# MODEL PROJECT
# SMALL SCALE CASHEW PROCESSING UNIT

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**Contents**

# MODEL SCHEME

## 1.0 Introduction

Cashew is one of the most sought after nuts among dry fruits obtained from an exotic tree species. The commercial cultivation of cashew is taken up mainly in eight states in India namely Andhra Pradesh, Goa, Kerala, Karnataka, Orissa, Maharashtra, Gujarat and Tamil Nadu. The current production in India accounts for 19.46 per cent of global production. Cashew nut is formed outside the fleshy fruit known as cashew apple. At the time of maturity, the cashew apple along with seed falls down on the ground. These are collected and processed to get cashew nut. The cashew apple being fleshy and sweet in taste is used to prepare a fermented fruit drink known as Feni. Kerala is the leading state in processing of cashew. More than two third of cashew processing units are in Kerala, whereas remaining are scattered in the other states. These units together have processing capacity of more than 8 lakh tons per annum. The seeds are separated from cashew apple and dried in the sun for 4-5 days. The dried raw cashew seeds are processed to cashew nut for marketing.

In India, processing of cashew is manual and highly labour intensive process. The cashew industry is highly unorganized and scattered. Women constitute almost 90 per cent of labour force in cashew industry. Mechanization in cashew processing is picking up slowly. This model is prepared to provide guidance to start a new small scale cashew processing unit.

## 2.0 Promoters and Type of Concern

New entrepreneurs may start their business as an individual, proprietary concern, partnership firm or a joint stock company. Individual & proprietary concern should have their Permanent Account Number (PAN) and should preferably have a bank account. Partnership firms should execute a partnership deed as per Indian Partnership Act 1932 on a Non Judicial Stamp Paper as per the Stamp Act of the State Government and register the partnership firm with the Ministry of Corporate affairs. Details of procedure to be followed are available at: http://www.mca.gov.in/Ministry/actsbills/pdf/Partnership_Act_1932.pdf. A joint stock company can be formed as private limited, public limited or producers' company as per The Company Act 2013, the details of which are given on the website of Ministry at http://www.mca.gov.in/MinistryV2/companiesact.html.

## 3.0 Location of Project

One can start cashew processing unit at any location in the country. However, a location should be decided strategically keeping in view availability of ready market and cheap labour. The raw cashew can be transported to processing unit from raw material growing areas. Most of existing units import raw cashew from other countries like Vietnam, Africa etc. However, the units located in cashew growing areas have added advantage of readily available backward and forward linkages.

## 4.0 Products and Uses

It is not possible to consume raw cashew and cashew apple. Therefore, both of them need processing before consumption. Raw cashews are processed to cashew nuts, which is one the famous dry fruits. These are consumed directly or converted to variety of products like salted cashew nuts, Kaju Burfi, cashew curries etc. Cashew apple pulp rich in carbohydrates is converted to beverages and famous fermented product known as Feni. Another important byproduct of cashew industry is cashew nut shell liquid (CNSL) which is produced from cashew shells. CNSL has multiple uses in paint industry.

## 5.0 Market Potential

The demand for cashew nut is gradually increasing, whereas its supply is limited. India is leading producer, processor, consumer and exporter of cashew nuts in the world. It is one of the important agricultural commodities exported from India to many countries in the world. The market potential of cashew kernel is described as under:

### 5.1 Domestic Market

Cashew nut cultivation is limited to coastal areas. But there is very high demand for cashew nut and its products from all parts of the country. The demand for cashew nut outstrips production. It is consumed by almost every household, but due to its high price it is beyond the reach of low rung population. India produces about 7-8 lakh MT of cashew nut per annum. About two third of cashew produced in the country is consumed locally. These are used in many sweet preparations, certain *Farsan* items, dessert preparations and ice-creams. The demand for cashew nut increases during festive occasions such as *Diwali, Ramadan, Janmastami* etc.

### 5.2 Export Market

India accounts for 65 per cent of total cashew nut exports in the world and export cashew to more than 60 countries. During 2013-14, India exported 1, 13,620 MT of cashew nut valued at $825.89 million (Rs.4, 955 crore) to various countries. The country is hub for processing of cashew nut due to availability of skilled labour. The raw cashew is imported from Vietnam, Africa etc. for processing and are then exported to various

## 6.0 Manufacturing Process

The process of manufacture is well-established. Raw cashew nut are dried in sun and stored in gunny bags. The stored raw cashews are boiled by using steam in a boiler. There are manufacturers of small scale boilers available for boiling of cashew nut in most of the cashew processing areas. The boiling helps in softening of cashew shell. It becomes easy to remove nut inside cashew seed after boiling. The shell of steamed cashew nut is removed by skilled labour by using cashew cutting hand operated equipments. The cashew shell is used to extract cashew nut shell liquid (CNSL), which is an important by-product of cashew industry.The cashew kernels obtained are dried in a cabinet dryer. The outer reddish skin known as testa, is removed to obtain cashew nut after drying. Actual recovery of cashew nut is around 30 per cent, whereas 50 per cent account for shell and remaining 20 per cent is process loss. Cashewnut is graded on the basis of the colour and on how the kernel is broken. The grading of cashew as per Agmark standards is available at http://agmarknet.nic.in/cashewkernelsgmr.pdf

## 7.0 Quality Control and Quality Assurance

The processing units should follow the Food Safety and Standard Authority of India (FSSAI) act 2006. FSSAI Act is applicable pan India for all food products. It prescribes minimum standards operating procedures, food safety norms, packaging & labelling norms. The new units need to take a license called FSSAI number from Food Safety and Standards Authority of India.

## 8.0 Raw and Packing Materials

The proposed cashew processing unit will have installed capacity for processing of 500 MT raw cashews per year for 200 days operation. The only raw material required will be cashew fruits. Reportedly, around 9.23 lakh Ha acres of land is under cashew cultivation in India. Hence, obtaining around 500 tonnes of cashew fruits per season even at 100% capacity utilization will not pose any problem. Packing materials like polythene bags and second-hand corrugated boxes shall be available locally.

## 9.0 Project Cost

The major component of a cashew processing unit is land, building, plant and machinery and civil works. A project cost of Rs.158.54 Lakh has been estimated. The details of project cost are given in **Table 1** and the individual components are discussed in this section.

**Table .1. Project cost of small scale cashew processing unit**

| Sr. No. | Particulars | Amount (Rs. Lakh) |
|---|---|---|
| 1 | Land | 3.00 |
| 2 | Land development | 0.30 |
| | Sub Total | 3.30 |
| 3 | Building and civil structures (sq mt) | 50.00 |
| 4 | Plant and machinery | 60.14 |
| 5 | Miscellaneous fixed assets | 1.00 |
| 6 | Preliminary & Pre-operative expenses | 2.50 |
| 7 | Margin money for working capital | 36.09 |
| 8 | Contingencies @5% | 5.51 |
| | Total project cost | 158.54 |
| | Margin Money (25%) | 39.64 |
| | Bank loan (75%) | 118.91 |

## 9.1 Land and Land Development

A plot of land admeasuring 500 sqm will be sufficient for small scale cashew processing unit. The site should be leveled and with open space for sun drying of raw cashew. The promoters can acquire more land keeping in view future expansion plans. The land should be free from any encumbrance and shall be mortgageable. The land should be classified as non-agriculture. Permission for non-agriculture use, wherever applicable, shall be obtained for the land. The cost of land up to a maximum of 10 per cent of project cost can be reckoned towards margin, if purchased by the promoters for the project. The land can also be taken on lease and the lease period should be sufficiently more than the repayment period of loan. The lease land should preferably be with an enabling clause for mortgage of land to banks or financial institutions. The land cost varies considerably from place to place. Land cost of Rs.3.0 lakh has been considered for this model. Similarly cost of land development also varies from place to place and should be considered on actual basis. Land development cost of Rs. 0.30 Lakh has been considered in the model.

## 9.2 Buildings and Civil Works

The cashew processing unit requires a processing, drying, and packing area. A built-up area of 250 sqm is considered adequate for a cashew processing unit of small scale. Main processing area would require about 55-60 sqm, whereas storage and packing rooms would occupy balance area. The terrace of the unit can be used as drying yard for raw cashew. The total cost of building is estimated at Rs.50.00 lakh. The buildings for processing of cashew should be constructed as per the guidelines of FSSAI. The height of

the building should be such that sufficient breathing space is available. All windows and doors should be provided with insect proof wire mess. Slope as per standard guidelines should be provided in floor. Glazed tiled flooring shall be preferable to ensure easy cleaning of floor after processing session.

### 9.3 Plant and Machinery

Cashew processing is a seasonal activity and the factory would work for about 200 days in a year. Keeping in mind the availability of raw materials and market prospects, processing capacity of 500 tonnes of raw cashew processing per season is suggested. The estimated cost of plant and machinery is Rs.60.15 lakh. The details of plant and machinery and other equipments are given in **Table 2.**

**Table.2. Plant & machinery and other equipments required by cashew processing units**

| S.No. | Particulars | Number | Rate | Amount (Rupees) |
|---|---|---|---|---|
| 1 | Steam Boiler | 1 | 758000 | 758000.00 |
| 2 | Cooking Vessels | 2 | 36000 | 72000.00 |
| 3 | Semi Automated Peeling Machine | 1 | 834000 | 834000.00 |
| 4 | Multi-color Cashew Kernel Sorting Machine | 1 | 729300 | 729300.00 |
| 5 | Husk Winnowing Machine | 1 | 105000 | 105000.00 |
| 6 | Steam Pipeline | 1 | 610000 | 610000.00 |
| 7 | Hot Oven | 1 | 335000 | 335000.00 |
| 8 | Hand Operated Cutting Machine | 10 | 1900 | 19000.00 |
| 9 | Cashew Peeling Machine | 7 | 214286 | 1500000.00 |
| 10 | Filling Machine | 1 | 105500 | 105500.00 |
| 11 | Pieces separator | 1 | 90000 | 90000.00 |
| 12 | Weighing Machine | 3 | 13500 | 40500.00 |
| 13 | Sealing machine | 1 | 3500 | 3500.00 |
| 14 | Food grade plastic tubs, buckets, crates, bowls | LS | | 250000.00 |
| 15 | Diesel Generator Set | 1 | 562609 | 562609.00 |
| | **Grand total** | | | **6014409.00** |

### 9.4 Miscellaneous Assets

Some other assets like furniture & fixtures, cashew basket, SS utensils, storage racks, working tables etc. shall be required for which a provision of Rs. 1.0/- lakh is made.

## 10.0 Working Capital Requirement

Time period for construction has been considered one year including preliminary work like feasibility study, DPR preparation and financial closure. The plant is expected to start its operation during 2nd year at capacity utilization of 70%, 80% and 90% during 2nd, 3rd and 4th year onwards has been considered in the model. The estimated working capital requirement is given in **Table 3**, below:

**Table.3. Working capital assessment of cashew processing unit**

(Amount in Rs. Lakh)

| S.No. | Particulars | Period (days) | Yr2 | Yr3 |
|---|---|---|---|---|
| 1 | Raw materials stock | 30 | 54.08 | 61.80 |
| 2 | Work in progress | 7 | 14.27 | 16.28 |
| 3 | Finished goods | 30 | 61.17 | 69.79 |
| 4 | Debtors | 7 | 14.27 | 16.28 |
| 5 | Working expenses | 30 | 0.57 | 0.57 |
| | Total current assets | | 144.37 | 164.72 |
| 6 | Creditors (current liabilities) | 0 | 0.00 | 0.00 |
| | **Working capital gap** | | **144.37** | **164.72** |
| 7 | Margin money for W.C. | 25% | 36.09 | 41.18 |
| 8 | Bank loan | | 108.28 | 123.54 |

## 11.0 Means of Finance

Financing to food processing falls under priority sector lending. The loans to units meeting the criteria of MSME are classified under MSME sector. Such units can be financed by any scheduled commercial banks, Regional Rural Banks and Cooperative Banks. Important terms and conditions of financing such units are discussed in this section.

## 11.1 Margin Money

The promoters of the units need to bring margin as per the requirement of financing banks and also as per RBI guideline issued from time to time. The margin money varies from minimum 10 per cent to 25 per cent of project cost. We have assumed margin money of 25 per cent in this model scheme.

## 11.2 Bank Loan

The promoters of the units can approach any financing bank for finance. It is compulsory to take bank loan to avail various subsidy schemes of government. Therefore, the promoters should be careful in deciding means of finance.

## 11.3 Grant & Subsidy

There are numbers of incentives from Sate Government for promotion of food industry. Some of the states have formulated Agro Industry Policy. The new comers should go through these guidelines. Various incentives are available from District Industry Centres (DIC) depending upon location of unit. Therefore, to take maximum advantage of these incentives, entrepreneurs may contact the DIC in respective states.

Ministry of Food Processing Industry, GoI is implementing a centrally sponsored scheme known as National Mission on Food Processing (NMFP) jointly with State Governments. The scheme will be operational during $12^{th}$ Five Year Plan. Subsidy is available under this scheme for various food processing industries.

## 11.4 Interest Rate

The banks are free to charge any rate of interest above its base rate within overall RBI guideline issued from time to time. It generally varies from customer to customer based on credit appraisal of borrower. Base rate of a bank is a minimum lending rate below which bank is not allowed to lend. However, we have considered an interest rate of 12 per cent for term loan and 12.5 per cent for working capital to assess the bankability of the model project.

## 11.5 Security

As per RBI guidelines, the banks are required to take adequate security for loans extended by them. The borrowers should plan projects in such a manner that they have enough fixed assets to offer as security against bank loan. Various types of securities considered by banks are given here:

### 11.5.1 Primary Security

The land and buildings acquired by bank loan are mortgaged to financing banks. The mortgage can be registered or equitable in nature. The plant, machinery and other miscellaneous fixed assets acquired by bank loan shall have to be hypothecated to bank. The value of all these assets is known as primary security for a bank.

### 11.5.2 Collateral Security

As the value of primary assets, especially buildings and plant and machinery is not enough to cover the bank loan, the banks insists for mortgage of any other property or asset of the company or promoters. This is known as collateral security. The higher the value of collateral softer will be the terms for financing. Therefore, entrepreneurs may offer reasonable amount of collateral security to reduce interest cost.

### 11.5.3 Hypothecation of Stocks

All stocks, inventories and debtors are hypothecated to financing banks as security against the bank loan extended by them.

## 12.0 Manpower Requirement

The cashew processing industry is highly labour intensive. The labour is required for each and every operation like loading and unloading of raw materials and finished products, drying of raw materials, processing and packing of cashew kernel. The cashew cutting and peeling is a skilled job. Most of these cashew processing activities are performed by female skilled labour on contract basis. The wages are paid on per Kg basis. The processing units also need to employ permanent labour for handling various day to day operations. The detail of manpower requirement is given in Table.4.

**Table.4. Manpower requirement of cashew processing unit**

| S. No. | Post | Number | Salary/ wages | Annual |
|---|---|---|---|---|
| 1 | Manager cum supervisor | 1 | 25000 | 300000 |
| 2 | Skilled labour | 2 | 15000 | 180000 |
| 3 | Helper | 1 | 8000 | 96000 |
| | **Total** | **4** | | **576000** |

## 13.0 Implementation Schedule

The time for implementation of project is an important factor to decide the viability of a project. A cashew processing unit is simple to construct. However, keeping in view preliminary activities and processes involved in project approvals etc, an implementation period of 1 year has been considered. The estimated time period required for each activity is given in **Table.5.**

**Table.5. Implementation schedule for cashew processing unit.**

| Sl. No. | Activity | Period (months) |
|---|---|---|
| 1 | Feasibility Study | 0.5 |
| 2 | DPR preparation | 0.5 |
| 3 | Preliminary activities | 1 |
| 4 | Construction period (Civil work and placement of orders for plant and machinery | 8 |
| 5 | Installation of plant and machinery and trial run | 2 |

## 14.0 Govt. Approvals/ Clearance Required

### 14.1 Prior to establishment

i. Registration of concern with Registrar of Companies (ROC)
ii. NOC from Local Bodies like Gram Sabha/ MC etc. - mandatory
iii. Consent to establish from State Pollution Control Board - mandatory
iv. Approval of Layout plan for construction - mandatory
v. Permission to dug bore well from Ground Water Survey and Development Authority (GSDA)
vi. Registration with District Industry Centre (DIC) for as Small and Medium Enterprise
vii. Application to State Electricity Board/ Authority for sanction of requisite power load

### 14.2 After establishment

i. License from FSSAI
ii. Permission to commence production from State Pollution Control Board
iii. License from boiler inspector

The list is only illustrative. The entrepreneurs should undertake an exhaustive study of all rules and regulations prior to establishment of any such unit. The new entrepreneurs may take help of suitable consultant to avoid unnecessary expenditure for compliance later on.

## 15.0 Financial Analysis

In order to test the financial soundness of business, key financial indicators are assessed. Based on historical data on cost and prices, techno-economic assumptions are made for preparation of this model. The key techno-

economic assumptions are presented in **Annexure I**. The assumptions made might vary from place to place; hence need to be considered on case-by-case basis.

### 15.1 Financial Indicators

Based on the assumptions on input and output parameters, an Income Expenditure statement (Cash Flow Statement) prepared is presented at **Annexure II**. The financial indicators like Net Present Worth (NPW), Benefit Cost Ratio (BCR), Internal Rate of Return (IRR) etc. analyzed by discounting cash flow @15% discounting rate are given in **Annexure III** and summary is presented in **Table.6.**

**Table.6. Estimated Financial Indicators**

| Financial Indicators | Estimated | Requirement |
|---|---|---|
| NPW @ 15 % DF` | **124.18** | Should be +ve |
| IRR | 34.27% | > 15% |
| BCR | 1.057 | Should be >1.0 |
| DSCR | 1.604 | Should be >1.5 |

### 15.2 Repayment Period and Debt Service Coverage Ratio (DSCR)

The repayment period has been drawn by considering net surplus available for repayment. The bank loan with interest is repayable within 10 years with a grace period of one year. The details are presented in **Annexure IV.** The debt service coverage ratio based on assumed techno economic parameters is found satisfactory.

## 16.0 Depreciation Schedule

There are two different methods for assessment of depreciation on fixed assets namely Written Down Value Method (WDV) and Straight Line Method (SLM). These methods are used invariably to submit the returns to Registrar of Companies & Income Tax Authorities. We have followed WDV method for computation of depreciation in the present model and the schedule of depreciation is presented in **Annexure V.**

## Annexure I
## Techno Economic Parameters

Assumptions for working out economics of a 500 MT/ Annum capacity raw cashew processing plant

1. Total Installed Capacity 500 MT per annum of raw cashew.
2. The unit will operate in a single shift of 8 hours for 200 days.

3. Recovery of final products considered was 24% of raw cashew.
4. Capacity utilization: 1st year – Construction period, 2nd year – 70%, 3rd Year 80% and 4th year onwards – 90%.
5. Sales price will be Rs.550/Kg for whole cashew and Rs.425/Kg for splits
6. Cost of raw cashew including transportation Rs.103 / Kg
7. Labour charges are considered as Rs.160/- Kg for cutting, peeling and grading.
8. Insurance charges for the fixed assets considered as 0.5% of the depreciated cost of the assets.
9. Interest on working capital considered at 12.5% per annum and interest on term loan considered at 12% per annum.
10. Margin money considered at 25% of the financial outlay.
11. Depreciation rate of 5% and 10% has been considered for civil structures and plant & machineries, respectively.
12. Repayment period of ten years with one year grace period has been considered.

## Annexure II
## Profitability Statement

### i. Installed Capacity & Capacity utilization

| **Installed Capacity** | **Yr 1** | **Yr 2** | **Yr 3** | **Yr 4** | **Yr 5** | **Yr 6** | **Yr 7** | **Yr 8** | **Yr9** | **Yr10** |
|---|---|---|---|---|---|---|---|---|---|---|
| Installed capacity - Raw cashew (tonnes) | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 | 500 |
| Installed capacity - cashewnut (tonnes) | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| Capacity utilization (%) | 0% | 70% | 80% | 90% | 90% | 90% | 90% | 90% | 90% | 90% |
| Actual production (MT) | 0 | 84 | 96 | 108 | 108 | 108 | 108 | 108 | 108 | 108 |
| Whole cashew (MT) | 0 | 67.20 | 76.80 | 86.40 | 86.40 | 86.40 | 86.40 | 86.40 | 86.40 | 86.40 |
| Splits (MT) | 0 | 16.80 | 19.20 | 21.60 | 21.60 | 21.60 | 21.60 | 21.60 | 21.60 | 21.60 |

**ii. Sales Revenue**

(Rupees in Lakh)

| Products | Yr 1 | Yr 2 | Yr 3 | Yr 4 | Yr 5 | Yr 6 | Yr 7 | Yr 8 | Yr9 | Yr10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Whole cashew | 0.00 | 369.60 | 422.40 | 475.20 | 475.20 | 475.20 | 475.20 | 475.20 | 475.20 | 475.20 |
| Splits | 0.00 | 71.40 | 81.60 | 91.80 | 91.80 | 91.80 | 91.80 | 91.80 | 91.80 | 91.80 |
| Cashew shells | 0.00 | 17.50 | 20.00 | 22.50 | 22.50 | 22.50 | 22.50 | 22.50 | 22.50 | 22.50 |
| **Income per annum (Rs.Lakh)** | **0.000** | **458.50** | **524.00** | **589.50** | **589.50** | **589.50** | **589.50** | **589.50** | **589.50** | **589.50** |

**iii. Expenditure Calculation**

(Rs. Lakh)

| Particulars | Yr 1 | Yr 2 | Yr 3 | Yr 4 | Yr 5 | Yr 6 | Yr 7 | Yr 8 | Yr9 | Yr10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Raw materials | 0.00 | 360.50 | 412.00 | 463.50 | 463.50 | 463.50 | 463.50 | 463.50 | 463.50 | 463.50 |
| Cutting expenses | 0.00 | 22.75 | 26.00 | 29.25 | 29.25 | 29.25 | 29.25 | 29.25 | 29.25 | 29.25 |
| Peeling expenses | 0.00 | 5.04 | 5.76 | 6.48 | 6.48 | 6.48 | 6.48 | 6.48 | 6.48 | 6.48 |
| Grading expenses | 0.00 | 2.94 | 3.36 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 | 3.78 |
| Packing and marketing cost | 0.00 | 7.56 | 8.64 | 9.72 | 9.72 | 9.72 | 9.72 | 9.72 | 9.72 | 9.72 |
| Fuel consumption | 0.00 | 2.80 | 3.20 | 3.60 | 3.60 | 3.60 | 3.60 | 3.60 | 3.60 | 3.60 |
| Power consumption | 0.00 | 0.46 | 0.53 | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 | 0.59 |
| Staff salary | 5.76 | 5.76 | 5.76 | 5.76 | 5.76 | 5.76 | 5.76 | 5.76 | 5.76 | 5.76 |
| Repair and maintenance (building and P&M) | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 |
| Insurance of buildings and civil works | 0.51 | 0.47 | 0.43 | 0.40 | 0.37 | 0.34 | 0.32 | 0.30 | 0.27 | 0.25 |
| Misc Expenses | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 |
| **Total Expenditure** | **6.92** | **408.93** | **466.33** | **523.74** | **523.71** | **523.68** | **523.65** | **523.63** | **523.61** | **523.59** |

**iv. Financials**

| Particulars | Yr 1 | Yr 2 | Yr 3 | Yr 4 | Yr 5 | Yr 6 | Yr 7 | Yr 8 | Yr9 | Yr10 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Gross Surplus ( PBDIT )** | **-6.919** | **49.568** | **57.668** | **65.764** | **65.794** | **65.822** | **65.847** | **65.870** | **65.891** | **65.911** |
| Depreciation | 8.514 | 7.788 | 7.128 | 6.528 | 5.982 | 5.486 | 5.034 | 4.623 | 4.248 | 3.906 |
| Interest on Term Loan | 14.269 | 14.269 | 13.476 | 12.683 | 11.098 | 9.513 | 7.927 | 6.183 | 4.281 | 2.299 |
| Interest on WC | 0.173 | 13.534 | 15.443 | 15.443 | 15.443 | 15.443 | 15.443 | 15.443 | 15.443 | 15.443 |
| Total interest | 14.442 | 27.803 | 28.919 | 28.126 | 26.541 | 24.956 | 23.370 | 21.626 | 19.724 | 17.742 |

| Particulars | Yr 1 | Yr 2 | Yr 3 | Yr 4 | Yr 5 | Yr 6 | Yr 7 | Yr 8 | Yr9 | Yr10 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Profit after Depreciation and Interest** | -29.875 | 13.977 | 21.621 | 31.110 | 33.271 | 35.380 | 37.443 | 39.621 | 41.920 | 44.263 |
| Tax | 0.000 | 5.032 | 7.783 | 11.200 | 11.978 | 12.737 | 13.479 | 14.264 | 15.091 | 15.935 |
| **Profit after Depreciation, Interest and Tax** | -29.875 | 8.945 | 13.837 | 19.910 | 21.293 | 22.643 | 23.963 | 25.358 | 26.829 | 28.328 |
| **Surplus available for Repayment** | **-7.092** | **31.002** | **34.441** | **39.122** | **38.374** | **37.642** | **36.925** | **36.163** | **35.357** | **34.533** |
| DSCR | | | | | | | | | | |
| Coverage Available | -7.092 | 31.002 | 34.441 | 39.122 | 38.374 | 37.642 | 36.925 | 36.163 | 35.357 | 34.533 |
| Debt | 14.269 | 20.875 | 20.082 | 25.895 | 24.310 | 22.725 | 22.460 | 22.037 | 20.796 | 21.456 |
| Value | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| DSCR | -0.497 | 1.485 | 1.715 | 1.511 | 1.579 | 1.656 | 1.644 | 1.641 | 1.700 | 1.609 |
| **Average DSCR** | **1.604** | | | | | | | | | |

**Annexure III**

**Calculation of IRR, BCR and NPW - As per IT Act**

(Rupees in Lakh)

| S. No. | Particulars | Yr 1 | Yr 2 | Yr 3 | Yr 4 | Yr 5 | Yr 6 | Yr 7 | Yr 8 | Yr9 | Yr10 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | Capital Cost | 158.54 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| **2** | Recurring Cost | 6.92 | 408.93 | 466.33 | 523.74 | 523.71 | 523.68 | 523.65 | 523.63 | 523.61 | 523.59 | |
| **3** | Total Cost | 165.46 | 408.93 | 466.33 | 523.74 | 523.71 | 523.68 | 523.65 | 523.63 | 523.61 | 523.59 | **2192.24** |
| **4** | Benefits | 0.00 | 458.50 | 524.00 | 589.50 | 589.50 | 589.50 | 589.50 | 589.50 | 589.50 | 589.50 | |
| **5** | Depreciated value of structures | | | | | | | | | | 50.91 | |
| **6** | Total Benefits | 0.00 | 458.50 | 524.00 | 589.50 | 589.50 | 589.50 | 589.50 | 589.50 | 589.50 | 640.41 | **2316.42** |
| **7** | Net Benefits | -165.46 | 49.57 | 57.67 | 65.76 | 65.79 | 65.82 | 65.85 | 65.87 | 65.89 | 116.82 | |
| **8** | Discounting Factor | 15% | | | | | | | | | | |
| **9** | **NPW @ 15 % DF** | **124.18** | | | | | | | | | | |
| **10** | **IRR** | **34%** | | | | | | | | | | |
| **11** | **BCR** | **1.06** | | | | | | | | | | |

**Annexure IV**
**Repayment Schedule**

(Rupees in Lakh)

| *Year* | *O/S BankLoanatStart ofYear* | *Disb, Duringtheyear* | *Total loanoutstanding* | *Surplus forRepayment* | *InterestPayment* | *Repayment ofPrincipal* | *Total Outgo* | *O/S BankLoanat EndofYear* | *Balance left* |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 118.91 | 118.91 | -7.09 | 14.27 | 0.00 | 14.27 | 118.91 | -21.36 |
| 2 | 118.91 | | 118.91 | 31.00 | 14.27 | 6.61 | 20.87 | 112.30 | 10.13 |
| 3 | 112.30 | | 112.30 | 34.44 | 13.48 | 6.61 | 20.08 | 105.70 | 14.36 |
| 4 | 105.70 | | 105.70 | 39.12 | 12.68 | 13.21 | 25.90 | 92.48 | 13.23 |
| 5 | 92.48 | | 92.48 | 38.37 | 11.10 | 13.21 | 24.31 | 79.27 | 14.06 |
| 6 | 79.27 | | 79.27 | 37.64 | 9.51 | 13.21 | 22.72 | 66.06 | 14.92 |
| 7 | 66.06 | | 66.06 | 36.92 | 7.93 | 14.53 | 22.46 | 51.53 | 14.46 |
| 8 | 51.53 | | 51.53 | 36.16 | 6.18 | 15.85 | 22.04 | 35.67 | 14.13 |
| 9 | 35.67 | | 35.67 | 35.36 | 4.28 | 16.51 | 20.80 | 19.16 | 14.56 |
| 10 | 19.16 | | 19.16 | 34.53 | 2.30 | 19.16 | 21.46 | 0.00 | 13.08 |

**Annexure V**

**Depreciation as Per the WDV Method: IT Act**

(Rupees in lakh)

| Sr. No. | Particulars | Yr 1 | Yr 2 | Yr 3 | Yr 4 | Yr 5 | Yr 6 | Yr 7 | Yr 8 | Yr 9 | Yr 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | Civil Structures | 50.00 | 47.50 | 45.13 | 42.87 | 40.73 | 38.69 | 36.75 | 34.92 | 33.17 | 31.51 |
| **2** | Depreciation | 2.50 | 2.38 | 2.26 | 2.14 | 2.04 | 1.93 | 1.84 | 1.75 | 1.66 | 1.58 |
| **3** | Depreciated cost | 47.50 | 45.13 | 42.87 | 40.73 | 38.69 | 36.75 | 34.92 | 33.17 | 31.51 | 29.94 |
| | | | | | | | | | | | |
| **1** | Plant & Machinery | 60.14 | 54.13 | 48.72 | 43.85 | 39.46 | 35.51 | 31.96 | 28.77 | 25.89 | 23.30 |
| **2** | Depreciation | 6.01 | 5.41 | 4.87 | 4.38 | 3.95 | 3.55 | 3.20 | 2.88 | 2.59 | 2.33 |
| **3** | Depreciated cost | 54.13 | 48.72 | 43.85 | 39.46 | 35.51 | 31.96 | 28.77 | 25.89 | 23.30 | 20.97 |
| | | | | | | | | | | | |
| **1** | All assets | 110.14 | 101.63 | 93.84 | 86.71 | 80.19 | 74.20 | 68.72 | 63.68 | 59.06 | 54.81 |
| **2** | Depreciation | 8.51 | 7.79 | 7.13 | 6.53 | 5.98 | 5.49 | 5.03 | 4.62 | 4.25 | 3.91 |
| **3** | Depreciated cost | 101.63 | 93.84 | 86.71 | 80.19 | 74.20 | 68.72 | 63.68 | 59.06 | 54.81 | 50.91 |