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IIIa. PROJECT PROFILE FOR MANUFACTURE OF " HANDMADE PAPER "

INTRODUCTION

Paper is used by every citizen in the country. The consumption varies from place to place. Since Manipur State is surrounded by hills, getting paper from outside is costly and time consuming activity.

The handmade paper is was prepared since 105 A.D. and the industry had flourished in India from Mughal Period.

The handmade paper produced in the country are from Agro raw materials like cotton rags, waste paper, jute, straws, banana, etc.

At present Agro based wastes as well as paper waste are not used in Manipur. One project based on Water Hyacinth (i.e. Aquatic Plant) as raw material and Regional Research Laboratory, Jorhat Technology is installed in Imphal District. However due to lack of raw material and high transportation cost plant is not in operation for the last two years.

Other local raw materials available can be exploited for handmade paper units.

It is proposed for tiny paper unit in view of raw material availability, market potential and skill availability.

RAW MATERIALS

Handmade paper is produced by recycling the waste Agro raw materials. Agro fibres like jute, straw, banana are used.

PRODUCTS AND THEIR USES

Handmade paper has the following unique characteristics :

- i) Handmade paper is having elegant and exquisite surface for writing.
- (ii) It has indestructibility and superb strength for permanence.
- (iii) It has unmatched texture for drawings by artists and engineers.
- (iv) It has scores of fancy varieties for decorative wraps.
- (v) It has high tensile, bursting, tearing and double fold strength as compared to mill made paper and it does not turn brittle due to ageing.

Handmade Paper Industry manufactures paper such as drawing paper for artwork, permanent document paper, dark coloured card sheets, deckle edged stationery, exclusive greetings, unique carry bags, watermark paper for certificates, filter paper and pads, insulation paper besides other cultural grades like file covers, duplicating paper, tissue paper etc. Among these unique items, products like deckle edge drawing paper and converted stationery, carry bags from natural fibres, account for over Rs. 60 million worth direct and indirect exports to developed countries as per 1993-94 performance. With the technological developments introduced in the industry in the recent years, handmade paper, despite its non-glazing appearance is found to be ideally suited for four colours reproduction on offset machines. Therefore, Handmade Paper is gradually replacing mill products like cartridge paper, bank note and maplitho paper.

PROCESS IN BRIEF

(a) Preliminary Treatment :

The raw material produced is cut into small bits with the help of hand knives or power operated rag chopper after sorting (to remove non-cellulosic material). Cut material is dusted on a wiremesh frame. In case of Agro fibres the material after chopping is cooked in a small open digester with low percentage of Alkali and washed.

(b) Beating : Cut and dusted rags are beaten to pulp/stock in small power operated Hollender beater, with or without bleaching. The material is washed by means of a washer drum followed by further beating. Addition of natural fillers, loadings, dyeing and sizing chemicals as required for the end product is also accomplished during beating.

(c) Sheet Formation :

Wet sheets are lifted by Vatman with the help of wiremesh frames either by dipping the same into traditional vat containing pulp or by pouring measured quantity of pulp into the mould held in the improved type pedal operated univat containing water. Coucher transfers the wet sheet over to the cloth napkin or woollen felt by mild pressing of the mould. This lifting and couching process continues till a pile of wet sheets each interleaved with cloth felt is made.

(d) Pressing :

The pile is then pressed under a hand operated screw press or a small power operated Hydraulic press. Upto 50 per cent water from the wet sheets is removed.

(e) Peeling and Drying :

Pressed sheets are peeled separated from the couching cloth/felt and left dried for natural drying indoors.

(f) Removal of Dirt and Dust :

As a part of quality control, dirt specks, if any, are carefully removed by hand with the aid of small knives and brushed.

(g) Tub Sizing :

Document papers, certificates, drawing and other specialities in particular are dipped in a bath containing animal glue, starch, etc. and dried again to build unique characteristics like permanence, erasibility and long life by preventing mould growth and damages from insects.

(h) Calendering :

Dried paper is plate glazed interleaved between zinc/G.I.sheets and passed to and fro under heavy mechanical pressure through a small power operated calendering machine. Rough drawing papers are not, however, calendered but are only pressed flat before trimming and packing to maintain specific characteristics.

The industry has created its impact with the development of clusters in places like Kalpi in Uttar Pradesh and Sanganer near Jaipur (Rajasthan). The programme of the industry has been implemented by KVIC during last 40 years through its implementing agencies like State Khadi and V.I.Boards and directly aided Khadi Institutions. Besides the Handmade Paper Units established by individual entrepreneurs with the financial assistance through S.F.Cs., Banks, NSIC, etc., have also been recognised by KVIC and technical guidance rendered to them from time to time. The viability of the industry is indicated by its growth under the private sector also which contributes to the extent of 40 per cent of total production of handmade paper in the country. Apart from the clusters at Kalpi and Sanganer, the progress of the industry particularly in States like Maharashtra, Tamil Nadu and Uttar Pradesh has been noteworthy.

INFRASTRUCTURE REQUIRED

In order to establish a good handmade paper unit infrastructure facilities like soft water availability, 3 phase electric power supply, road and workshop facilities are required. The details of water and power supply required are furnished in the project profiles.

The industry is fairly labour intensive and therefore availability of labour on moderate wages is essential. Since various speciality grades of paper can be manufactured by the industry it can afford to pay moderate wages ranging from Rs. 25 to Rs. 100 per day depending upon the skill of the workers. It provides employment to women to the extent of 40 per cent of the total work force.

The Industry attracts the provisions of the Factories Act and other labour laws and it can sustain payment of fringe benefits under these provisions to the workers.

MARKET POTENTIAL FOR THE PRODUCTS

The industry today has diversified its products range with the growing demand for eco- friendly products both abroad and in domestic market. The industry is in a position to supply a major item of file covers required by various Government departments, Public sector undertakings, besides industrial houses at competitive rates. The drawing paper produced by the industry has unique demand throughout the country and also abroad. Water-mark papers for degree, share certificate, etc. industrial grade papers like insulation papers, filter pads have sustained demand in the open market. The bond paper for letter heads, envelopes, etc., proposed to be made in the tiny units has also good and sustained demand. This item is ideal to be produced in tiny units.

BASES AND PRESUMPTION

- (1) The estimates are drawn for a production capacity generally considered techno-economically viable for a model type of manufacturing activity.
- (2) The information supplied is based on standard type of manufacturing activities, utilising conventional techniques of production.
- (3) The cost in respect of machinery and equipment, raw materials and the selling price of the finished products etc. are those generally prevailing at the time of the preparation of the project report.
- (4) Whereas some name of the manufacturers/suppliers of machinery and equipments, raw materials are indicated at the end of a profile, these are by no means exclusive or exhaustive.
- (5) The unit will work for 300 working days in a year on single shift basis.
- (6) The salaries and wages, cost of land and building and raw material cost have been taken according to the prevailing market rates.

IMPLEMENTATION SCHEDULE

Since the land and building has been taken as rented there is no problem of acquisition of land etc. The entire machinery and other testing equipments have to be purchased and installed. It may take about 6 to 8 months on an average for a concern to go into regular production. The unit has also to approvals relating to installation and operation of boiler.

CONSTRUCTION OF WORKSHOPS

| Industry | Forecast for which | Specification given | Cost of | Total cost | Time period | Participating | Depreciation | Justification |
|----------------|---|--|----------------------------|------------|---------------|---------------|--------------|--|
| | Construction is processed. | by industry Director (expected cost for construction asset/year) in months) | Construction Re. per sq.ft | | | | | to be included in cost of the production |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Handmade paper | For storing raw materials, finished products and manufacturing. | As per appropriate local authority. Shed 60 ft x 20 ft. & height 15 ft. Total area:- 1200 Sq.ft. | Rs.250 per sq.ft. | Rs.3Lakhs | 3 to 6 months | 20 Years | 20 Years | |

I. The capacity and other details are as follow:-

- 1) 150 reams of Decorative paper 8kg./ream in size 22 x 30" @ Rs.2500 per ream :Rs. 3,75,000/-
- 2) 1,80,000 greetings/Invitation cards with matching envelopes @ Rs.3.00 each :Rs. 5,40,000/-
- 3) 3900 packets of visiting cards @ Rs.35/-per packet :Rs. 1,36,500/-
- 4) 1200 Drawing Pads @ Rs.40/- each :Rs. 48,000/-
- 5) 150 reams thin paper @ Rs.8.00/-per ream :Rs. 1,20,000/-

TOTAL = Rs.12,19,000/-

II. Estimated working period :- 300 working days per annum.

III. Estimated area of work place :- 60 x 20 sq.ft. = 1200sq.ft.
 Open space :- 50 x 100sq.ft. = 5000sq.ft.

Rs. 1,00,000/-

EXPENSES

| | | |
|---|--------------------------------|----------------|
| Various glass products like glass sheets etc. | 3 tonnes @ Rs. 50/- per kg. | Rs. 1,50,000/- |
| (2) Cotton rope | 5 tonnes @ Rs. 20,000/- | Rs. 1,00,000/- |
| (3) Other fibres | 1 tonne @ Rs. 20,000/- per kg. | Rs. 20,000/- |
| | Transportation Cost --- | Rs. 2,50,000/- |
| | | Rs. 10,000/- |
| | | Rs. 3,60,000/- |
| <u>(4) Chemicals</u> | | |
| a) Caustic soda | 200 kg. @ Rs. 25/- | Rs. 5,000/- |
| b) Bleaching Chemicals | 150 kg. @ Rs. 20/- | Rs. 3,000/- |
| c) Colour | 50kg. @ Rs. 200/- | Rs. 10,000/- |
| d) Sizing Chemicals | | Rs. 2,500/- |
| e) Others | | Rs. 25,000/- |
| | | Rs. 45,500/- |
| Transportation cost of Chemicals | ----- | Rs. 4,500/- |
| Total cost of chemicals | ----- | Rs. 50,000/- |
| Total cost of raw materials and chemicals | ----- | Rs. 3,00,000/- |
| | | + 50,000/- |
| | | Rs. 3,50,000/- |

PERSONNEL REQUIREMENTS SUMMARY

Personnel Details

| | | | |
|----|-------------------|----------|--------------|
| 1. | Supervisor | One | 3,500/- |
| 2. | Skilled Workers | Two | 5,000/- |
| 3. | Unskilled workers | Six | 6,000/- |
| 4. | Typist-cum-clerk | One | 1,500/- |
| 5. | Peon | One | 1,000/- |
| 6. | Watchmen | Two | 3,000/- |
| 7. | Salesman | One | 2,500/- |
| 8. | Chemist | One | 2,500/- |
| | | | ----- |
| | | Total -- | Rs. 25,000/- |
| | | | Rs. 5,000/- |
| | | | ----- |
| | | Total -- | Rs. 30,000/- |

Annual Cost = Rs. 30,000 x 12 = Rs. 3,60,000/-

CO-OP BUSINESS ACCOUNT

WORKING BALANCE SHEET

| | | | |
|----------------------------------|--|----|----------------|
| 1. Assets of Inventory :- | Hand made paper products. | | |
| 2. Product :- | Handmade Paper and Products. | | |
| (A) Raw material & Chemicals | ---- | | Rs. 3,50,000/- |
| (B) Salaries and Wages | ---- | | Rs. 3,60,000/- |
| (C) Indirect Expenses :- | | | |
| | i) Water, power, fuel, etc. | -- | Rs. 36,000/- |
| | ii) Repairs and maintenance | -- | Rs. 12,000/- |
| | iii) Consumables, etc. | -- | Rs. 6,000/- |
| | iv) Conveyance & travels | -- | Rs. 12,000/- |
| | v) Conversion & printing etc. | -- | Rs. 18,000/- |
| | vi) Telephone, taxes, postage, insurance, etc. | -- | Rs. 18,000/- |
| | vii) Unseen miscellaneous expenses including packing, etc. | -- | Rs. 12,000/- |
| | | | ----- |
| | | | Rs. 1,14,000/- |
| (D) Depreciation: | | | |
| | i) On building @ 5% on Rs. 3.00 lakh | -- | Rs. 15,000/- |
| | ii) On machinery @ 10% on Rs. 4.50 lakh | -- | Rs. 45,000/- |
| | | | ----- |
| (E) Interest on Total Investment | Rs. 10,76,000/- @ 18% | -- | Rs. 60,000/- |
| | | | Rs. 1,93,600/- |

INITIAL INVESTMENT

Rs. 3,50,000/-
Rs. 3,50,000/-
Rs. 1,14,000/-
Rs. 80,000/-
Rs. 1,93,600/-

Rs. 10,77,600/-

TOTAL INVESTMENT

(A) Fixed Assets :- (i) Land -- Rs. 1,00,000/-
(ii) Building -- Rs. 3,00,000/-
(iii) Plant & machinery -- Rs. 4,50,000/-
(iv) Preliminary & pre-operative expense -- Rs. 20,000/-

(B) Working capital for 3 months: (i) Raw materials -- Rs. 5,70,000/-
(ii) Salary & Wages -- Rs. 87,500/-
(iii) Indirect expenses -- Rs. 90,000/-
-- Rs. 28,500/-
Rs. 2,06,000/-

TOTAL :- Rs. 10,76,000/-

ANNUAL SALES & PROFIT

(A) Annual sales -- Rs. 12,19,500/-
(B) Annual Cost -- Rs. 10,77,600/-
Profit before taxation -- Rs. 1,41,900/-

RETURN ON INVESTMENT

| | | | |
|---------------------------------|----|----|-----------------|
| Total Investment | -- | -- | Rs. 10,76,000/- |
| Annual profit (Before taxation) | -- | -- | Rs. 3,20,000/- |

$$\text{Return on investment (R.O.I)} = \frac{3,20,000}{10,76,000} \times 100$$
$$= 29.7 \%$$

I. Gross Surplus

$$\begin{aligned} & \text{Sales} - \text{Cost of production} \\ & = \text{Rs. } 13,47,600 - \text{Rs. } 10,77,600 \\ & = \text{Rs. } 3,20,000/- \end{aligned}$$

II. Net Surplus

$$\begin{aligned} & \text{Gross Surplus} - (\text{Int. on T.L} + \text{Int on W.C.L} + \text{Depreciation}) \\ & = \text{Rs. } 3,20,000 - (1,93,600 + 60,000) \\ & = \text{Rs. } 3,20,000 - 2,53,600 \\ & = \text{Rs. } 66,400 \end{aligned}$$

III. Disposable Surplus:

$$\begin{aligned} & \text{Net surplus} + \text{Depreciation:} \\ & = \text{Rs. } 66,400 + \text{Rs. } 60,000 \\ & = \text{Rs. } 126,000/- \end{aligned}$$

Thus, this project can pay term loan in about five years even at a capacity utilisation of 80%

$$\frac{\text{Fixed Cost}}{\text{Contribution}} \times 100$$

Fixed Cost:

| | |
|-----------------------|--------------|
| Depreciation | Rs. 60,000 |
| Interest on term loan | Rs. 1,04,000 |
| Other Expenses | 88,000 |
| Fixed Salary & Wages. | 1,44,000 |
| | ----- |
| Total. | 3,96,000 |

Variable Cost:

| | |
|------------------|--------------|
| Raw Material. | Rs. 3,50,000 |
| Salary & Wages. | Rs. 2,16,000 |
| Utilities | 36,000 |
| Other Expenses | 20,000 |
| Int. on W.C Loan | 32,000 |
| | ----- |
| Total. | 6,64,000 |

$$\frac{3,96,000}{13,97,600 - 6,64,000} \times 100$$

$$\frac{3,96,000}{7,33,600} \times 100$$

$$= 54.0 \%$$

Ratio Analysis

I. Debt/Equity Ratio

| | | | | | | | | | | | | | | | |
|--|---|-----------|----------|-----------|----------|----------|--|---------------|----------|-----------------|--------|------------|----------|----------|--|
| $\frac{8,20,000}{3,40,000} = 2.41 : 1$ | <p>Dept:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">Term Loan</td> <td style="text-align: right;">6,50,000</td> </tr> <tr> <td>W.C. Loan</td> <td style="text-align: right;">1,80,000</td> </tr> <tr> <td colspan="2" style="border-top: 1px solid black; text-align: right;">8,20,000</td> </tr> </table> <p style="text-align: center;">Equity:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">Fixed Capital</td> <td style="text-align: right;">2,20,000</td> </tr> <tr> <td>Working Capital</td> <td style="text-align: right;">20,000</td> </tr> <tr> <td>Land Value</td> <td style="text-align: right;">1,00,000</td> </tr> <tr> <td colspan="2" style="border-top: 1px solid black; text-align: right;">3,40,000</td> </tr> </table> | Term Loan | 6,50,000 | W.C. Loan | 1,80,000 | 8,20,000 | | Fixed Capital | 2,20,000 | Working Capital | 20,000 | Land Value | 1,00,000 | 3,40,000 | |
| Term Loan | 6,50,000 | | | | | | | | | | | | | | |
| W.C. Loan | 1,80,000 | | | | | | | | | | | | | | |
| 8,20,000 | | | | | | | | | | | | | | | |
| Fixed Capital | 2,20,000 | | | | | | | | | | | | | | |
| Working Capital | 20,000 | | | | | | | | | | | | | | |
| Land Value | 1,00,000 | | | | | | | | | | | | | | |
| 3,40,000 | | | | | | | | | | | | | | | |

II. Capital employed to value of output Ratio.

| |
|--|
| $\frac{\text{Fixed capital} + \text{Working capital}}{\text{Output}} = \frac{8,70,000 + 2,06,000}{13,97,600} = 0.77 : 1$ |
|--|

III. Capital employed to Net Value Employed ratio

| | |
|--|--|
| $\frac{\text{F.C.} + \text{W.C.}}{\text{Net Value}} = \frac{8,70,000 + 2,06,000}{9,41,600} = 1.41 : 1$ | <p>Net Value = Output - (R.M. Power, Store, Depreciation)</p> $= 13,97,600 - (350,000 + 36,000 + 10,000 + 60,000)$ $= 9,41,600.$ |
|--|--|

III. Investment per Worker Ratio:

$$\begin{aligned} & \frac{\text{F.C.} + \text{W.C}}{\text{No. of Workers}} \\ & \frac{8,70,000 + 2,06,000}{14} \\ & = \text{Rs. } 76,857/\text{ worker} \end{aligned}$$

V. Productivity per Worker

$$\begin{aligned} & = \frac{\text{Output}}{\text{No. of Workers}} \\ & \frac{13,97,600}{14} \\ & = \text{Rs. } 99828/\text{ worker.} \end{aligned}$$

VI. Percentage of Raw Material to Value of Output.

$$\begin{aligned} & = \frac{\text{R.M}}{\text{Output}} \times 100 \\ & \frac{3,50,000}{13,97,600} \times 100 \\ & = 25.0 \% \end{aligned}$$

ANNEXURE - I
CLASSIFICATION OF PAPER PRODUCTS

| Sl. No. | Name of the product | Type of products |
|---------|--|---|
| 1. | Secondary, Colleges/Universities and other educational Institutions, Higher level institutions of Technical education (IITs, IITs, IITs, etc.) and Architecture Institutions | 1. Degree and Certificate Papers with or without Watermarks, Strong Envelopes, File Covers, File Boards, Ledger Papers, Drawing Papers, Book covers, coloured card sheets, Marble Paper and Decorative Papers |
| 2. | Central and state Government Departments, PS, US, Banks, Railways, P & T Departments, etc. | 2. Strong Bond Papers for Share Certificates, Fixed Deposits Receipts, Greeting Cards, Stationery such as quality File Covers and File Boards. |
| 3. | Departmental Stores and Stationery Dealers. | 3. Papers for Prestigious printing file covers, File boards, Letter-heads papers, strong Envelopes, Paper for posters, Card sheet, etc. |
| 4. | Distilleries, Pharmaceuticals and Chemical, Electricals. | 4. Superior Card sheets for Cartons, carry bags etc. Filter paper and Pads, Electrical Insulation Papers. |
| 5. | Designers, Interior Decorators. | 5. Low Cost Boards (from Banana stems) as substitutes for plywood in partition walls, False ceiling, wall papers, Acoustic boards etc. |

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ANNEXURE-III
LIST OF MANUFACTURERS OF BALL BEARING MADE IN HANDEMA AREA VISUALLY

1. Sarkerhop, CoB Industry,
Badi and V.I. Commission, P.O. Bahadur,
Dist. Thane, Maharashtra-401501.

2. Siston India,
4-76, MIDC, Phase-II, Dombivli (E)- Pradesh,
421204, Dist. Thane (Maharashtra).
Phone : 0251-86 470978, 553-470833
Gram : SISTSON

3. Kanti Engineering Co.,
No.45/19, 7th Cross, 80 Feet Road,
6th Block, Rajaji Nagar,
Bangalore-560010.
Phone : 3582181.

4. Prakesh Engineering Works,
Turnerganj, Kalpi,
(Uttar Pradesh), Pin-285204.

5. Suvik Engineers,
Kamal Road, (Sarai Mardam Ali),
Saharanpur-247001 (Uttar Pradesh).

6. M.A.Traders,
7/109-1(1) Swaroop Nagar,
Nagpur-208002.
Phone : 294268,243269.