency Fees	9.46	9.46	0	0	0	0
	<b>Total</b>	<b>241.96</b>	<b>147.71</b>	<b>25.00</b>	<b>0.00</b>	<b>25.00</b>	<b>44.25</b>

Thus out of a total of 241.96 lacs as project cost, SFURTI contribution is coming to 58%, Stake Holders contribution is coming to 19% and remaining 23% is shared by Grant under various schemes, besides bank loan.

# Javagal Coir Cluster

## CHAPTER – 13

### PROJECT TIMELINE

The project implementation schedule with details of activities to be undertaken are given in the following chart based on the project phasing as given in the chapter – 8.

Project Activity	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
1. Preparation and submission of DPR for proposed HI under SFURTI												
2. Implementation of Trust Building activities under SI												
3. Implementation of trainings/ SDPs under SI												
4. Capacity building initiatives for Self Governance under SI												
5. Market Promotion Activities under SI												
6. Civil construction of planned HIs under Core SFURTI												
7. Erection of machinery and cabling												
8. Initiation of commercial production of CFCs												
9. Convergence initiatives												
10 Exit from the cluster by TA and IA												

# Javagal Coir Cluster

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# Javagal Coir Cluster

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## CHAPTER – 14 DETAILED BUSINESS PLAN

It is to be mentioned that no income is expected from any of the soft interventions for SPV. The add on components like convergence initiatives are not included in business plan, as it is too early to assess the production levels and their marketing capability.

### 14.1 Javagal

The production capacity of pith block making unit is 1200 blocks per day based on the production capacity of 7 individual units. Similarly the production capacity of pith manure making unit is 300 MT per annum. It is difficult to assess the per day production of manure since it is a long term process. The capacity of mats is 40no's and mattings are 80 meters per day. All the capacities mentioned are at 100% utilisation. All the units are expected to reach 60% capacity utilisation in the first year, 65% in the second year and reach a capacity of 85% by 6<sup>th</sup> year.

#### 14.1.1 Product Mix:

The focus products of the CFC are pith block and pith manure which will be made from the raw pith coming from 7 major manufacturing units. Other than the two mats and mattings will also be given priority. The price of each block is kept at Rs. 50 and sale price of per ton of manure is Rs. 3800. The price of mat is Rs. 70, while matting is Rs. 170 per meter.

#### 14.1.2 Manpower Cost:

The man power includes a plant in-charge who will take care of production that will be supported by 3 operators, two for pith manure and pith block and one for mats and mattings. A store in-charge to take care of godown facility is also provisioned in the estimates. Both the units together require 10 skilled workers and 10 unskilled workers.

The administrative staff will have one manager, one assistant, one marketing officer besides 2 security guards.

The total wages for plant is estimated at 26.25 lakhs and for administrative staff the salaries are coming to Rs. 7.50 lakhs, which are inclusive of 25% fringe benefits as per enforcement directorate norms.

**(Details of manpower given in annexed financial estimates)**

# Javagal Coir Cluster

## 14.1.3 Utility and other overheads:

**Power:** The project requires 128 HP power and is expected to cost an amount of Rs. 9.37 lakhs in the first year of operation.

**Water:** Water of 10 gallons is required per day for industrial purpose for pith wash. So a charge of Rs. 1.20 lakhs is considered for the first year.

**Preliminary expenses** of 2.00 lakhs are considered for salaries during construction and power deposit, while **pre-operative expenses** were considered at Rs. 0.50 lakh for other admin costs.

**Admin expenses** are considered at 2% on sales, repairs and maintenance as 3% of sales and sales expenses as 2% on sales.

## 14.1.4 Depreciation

A depreciation of 3.34% on buildings and 4.75% on plant and machinery considered as per the Government Norms. While Straight line method is used for profit and loss account statement, WDV method is used for tax calculations. Total depreciation per year is coming to Rs. 5.35 lakhs per annum.

## 14.1.5 Working Capital

Since 100% of capacity is used for direct marketing, the total working capital is coming to Rs. 13.31 lakhs.

## 14.1.6 Financial Projections

Profitability Statement: Given as below:

Year Ending 31st March	2016	2017	2018	2019	2020	2021
Production Capacity Utilisation	0.60	0.65	0.70	0.75	0.80	0.85
Sales as percentage of installed capacity	0.60	0.65	0.70	0.75	0.80	0.85
<b>Sales/ Total Income</b>						
Gross Domestic Sales	113.76	123.24	132.72	142.20	151.68	161.16
Less: Excise Duty	0.00	0.00	0.00	0.00	0.00	0.00
Net Domestic Sales	113.76	123.24	132.72	142.20	151.68	161.16
Export Sales	0.00	0.00	0.00	0.00	0.00	0.00
Net Sales	113.76	123.24	132.72	142.20	151.68	161.16

# Javagal Coir Cluster

Other Operational Income	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total Income</b>	<b>113.76</b>	<b>123.24</b>	<b>132.72</b>	<b>142.20</b>	<b>151.68</b>	<b>161.16</b>
<b>COST OF PRODUCTION- SALES</b>						
Raw material Consumed	28.80	31.41	34.15	37.02	40.05	43.24
Consumables, Stores and spares (5% on sales)	5.69	6.16	6.64	7.11	7.58	8.06
Power, Fuel and other utilities (Variable)	5.62	6.09	6.56	7.03	7.50	7.97
Power, Fuel and other utilities (Fixed)	3.75	4.06	4.37	4.69	5.00	5.31
Water	1.20	1.26	1.32	1.39	1.46	1.53
Factory salaries & Wages (variable)	26.25	26.25	26.25	26.25	26.25	26.25
Factory salaries & Wages (fixed)	7.50	7.50	7.50	7.50	7.50	7.50
Repair and maintenance	3.41	3.70	3.98	4.27	4.55	4.83
Other Variable Expenses	0.00	0.00	0.00	0.00	0.00	0.00
Depreciation	5.35	5.35	5.35	5.35	5.35	5.35
<b>Sub Total</b>	<b>87.58</b>	<b>91.78</b>	<b>96.12</b>	<b>100.60</b>	<b>105.24</b>	<b>110.04</b>
Add: Opening Stock in process	0.00	0.00	0.00	0.00	0.00	0.00
Less: Closing stock in process	0.00	0.00	0.00	0.00	0.00	0.00
<b>COST OF PRODUCTION</b>	<b>87.58</b>	<b>91.78</b>	<b>96.12</b>	<b>100.60</b>	<b>105.24</b>	<b>110.04</b>
Add: Opening stock of finished goods	0.00	0.00	0.00	0.00	0.00	0.00
Less: Closing stock of finished goods	0.00	0.00	0.00	0.00	0.00	0.00
<b>Cost of sales</b>	<b>87.58</b>	<b>91.78</b>	<b>96.12</b>	<b>100.60</b>	<b>105.24</b>	<b>110.04</b>
Selling Packing & Distribution Expenses	2.28	2.46	2.65	2.84	3.03	3.22
Administrative & Misc. Expenses	2.28	2.46	2.65	2.84	3.03	3.22
Sub Total	92.13	96.71	101.43	106.29	111.30	116.49
<b>Profit Before Interest and Tax (PBIT)</b>	<b>21.63</b>	<b>26.53</b>	<b>31.29</b>	<b>35.91</b>	<b>40.38</b>	<b>44.67</b>
Interest on Bank Loan	0.00	0.00	0.00	0.00	0.00	0.00
Interest on unsecured loan	0.00	0.00	0.00	0.00	0.00	0.00
Interest on bank borrowing	0.00	0.00	0.00	0.00	0.00	0.00
<b>Operating Profit</b>	<b>21.63</b>	<b>26.53</b>	<b>31.29</b>	<b>35.91</b>	<b>40.38</b>	<b>44.67</b>
Preliminary expenses written off	0.25	0.25	0.25	0.25	0.25	0.25
Non Operational Income	0.00	0.00	0.00	0.00	0.00	0.00
<b>Profit Before Tax (PBT)</b>	<b>21.38</b>	<b>26.28</b>	<b>31.04</b>	<b>35.66</b>	<b>40.13</b>	<b>44.42</b>
Provision for taxation	2.97	5.42	7.51	9.25	11.25	12.88
<b>Profit After Tax</b>	<b>18.41</b>	<b>20.86</b>	<b>23.53</b>	<b>26.41</b>	<b>28.88</b>	<b>31.54</b>

## 14.1.8 Break Even Analysis

The project will reach breakeven in the first year of operation. During the first year the variable expenses are coming to Rs. 68.64 lakhs with a contribution of Rs. 45.12

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lakhs thus leaving a breakeven of 49.39%. The breakeven will show a declining trend and by 6<sup>th</sup> year it will reach to 36.20 which is significant.

**(Please refer annexure 27 for detailed BE analysis)**

## 14.1.9 IRR Calculation

Both pre and post-tax IRR were calculated to assess the viability of the project. The average IRR before tax is coming to 22.33 with an NPV of Rs. 132.49 lakhs at 7% discount rate. The average IRR post tax is coming to 16.15 with NPV of Rs. 72.51 lakhs. Since there is no bank lending the IRR appears to be on positive side showing the viability of the project.

**(Please refer annexure 26 for detailed IRR analysis)**

### **Conclusions:**

***The above financial statements indicate that the proposed facilities are viable, provided at least 60% capacity utilization is ensured. Any drop in sale charges more than 10% and increase in expenditure cost by 10% will make the unit a non-viable proposition.***

**Note: The detailed financial statements are given as annexure 1 to 14.**

#### 13.1 Role of implementing agency

Following are the expected role of implementing agency

- Appointment and monitoring of the performance of CDA
- Selection of relevant beneficiaries for each activity balancing all the areas of concentration and stakeholders
- Micro planning of each activity in to sub activities and make a plan, besides sticking to time lines
- Acquisition of all clearances, documents, NOCs for land, power, water, construction from concerned line departments with the help of TA. .
- Preparation of quarterly progress reports, expenditure statements on timely basis with the help of TA.
- Leveraging of Central and State Schemes for add on activities with due help from TA
- Capacitate its executive members for strong self-governance

#### 13.2 Details of strategic partners and other project stakeholders

TA needs to help the IA in not only preparation of DSR and subsequent DPR but also in identification of competent CDA, implementation of SI and HI as per the plan. They also expected to help IA in framing proper O&M framework for CFC maintenance.

Coir Board is required to release the funds on time once the yearly action plan has been submitted. It also needs to provide technical help wherever required since coir sector comes under its fold.

CCRI and other coir board affiliated institutions play a crucial role in organising the training programs like on advanced practices in spinning, mat making, pith block making. FICEA can also play a crucial role in supporting manufacturing firms for export of yarn and mats.

#### Coir Board

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The Coir Board will act as the Nodal Agency. The agency will not only provide financial assistance in the form of grant in aid but also act as apex monitoring agency to oversee the progress of the proposed CFC through its regional office at Bengaluru. The nodal agency will also appraise the implementation and progress of the CFC to the Scheme Steering Committee headed by Secretary, Ministry of MSME.

## **Commissioner of Industries (CoI)**

As state level apex agency for industrial development, they can help the IA/ SPV in dovetailing state schemes with specific reference to establishment of hard interventions.

## **Cluster Coordination Committee (CCC)**

A CCC will be formed preferably chaired by District Magistrate, with nominated members from Commissioner of Industries, Coir Board local office, NABARD, SPV and a related Technical Institution. The CCC will play the role of an advisor in technical, financial, marketing and management mechanisms for smooth functioning of CFC. It will monitor the progress of the CFC on monthly/ quarterly basis and suggest corrective actions wherever required. It will be a catalyst committee between SPV and other concerned Central/ State institutions for smooth coordination.

### **13.3 Structure and composition of SPVs**

The Proposed Common Facilities will be managed by Special Purpose Vehicle. The name of SPVs and its details are given as below:

S.No	Name of the cluster	Name of the SPV	Number of Members
1	Javagal	Javagal Coir Cluster, 5, Janata Site Area, Javagal, Arisikere Block <b>Contact Person and details:</b> Mr.Vinay JS, Secretary 09731920920	7 members (upgrading to 15)

The SPV will oversee the following functions in their respective sub clusters:

- Establish, operate and maintain all common facilities as mentioned in the DPR.
- Collection of user charges from SPV members and other users of the facilities so as to meet the recurring expenses and future expansions
- Preparation and submission of progress reports to KVIC through TA

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The management of the CFC will be a three tier structure for smooth and uninterrupted operations and is as follows:

**The Management Committee:** It is the main governing body for each SPV which is ably assisted by Technical and Secretarial staff. At present each SPV is having 3 executive namely President, Secretary and Treasurer. While the President will oversee the entire operations, the other members are entrusted with specific responsibility like marketing, technical, finance, Public relations etc. based on his past experience and qualifications.

**The technical staff:** The Common Facility will have its own technical staff who will work on full time basis. The technical staffs are headed by an experienced plant in charge and will be assisted by skilled and unskilled employees to run the proposed hard interventions.

**The Secretarial Staff:** A competent person will be appointed as the assistant/ NDA who will look after day to day administrative operations of CFC.

# Javagal Coir Cluster

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## CHAPTER – 16 EXPECTED IMPACT

The expected impact is given at cluster level. The cluster wise impact is given as below:

### 16.1 Javagal

#### 16.1.1 at Enterprise Level

**Number of direct beneficiary firms: 7 manufacturing firms along with its 100 workers besides 400 artisans.**

#### **Likely range of outputs:**

- At least 150 workers, artisans will be trained in advanced mat making, pith block making and auto spinning
- At least 4 firms will start export marketing and 15 house hold units direct marketing by becoming producers
- Banks will support at least 20 potential house hold units, and manufacturers by providing term loans/ working capital
- At least 40 units will be benefitted under Public Support Schemes like CLCSS, TUFS, CGTMSE
- At least 10 to 15 house hold units will be linked to Coir UdyamiYojana

#### **Indirect beneficiary firms:**

Strengthening of forward and backward linkages and local institutions, provision of linkages with public and private support institutions, strengthening of local infrastructure through public-private partnerships would benefit at least 80% of the existing cluster enterprises indirectly, in 3 years of intervention.

#### 16.2.2 Cluster Level

- Strengthening of SPV for establishment and management of proposed hard interventions
- Establishment of an pith block manure making centre
- Strong linkages with related institutions and BDSPs like CCRI, FICEA, NIFT and Banks, Coir Board and DIC
- Increase in productivity by 100%, turnover by 200%, employment by 80%

The performance indicators at cluster level are given as below:

# Javagal Coir Cluster

S.No	Indicator	Present Status	Post Intervention
1	Total Production (in MT/ Nos)	1312 MT of fibre	1600 MT of fibre, 3.00 lakh pith blocks and 250 MT of pith manure, 10000 Mats, 25500 meters of mattings
2	Total Turnover (Rs. In lakhs)	210	520
3	Investments (Rs. In lakhs)	400	700 (including CFCs)
4	Profitability (in Percentage)	7% to 10%	14% to 17%
5	Employment – Direct & Indirect (in Nos.)	500	800
6	Capacity Utilization (in %)	30 to 50	60 to 70
7	Artisan income (Rs. in Thousands)	4000 to 6000	8000 to 10000
8	Direct Marketing by artisans (In nos.)	0	20
9	Export marketing by Manufacturers	0	4
10	Beneficiaries under Coir UdyamiYojana	0	10 to 15
11	Artisans to be covered under social benefit schemes (Jandhan + PradhanMantriSurakshaBheemaYojana+ Atal Pension Yojan + PrdhanMantriJeevanJyothiBheemaYoujana)	0	500 Nos.

## **Annexures 1 – 14**

## **Financial Statement of Javagal Cluster**

# Javagal Coir Cluster

Annexure - I				
Cost of the Project and Means of Finance				
Rs.In lakhs				
Sl.No	Particulars	Already incurred	To be incurred	Total Cost
A	Land	-	-	-
	land Development	-	-	-
B	Building & other Civil Works	-	35.00	35.00
C	Plant and machinery			
	a. indigenious	-	80.42	80.42
	b.import	-	-	-
D	Lease Deposit &Electricity Deposit	-	-	-
E	Technical consultancy fee	-	-	-
F	Miscellaneous fixed assets	-	1.05	1.05
G	Erection / installation charges	-	-	-
H	Preliminary expenses	-	0.50	0.50
I	Pre-operative expenses	-	2.00	2.00
J	Provision for contingencies			
	a.buildings (@2%)	-	0.70	0.70
	b.Plant& Machinery (5%)	-	4.02	4.02
	c.Other fixed assets	-	-	-
K	Working capital	-	13.31	13.31
	Total :	-	137.00	137.00
MEANS OF FINANCE				
Rs.In Lakhs				
Sl.No	Particulars	amonut already raised	amonut proposed to be raised	Total
	<b>Equity</b>			
A	Equity from spv@25%	-	-	34.25
B	Share premium	-	-	-
C	Preference Share Capital	-	-	-
	<b>Debt</b>			
D	Term loans (0%)	-	-	-
E	Unsecured loans and deposits	-	-	-
	<b>Quasi Equity</b>			
E	Interest free unsecured loans	-	-	-
F	Subsidy : central govt. (75%)	-	-	102.75
G	Subsidy : state govt.	-	-	-
	<b>Total</b>	-	-	137.00

# Javagal Coir Cluster

Annexure - II List of Machinery											
S.No.	Name of the machinery	capacity	hp	q t y	Rate	Total Basic Price	Tax (5% Vat)/ CST (14.5% or 2% VAT)	Insuran ce (1% or actuals)	Frieight Charges (2% or actuals)	Total Amount	Name of the Suppli er
<b>1. Paith Manure and Pith Block centre</b>											
1	Pith Block making m/c	150 block per hour	20	1	185000 0	185000 0	92500	18500	37000	1998000	
2	Testing equipments			1	370000	370000	18500	3700	7400	399600	
<b>2. Common Processing entre</b>											
3	Fully automatic Double Head Spinning machine with auto feeder	40 KG per hour per M/c	60	6	330000	198000 0	99000	19800	39600	2138400	
4	<b>Anupam Power Looms</b>	<b>20 Meters per Day per M/c</b>	40	4	480000	192000 0	96000	19200	38400	2073600	
5	<b>Yarn Dyeing Unit</b>	<b>100 KG yarn</b>	3	1	100000	100000	5000	1000	2000	108000	
6	<b>Frame Looms</b>	<b>20 Mats per Day per M/c</b>	0	2	150000	300000	15000	3000	6000	324000	
7	Green House									1000000	
	<b>Sub Total - 1</b>		<b>123</b>							<b>8041600</b>	
<b>Sub Total 1</b>		<b>8041600</b>									
<b>In Lakhs</b>		<b>80.42</b>									

# Javagal Coir Cluster

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## Annexure - III Detailed Workings

### 1. Civil Works

	Description	Quantity (SFT/ Nos)	Rate (In Rs.)	Amount
	<b>General</b>			
	<b>For Spinning Unit</b>			
1	Shed & Godown	3880	800	31,00,000
2	Drying Yard	5000	80	4,00,000
	<b>Sewarage</b>			-
	<b>Total</b>			<b>35.00</b>

# Javagal Coir Cluster

## Annexure III (Contd.)

### 2 Misc Fixed Assets

		Items	Qty	Rate	Amount	Final Amount after ST/ VAT
a	<b>Communication &amp; Teaching Equipment</b>	Computers	1	27500	27500	27500
		UPS (1KVA)	1	4000	4000	4000
		Printer	1	16100	16100	16100
		FAX Machine	1	7500	7500	7500
c	Furniture & Fixture				0	50000
d	Fire Service					0
e						-
f	Others					-
	<b>Total</b>					<b>105100</b>
	<b>Rounded</b>					<b>105100</b>
	<b>In Lakhs</b>					<b>1.05</b>

# Javagal Coir Cluster

## Annexure III (Contd.)

### 3 PRELIMINARY & PRE-OPERATIVE EXPENSES

	S.No	Details	Quantity	Amount Rs. lakhs
	1	Admn, Maintenance & Stationery, Electricity, Insurance and Bank Charges	LS	1.00
			LS	
	2	Travelling Conveyance	LS	1.00
	3	Electricity Connection Charges	LS	0.00
	4		LS	0.00
	4		LS	0.00
<b>TOTAL =</b>				<b>2.00</b>
DEPOSITS				
	1	Preliminary expenses		0.50
				0.00
		<b>TOTAL</b>		<b>0.50</b>
<b>Grand Total</b>				<b>2.50</b>

# Javagal Coir Cluster

## Annexure -IV Inputs

YEAR	(Rs.in lakhs)									
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Raw materials, ( 3 MT per day x 300 days x Rs. 1400 per MT)	12.60	13.86	15.25	16.77	18.45	20.29	22.32	24.55	27.01	29.71
2 Ply Yarn (300 KG per Day x 300 days x Rs. 30 per KG)	16.20	17.55	18.90	20.25	21.60	22.95	22.95	22.95	22.95	22.95
Power & Diesel	9.37	10.16	10.94	11.72	12.50	13.28	13.28	13.28	13.28	13.28
Water	1.20	1.26	1.32	1.39	1.46	1.53	1.61	1.69	1.77	1.86
<b>Total</b>	<b>39.3</b>	<b>42.8</b>	<b>46.4</b>	<b>50.1</b>	<b>54.0</b>	<b>58.0</b>	<b>60.1</b>	<b>62.4</b>	<b>65.0</b>	<b>67.80</b>
<b>Total Cost</b>	<b>39.3</b>	<b>42.8</b>	<b>46.4</b>	<b>50.1</b>	<b>54.0</b>	<b>58.0</b>	<b>60.1</b>	<b>62.4</b>	<b>65.0</b>	<b>67.80</b>

### COST COMPONENTS AS % OF SALES

Cost Component	Sales
Admn. Expenses	2.00%
Repairs&Maintenance	3.00%
Selling Expenses	2.00%

# Javagal Coir Cluster

## DETAILS OF MANPOWER REQUIRED

Particulars	No.	Salary/ month	Annual Wages & Salaries
		Rs.	Rs. lakhs
Plant Incharge	1	20000	2.40
Operators	3	15000	5.40
Store Keeper	1	10000	1.20
Skilled Labour	10	6000	7.20
Unskilled labour	10	4000	4.80
	<b>25</b>		<b>21.00</b>
<b>Add: Fringe Benefits</b> @25%			<b>5.25</b>
<b>Total</b>			<b>26.25</b>
<b>ADMINISTRATIVE SALARIES</b>			
Manager	1	20000	2.40
Marketing Officer	1	12000	1.44
Accts/ Admin/ Assts	1	8000	0.96
Security	2	5000	1.20
	<b>5</b>		<b>6</b>
<b>Add: Fringe Benefits</b> @25%			<b>1.50</b>
<b>Total</b>			<b>7.50</b>
<b>TOTAL</b>	<b>30</b>		<b>33.75</b>

# Javagal Coir Cluster

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# Javagal Coir Cluster

## ANNEXURE- V BASIC ASSUMPTIONS FOR PROFITABILITY

### REVENUE PROJECTIONS

YEAR	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
Capacity Utilization (%)	60%	65%	70%	75%	80%	85%	85%	85%	85%	85%	100%
<b>I. Pith Blocks</b>											
Installed Capacity (In nos)	24000	24000	24000	24000	24000	24000	24000	24000	24000	24000	24000
Production (In Nos)	14400	15600	16800	18000	19200	20400	20400	20400	20400	20400	24000
Sale cost per block	0	0	0	0	0	0	0	0	0	0	0
Revenue(Rs lakhs)	50	50	50	50	50	50	50	50	50	50	50
	<b>72.00</b>	<b>78.00</b>	<b>84.00</b>	<b>90.00</b>	<b>96.00</b>	<b>102.00</b>	<b>102.00</b>	<b>102.00</b>	<b>102.00</b>	<b>102.00</b>	<b>120.00</b>
<b>II. Pith Composte</b>											
Installed Capacity (MTs)	300	300	300	300	300	300	300	300	300	300	300
Actual Production (MTs.)	180	195	210	225	240	255	255	255	255	255	300
Sale cost per Ton	3800	3800	3800	3800	3800	3800	3800	3800	3800	3800	3800
Revenue(Rs lakhs)	<b>6.84</b>	<b>7.41</b>	<b>7.98</b>	<b>8.55</b>	<b>9.12</b>	<b>9.69</b>	<b>9.69</b>	<b>9.69</b>	<b>9.69</b>	<b>9.69</b>	<b>11.40</b>
<b>III. Mats</b>											
Installed Capacity (No. Nos)	12000	12000	12000	12000	12000	12000	12000	12000	12000	12000	12000

# Javagal Coir Cluster

Actual Production (Nos.)	7200	7800	8400	9000	9600	10200	10200	10200	10200	10200	12000
Sale cost per No	60	60	60	60	60	60	60	60	60	60	60
<b>Revenue(Rs lakhs)</b>	<b>4.32</b>	<b>4.68</b>	<b>5.04</b>	<b>5.40</b>	<b>5.76</b>	<b>6.12</b>	<b>6.12</b>	<b>6.12</b>	<b>6.12</b>	<b>6.12</b>	<b>7.20</b>
<b>IV. Mattings</b>											
Installed Capacity (in Mters)	30000	30000	30000	30000	30000	30000	30000	30000	30000	30000	30000
Actual Production (meters)	18000	19500	21000	22500	24000	25500	25500	25500	25500	25500	30000
Sale cost per meter	170	170	170	170	170	170	170	170	170	170	170
<b>Revenue(Rs lakhs)</b>	<b>30.60</b>	<b>33.15</b>	<b>35.70</b>	<b>38.25</b>	<b>40.80</b>	<b>43.35</b>	<b>43.35</b>	<b>43.35</b>	<b>43.35</b>	<b>43.35</b>	<b>51.00</b>
<b>TOTAL REVENUE</b>	<b>113.76</b>	<b>123.24</b>	<b>132.72</b>	<b>142.20</b>	<b>151.68</b>	<b>161.16</b>	<b>161.16</b>	<b>161.16</b>	<b>161.16</b>	<b>161.16</b>	<b>189.60</b>

# Javagal Coir Cluster

## ANNEXURE - VI PROJECTED PROFITABILITY STATEMENT

Year Ending 31st March	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Production Capacity Utilisation	0.60	0.65	0.70	0.75	0.80	0.85	0.85	0.85	0.85	0.85
Sales as percentage of installed capacity	0.60	0.65	0.70	0.75	0.80	0.85	0.85	0.85	0.85	0.85
<b>Sales/ Total Income</b>										
	113.7	123.2	132.7	142.2	151.6	161.1	161.1	161.1	161.1	161.1
Gross Domestic Sales	6	4	2	0	8	6	6	6	6	6
Less: Excise Duty	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net Domestic Sales	113.7	123.2	132.7	142.2	151.6	161.1	161.1	161.1	161.1	161.1
Export Sales	6	4	2	0	8	6	6	6	6	6
Net Sales	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Operational Income	113.7	123.2	132.7	142.2	151.6	161.1	161.1	161.1	161.1	161.1
<b>Total Income</b>	<b>6</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>8</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>
<b>COST OF PRODUCTION- SALES</b>										
Raw material Consumed	28.80	31.41	34.15	37.02	40.05	43.24	45.27	47.50	49.96	52.66
Consumables, Stores and spares (5% on sales)	5.69	6.16	6.64	7.11	7.58	8.06	8.06	8.06	8.06	8.06
Power, Fuel and other utilities (Variable)	5.62	6.09	6.56	7.03	7.50	7.97	7.97	7.97	7.97	7.97
Power, Fuel and other utilities (Fixed)	3.75	4.06	4.37	4.69	5.00	5.31	5.31	5.31	5.31	5.31
Water	1.20	1.26	1.32	1.39	1.46	1.53	1.61	1.69	1.77	1.86
Factory salaries & Wages (variable)	26.25	26.25	26.25	26.25	26.25	26.25	26.25	26.25	26.25	26.25
Factory salaries & Wages (fixed)	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Repair and maintenance	3.41	3.70	3.98	4.27	4.55	4.83	4.83	4.83	4.83	4.83
Other Variable Expenses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Depreciation	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35

# Javagal Coir Cluster

<b>Sub Total</b>	<b>87.58</b>	<b>91.78</b>	<b>96.12</b>	<b>100.6</b>	<b>105.2</b>	<b>110.0</b>	<b>112.1</b>	<b>114.4</b>	<b>117.0</b>	<b>119.7</b>
Add: Opening Stock in process	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Less: Closing stock in process	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>COST OF PRODUCTION</b>	<b>87.58</b>	<b>91.78</b>	<b>96.12</b>	<b>100.6</b>	<b>105.2</b>	<b>110.0</b>	<b>112.1</b>	<b>114.4</b>	<b>117.0</b>	<b>119.7</b>
Add: Opening stock of finished goods	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Less: Closing stock of finished goods	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Cost of sales</b>	<b>87.58</b>	<b>91.78</b>	<b>96.12</b>	<b>100.6</b>	<b>105.2</b>	<b>110.0</b>	<b>112.1</b>	<b>114.4</b>	<b>117.0</b>	<b>119.7</b>
Selling Packing & Distribution Expenses	2.28	2.46	2.65	2.84	3.03	3.22	3.22	3.22	3.22	3.22
Administrative & Misc. Expenses	2.28	2.46	2.65	2.84	3.03	3.22	3.22	3.22	3.22	3.22
Sub Total	92.13	96.71	101.43	106.2	111.3	116.4	118.6	120.9	123.4	126.2
<b>Profit Before Interest and Tax (PBIT)</b>	<b>21.63</b>	<b>26.53</b>	<b>31.29</b>	<b>35.91</b>	<b>40.38</b>	<b>44.67</b>	<b>42.56</b>	<b>40.25</b>	<b>37.71</b>	<b>34.92</b>
Interest on Bank Loan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on unsecured loan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on bank borrowing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Operating Profit</b>	<b>21.63</b>	<b>26.53</b>	<b>31.29</b>	<b>35.91</b>	<b>40.38</b>	<b>44.67</b>	<b>42.56</b>	<b>40.25</b>	<b>37.71</b>	<b>34.92</b>
Preliminary expenses written off	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Non Operational Income	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Profit Before Tax (PBT)</b>	<b>21.38</b>	<b>26.28</b>	<b>31.04</b>	<b>35.66</b>	<b>40.13</b>	<b>44.42</b>	<b>42.31</b>	<b>40.00</b>	<b>37.46</b>	<b>34.67</b>
Provision for taxation	2.97	5.42	7.51	9.25	11.25	12.88	12.55	12.14	11.67	11.12
<b>Profit After Tax</b>	<b>18.41</b>	<b>20.86</b>	<b>23.53</b>	<b>26.41</b>	<b>28.88</b>	<b>31.54</b>	<b>29.77</b>	<b>27.86</b>	<b>25.79</b>	<b>23.55</b>
Dividend	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Retained Earnings	18.41	20.86	23.53	26.41	28.88	31.54	29.77	27.86	25.79	23.55
Net Cash Accruals	24.01	26.46	29.13	32.01	34.47	37.13	35.37	33.45	31.39	29.15
PBIDT/ total income (%)	19.02	21.53	23.58	25.25	26.62	27.72	26.41	24.98	23.40	21.67
Operating Profit/ Total Income (%)	19.02	21.53	23.58	25.25	26.62	27.72	26.41	24.98	23.40	21.67

# Javagal Coir Cluster

Net Profit/ Total Income (%)	16.18	16.93	17.73	18.57	19.04	19.57	18.47	17.29	16.01	14.62
Raw material cost/ cost of production (%)	32.89	34.22	35.52	36.80	38.05	39.30	40.37	41.50	42.70	43.96
Cost of production/ net sales (%)	76.98	74.47	72.42	70.75	69.38	68.28	69.59	71.02	72.60	74.33
Cost of sales/ Net sales (%)	76.98	74.47	72.42	70.75	69.38	68.28	69.59	71.02	72.60	74.33
	#DIV/									
Interest Coverage Ratio (PBIT/Interest Expense)	0!	0!	0!	0!	0!	0!	0!	0!	0!	0!
Return on Capital Employed	17.61	22.77	28.14	33.93	39.78	47.25	47.72	47.99	48.02	47.80

# Javagal Coir Cluster

## ANNEXURE - VII PROJECTED CASH FLOW STATEMENT

(Rs. In  
Lacs)

DETAILS	Const. Period	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
<b>A. SOURCES OF FUNDS</b>											
1. PBT with interest added back	0.00	21.3 8	26.2 8	31.0 4	35.66	40.13	44.42	42.31	40.00	37.46	34.67
2. Add Depreciation other non cash expenses	0.00	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.60
3. Increase in Equity Share Capital	34.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4. Increase in term loan	0.00										
4. Increase in Subsidy	103	0.00 13.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5. Increase in current liabilities		1	1.68	0.68	0.69	0.69	1.70	0.09	0.10	0.11	0.12
<b>TOTAL SOURCES</b>	<b>137.00</b>	<b>40.3 0</b>	<b>33.5 5</b>	<b>37.3 2</b>	<b>41.95</b>	<b>46.42</b>	<b>51.72</b>	<b>48.00</b>	<b>45.70</b>	<b>43.17</b>	<b>40.39</b>
<b>B. DISPOSITION OF FUNDS</b>											
1. Increase in capital expenditure	121.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2. Preliminary & Pre op expenses	2.50	0.00 28.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3. Increase in Current Assets		4	2.37	2.37	2.37	2.37	2.37	0.00	0.00	0.00	0.00
4. Repayments of Term Loans		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5. Taxation	0.00	2.97	5.42	7.51	9.25	11.25	12.88	12.55	12.14	11.67	11.12

# Javagal Coir Cluster

TOTAL APPLICATION	123.69	31.4 1	7.79	9.88	11.62	13.62	15.25	12.55	12.14	11.67	11.12
C. NET SURPLUS/ DEFICIT	13.31	8.88	25.7 7	27.4 4	30.33	32.80	36.46	35.46	33.55	31.50	29.27
D. ADD : OPENING CASH		13.3	22.1	47.9						244.0	
BALANCE	0.00	1	9	6	75.40	105.73	138.53	174.99	210.45	1	275.51
E. CLOSING CASH		22.1	47.9	75.4						275.5	
BALANCE	13.31	9	6	0	105.73	138.53	174.99	210.45	244.01	1	304.78

# Javagal Coir Cluster

## ANNEXURE - VIII PROJECTED BALANCE SHEET

(Rs. In  
Lacs)

DETAILS	Const. Period	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
<b>LIABILITIES</b>											
1. Share Capital	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25	34.25
2. Reserves & Surplus	0.00	18.41	39.27	62.81	89.22	118.1	149.6	179.4	207.2	233.05	256.6
3. subsidy (Central +State)	102.75	5	5	5	5	5	5	5	5	102.75	5
4. Term Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4 Working Capital		13.31	14.99	15.67	16.36	17.05	18.76	18.85	18.95	19.06	19.17
5 Current Liabilities	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>TOTAL LIABILITIES</b>	<b>137.00</b>	<b>168.7</b>	<b>191.2</b>	<b>215.4</b>	<b>242.5</b>	<b>272.1</b>	<b>305.3</b>	<b>335.2</b>	<b>363.2</b>	<b>389.11</b>	<b>412.7</b>
		<b>2</b>	<b>6</b>	<b>8</b>	<b>8</b>	<b>5</b>	<b>9</b>	<b>5</b>	<b>0</b>		<b>8</b>
<b>ASSETS</b>											
1. Gross Fixed Assets	121.19	121.1	121.1	121.1	121.1	121.1	121.1	121.1	121.1	121.19	121.1
2. Less :Accm.dpreciation	0.00	5.35	10.70	16.04	21.39	26.74	32.09	37.43	42.78	48.13	53.47
3. Net Fixed Assets	121.19	115.8	110.4	105.1	99.80	94.45	89.10	83.76	78.41	73.06	67.71
4. Current Assets	0.00	28.44	30.81	33.18	35.55	37.92	40.29	40.29	40.29	40.29	40.29
5. Cash & Bank Balance	13.31	22.19	47.96	75.40	105.7	138.5	174.9	210.4	244.0	275.51	304.7
6. Prelim. expenses not w/o	2.50	2.25	2.00	1.75	1.50	1.25	1.00	0.75	0.50	0.25	0.00
<b>TOTAL ASSETS</b>	<b>137.00</b>	<b>168.7</b>	<b>191.2</b>	<b>215.4</b>	<b>242.5</b>	<b>272.1</b>	<b>305.3</b>	<b>335.2</b>	<b>363.2</b>	<b>389.11</b>	<b>412.7</b>
		<b>2</b>	<b>6</b>	<b>8</b>	<b>8</b>	<b>5</b>	<b>9</b>	<b>5</b>	<b>0</b>		<b>8</b>
Current Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt Equity Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

# Javagal Coir Cluster

## ANNEXURE - IX CALCULATION OF MARGIN FOR WORKING CAPITAL & ASSESSMENT OF WORKING CAPITAL

(Rs.lacs)

### As per Nayak Committee method (If working capital is upto Rs. 5 crore)

Partuculars	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Gross Sales (Incl. job income)	113.76	123.2	132.7	142.2	151.6	161.1	161.1	161.1	161.1	161.16
Total working capital requirement (25% of gross sales)	28.44	4	2	0	8	6	6	6	6	40.29
Marging money for working capital (5% of gross sales)	5.69	6.16	6.64	7.11	7.58	8.06	8.06	8.06	8.06	8.06
Permissable bank borrowing (20% of gross sales)	22.75	24.65	26.54	28.44	30.34	32.23	32.23	32.23	32.23	32.23

### As per second method of lending

Particulars	No. of months	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
<b>Current Assets</b>											
1. Raw materials	1.00	2.00	3.00	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00
2. Consumables, Stores and spares	1.00	0.47	0.51	0.55	0.59	0.63	0.67	0.67	0.67	0.67	0.67
3. Stock in process (Month's cost of production)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4. Finished Goods (Months cost of sales)	1.00	7.30	7.65	8.01	8.38	8.77	9.17	9.35	9.54	9.75	9.98



# Javagal Coir Cluster

## ESTIMATION OF INTEREST ON TERM LOAN

(Rs.lacs)

DETAILS	OPG BAL RC	REPAY- MENT	CL BAL RC	INTEREST 12.00%	TOTAL INTEREST	TOTAL REPAYMENT
1 st year- I Quarter	0.00	0.00	0.00	0.00		
II Quarter	0.00	0.00	0.00	0.00		
III Quarter	0.00	0.00	0.00	0.00		
IV Quarter	0.00	0.00	0.00	0.00	0.00	0.00
2 nd year- I Quarter	0.00	0.00	0.00	0.00		
II Quarter	0.00	0.00	0.00	0.00		
III Quarter	0.00	0.00	0.00	0.00		
IV Quarter	0.00	0.00	0.00	0.00	0.00	0.00
3 rd year 2007- I Quarter	0.00	0.00	0.00	0.00		
II Quarter	0.00	0.00	0.00	0.00		
III Quarter	0.00	0.00	0.00	0.00		
IV Quarter	0.00	0.00	0.00	0.00	0.00	0.00
4 th year 2008- I Quarter	0.00	0.00	0.00	0.00		
II Quarter	0.00	0.00	0.00	0.00		
III Quarter	0.00	0.00	0.00	0.00		
IV Quarter	0.00	0.00	0.00	0.00	0.00	0.00

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5th year 2009- I Quarter	0.00	0.00	0.00	0.00		
II Quarter	0.00	0.00	0.00	0.00		
III Quarter	0.00	0.00	0.00	0.00		
IV Quarter	0.00	0.00	0.00	0.00	0.00	0.00
6 th year - I Quarter	0.00	0.00	0.00	0.00		
II Quarter	0.00	0.00	0.00	0.00		
III Quarter	0.00	0.00	0.00	0.00		
IV Quarter	0.00	0.00	0.00	0.00	0.00	0.00
7 th year - I Quarter	0.00	0.00	0.00	0.00		
II Quarter	0.00	0.00	0.00	0.00		
III Quarter	0.00	0.00	0.00	0.00		
IV Quarter	0.00	0.00	0.00	0.00	0.00	0.00
8 th year- I Quarter	0.00	0.00	0.00	0.00		
II Quarter	0.00	0.00	0.00	0.00		
III Quarter	0.00	0.00	0.00	0.00		
IV Quarter	0.00	0.00	0.00	0.00	0.00	0.00
9th year - I Quarter	0.00	0.00	0.00	0.00		
II Quarter	0.00	0.00	0.00	0.00		
III Quarter	0.00	0.00	0.00	0.00		
IV Quarter	0.00	0.00	0.00	0.00	0.00	0.00
					0.00	0.00

# Javagal Coir Cluster

## ANNEXURE - X ESTIMATION OF DEPRECIATION

### a) Apportionment of Pre-operatives

(Rs.lacs)

Particulars	Actual Cost	Contingencies	Pre-Operatives	Detailed Engg.Ser	Total Cost
1. Buildings	35.00	1.42	0.60	0.00	37.02
2. Plant and Machinery	80.42	3.26	1.38	0.00	85.06
3. Misc Fixed Assets	1.05	0.04	0.02	0.00	1.11
<b>Total</b>	<b>116.47</b>	<b>4.72</b>	<b>2.00</b>	<b>0.00</b>	<b>123.19</b>

### b) Estimation of Depreciation - St. Line basis

Particulars	Total Cost	Depn. Rate (%)	Amount
1. Land	0.00	0.00	0.00
2. Buildings	37.02	3.34	1.24
3. Plant and Machinery	85.06	4.75	4.04
4. Misc. Fixed Assets	1.11	6.33	0.07
<b>Total</b>	<b>123.19</b>		<b>5.35</b>

# Javagal Coir Cluster

## c) Estimation of Depreciation - WDV Method

Particulars	(Rs.lacs)			
	Buildings	Plant & Mach.	Others	Total
<b>Rate of Depreciation (%)</b>	<b>10.00</b>	<b>15.00</b>	<b>10.00</b>	
I YEAR - Cost	37.02	85.06	1.11	123.19
- Depreciation	4.00	13.00	0.11	17.11
II YEAR - WDV	33.02	72.06	1.00	106.08
- Depreciation	3.00	11.00	0.10	14.10
III YEAR - WDV	30.02	61.06	0.90	91.98
- Additions	0.00	0.00	0.00	0.00
- Total	30.02	61.06	0.90	91.98
- Depreciation	3.00	9.00	0.09	12.09
IV YEAR - WDV	27.02	52.06	0.81	79.89
- Additions	0.00	0.00	0.00	0.00
- Total	27.02	52.06	0.81	79.89
- Depreciation	3.00	8.00	0.08	11.08
V YEAR - WDV	24.02	44.06	0.73	68.81
- Additions	0.00	0.00	0.00	0.00
- Total	24.02	44.06	0.73	68.81
- Depreciation	2.00	7.00	0.07	9.07
VI YEAR - WDV	22.02	37.06	0.66	59.74

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- Additions	0.00	0.00	0.00	0.00
- Total	22.02	37.06	0.66	59.74
- Depreciation	2.00	6.00	0.07	8.07
VII YEAR - WDV	20.02	31.06	0.59	51.67
- Additions	0.00	0.00	0.00	0.00
- Total	20.02	31.06	0.59	51.67
- Depreciation	2.00	5.00	0.06	7.06
VIII YEAR - WDV	18.02	26.06	0.53	44.61
- Additions	0.00	0.00	0.00	0.00
- Total	18.02	26.06	0.53	44.61
- Depreciation	2.00	4.00	0.05	6.05
IX YEAR - WDV	16.02	22.06	0.48	38.56
- Additions	0.00	0.00	0.00	0.00
- Total	16.02	22.06	0.48	38.56
- Depreciation	2.00	3.00	0.05	5.05
X YEAR - WDV	14.02	19.06	0.43	33.51
- Additions	0.00	0.00	0.00	0.00
- Total	14.02	19.06	0.43	33.51
- Depreciation	1.00	3.00	0.04	4.04
X YEAR - WDV	13.02	16.06	0.39	29.47
- Additions	0.00	0.00	0.00	0.00
- Total	13.02	16.06	0.39	29.47
- Depreciation	1.00	2.00	0.04	3.04

# Javagal Coir Cluster

## ANNEXURE - XI COMPUTATION OF TAXATION

(Rs.lacs)

Details	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
1. Profit Before Tax	21.3	26.2	31.0	35.6	40.1	44.4	42.3	40.0		
	8	8	4	6	3	2	1	0	37.46	34.67
2. Add: St. Line Depreciation	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35
3. Less: WDV Depreciation	17.1	14.1	12.0	11.0						
	1	0	9	8	9.07	8.07	7.06	6.05	5.05	4.04
4. Gross Taxable Income	9.62	17.5	24.3	29.9	36.4	41.7	40.6	39.3		
		3	0	3	0	0	0	0	37.76	35.98
5. Carry forward loss	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6. Net Taxable Income	9.62	17.5	24.3	29.9	36.4	41.7	40.6	39.3		
		3	0	3	0	0	0	0	37.76	35.98
7. Income Tax @ 30%	2.89	5.26	7.29	8.98	10.9	12.5	12.1	11.7		
					2	1	8	9	11.33	10.79
8. Surcharge	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9. Total income tax (including surcharge)	2.89	5.26	7.29	8.98	10.9	12.5	12.1	11.7		
					2	1	8	9	11.33	10.79
10. Education Cess @ 3%	0.09	0.16	0.22	0.27	0.33	0.38	0.37	0.35	0.34	0.32
11. Total income tax (Incl. surcharge & Education Cess)	2.97	5.42	7.51	9.25	11.2	12.8	12.5	12.1		
					5	8	5	4	11.67	11.12

# Javagal Coir Cluster

## ANNEXURE - XII CALCULATION OF INTERNAL RATE OF RETURN & NPV

IRR before tax		(Rs.in lacs)									
	Const. Period	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
<b>Out Flows</b>											
Capital Investment	-137.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		13.3									
Increase in WC Gap		1	1.68	0.68	0.69	0.69	1.70	0.09	0.10	0.11	0.12
		13.3									
<b>Total outflows</b>	-137.00	1	1.68	0.68	0.69	0.69	1.70	0.09	0.10	0.11	0.12
<b>Inflows</b>											
		21.3				40.1	44.4	42.3	40.0	37.4	
Profit before tax	0.00	8	26.28	31.04	35.66	3	2	1	0	6	34.67
Add Depreciation and non cash expenses	0.00	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35
Add: Preliminary & Preop Expenses	0.00	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Add : Interest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Add : Salvage Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.47
		26.9				45.7	50.0	47.9	45.6	43.0	
<b>Total Inflows</b>	0.00	8	31.88	36.64	41.26	2	2	1	0	6	69.74
<b>Net cash flows</b>	-137.00	13.6	30.20	35.96	40.57	45.0	48.3	47.8	45.5	42.9	69.62
		7				3	1	2	0	5	
<b>NPV before tax(Rs. in lakhs)</b>	<b>132.49</b>		<b>Discount Rate</b>		<b>7.00</b>						
			<b>taken =</b>		<b>%</b>						



# Javagal Coir Cluster

## ANNEXURE - XIII DEBT SERVICE COVERAGE RATIO

(Rs. In  
Lacs)

DETAILS	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
<b>CASH INFLOW</b>										
									25.7	
1. Profit after Tax	18.41	20.86	23.53	26.41	28.88	31.54	29.77	27.86	9	23.55
2. Depreciation	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35
3. Prel.Expenses	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
4. Interest on Term Loan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>TOTAL</b>	<b>24.01</b>	<b>26.46</b>	<b>29.13</b>	<b>32.01</b>	<b>34.47</b>	<b>37.13</b>	<b>35.37</b>	<b>33.45</b>	<b>31.3</b>	<b>29.15</b>
<b>DEBT</b>										
1. Interest on Term Loan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2. Repayment of Term Loan	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>TOTAL</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>							
<b>DEBT SERVICE COVERAGE RATIO</b>	#DIV/0 !	#DIV/0 !	0.00 0.00							
Average	#DIV/0 !									

# Javagal Coir Cluster

## ANNEXURE - XIII BREAK EVEN POINT (Installed Capacity)

(Rs. In  
Lacs)

DETAILS	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
<b>Production Capacity Utilisation</b>	<b>60.00</b>	<b>65.00</b>	<b>70.00</b>	<b>75.00</b>	<b>80.00</b>	<b>85.00</b>	<b>85.00</b>	<b>85.00</b>	<b>85.00</b>	<b>85.00</b>
	%	%	%	%	%	%	%	%	%	85.00%
<b>A. Variable Expenses</b>										
1. Raw material consumed	28.80	31.41	34.15	37.02	40.05	43.24	45.27	47.50	49.96	52.66
2. Consumable Spares	5.69	6.16	6.64	7.11	7.58	8.06	8.06	8.06	8.06	8.06
3. Power, Fuel & other utilities (Variable Cost)	5.62	6.09	6.56	7.03	7.50	7.97	7.97	7.97	7.97	7.97
4. Factory Salaries & Wages (Variable)	26.25	26.25	26.25	26.25	26.25	26.25	26.25	26.25	26.25	26.25
5. Other variable expenses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6. Selling, Packaging & distribution expenses (Variable)	2.28	2.46	2.65	2.84	3.03	3.22	3.22	3.22	3.22	3.22
7. Interest on bank borrowing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total Variable Cost</b>	<b>68.64</b>	<b>72.38</b>	<b>76.25</b>	<b>80.26</b>	<b>84.41</b>	<b>88.74</b>	<b>90.77</b>	<b>93.00</b>	<b>95.46</b>	<b>98.16</b>
<b>B.Fixed Expenses</b>										
1. Power, Fuel & other utilities (Fixed Cost)	3.75	4.06	4.37	4.69	5.00	5.31	5.31	5.31	5.31	5.31
2. Factory Salaries & Wages (fixed)	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
3. Repairs & Maintenance	3.41	3.70	3.98	4.27	4.55	4.83	4.83	4.83	4.83	4.83
4. Depreciation	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.35
5. Administrative & Misc. Expenses	2.28	2.46	2.65	2.84	3.03	3.22	3.22	3.22	3.22	3.22
6. Interest on term loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7. Interest on unsecured loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

# Javagal Coir Cluster

8. Lease rentals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Sub Total</b>	22.29	23.07	23.86	24.64	25.43	26.22	26.22	26.22	26.22	26.22
<b>C.Sales</b>	113.7 6	123.2 4	132.7 2	142.2 0	151.6 8	161.1 6	161.1 6	161.1 6	161.1 6	161.16
<b>D.Contribution</b>	45.12	50.86	56.47	61.94	67.27	72.42	70.39	68.16	65.70	63.00
<b>E.Break Even Point (B/D)</b>	49.39 %	45.36 %	42.25 %	39.78 %	37.81 %	36.20 %	37.25 %	38.47 %	39.90 %	41.61%
<b>F.Cash Break Even</b>	37.54 %	34.85 %	32.78 %	31.15 %	29.86 %	28.82 %	29.65 %	30.62 %	31.77 %	33.13%
<b>G.BREAK EVEN SALES</b>	56.19	55.90	56.07	56.57	57.35	58.34	60.03	61.99	64.31	67.07

# Javagal Coir Cluster

## ANNEXURE - XIV RETURN ON CAPITAL EMPLOYED

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
<b>Return</b>										
Operating Profit	21.63	26.53	31.29	35.91	40.38	44.67	42.56	40.25	37.71	34.92
Interest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lease Rentals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total A</b>	<b>21.63</b>	<b>26.53</b>	<b>31.29</b>	<b>35.91</b>	<b>40.38</b>	<b>44.67</b>	<b>42.56</b>	<b>40.25</b>	<b>37.71</b>	<b>34.92</b>
Net Fixed Assets	121.19	115.84	110.49	105.14	99.80	94.45	89.10	83.76	78.41	73.06
Current Assets less creditors	1.68	0.68	0.69	0.69	1.70	0.09	0.10	0.11	0.12	0.00
Total B	122.86	116.52	111.18	105.84	101.50	94.54	89.20	83.87	78.53	73.06
ROCE	17.61	22.77	28.14	33.93	39.78	47.25	47.72	47.99	48.02	47.80
<b>ROCE for Optimal Year</b>	<b>33.93</b>									
<b>Average ROCE for 10 Years</b>	<b>38.10</b>									