REPORT ON INDUSTRIAL PLACEMENT BATCH 2013-17

UNDER STUDENT READY PROGRAMME AT CHAKCHAKA INDUSTRIAL GROWTH CENTER
ACKNOWLEDGEMENT

Our sincere thanks to all of those who put their special effort for helping us in this industrial training.

Special thanks should be given to our respected Dean Dr.Tapan Hath, Dr.Prabhat Paul, Dr.Koushik Pradhan, Dr.Tarun paul, Dr.Sabita Mandal, Miss Deepa Roy, Dr.Somnath Mondal, Mr.Litan Das, Dr.Lakshmi Hijam.

Our source of knowledge about industrial training is not only from our teachers but also from the local people associated with this industry. We also got information from external sources such as internet. Our special regards to all the teachers who stood beside us and we hope that our report about industrial training ends with success.
Objectives:

- To get wholesome knowledge about industrial growth
- To get acknowledged with industrial process about various agricultural product.
- To know about the market channel of various agricultural goods and commodities.

LOCATION-
CHAKCHAKA INDUSTRIAL GROWTH CENTER, COOCHBEHAR, WEST BENGAL
1. General Characteristics of the District:

Cooch-Behar is one of the five districts of Jalpaiguri Division with an irregular triangle shape. The district occupies 12\textsuperscript{th} position in the State in respect of its size. It lies in the south of Jalpaiguri district beyond the hilly terrain of Himalayan belt and geographically forming a part of Himalayan Tarai of West Bengal.

The district of Cooch Behar is essentially a town. It is the home of many district-level and divisional level offices. Hence, the economy is solely agriculture dependent. The industrial sector is not yet fully developed due to lack of proper infrastructure.

1.1 Location & Geographical Area

The district lies between 25\degree57'40" and 26\degree32'20" North latitude and between 88\degree47'40" and 89\degree54'35" East longitude.

The district is surrounded by Jalpailguri District in the North, Goalpara District of Assam and Rangpur district of Bangladesh in the East and International Boundary of Bangladesh in South & West.

A short table showing the geographical location of the district of Cooch Behar is furnished below:-

<table>
<thead>
<tr>
<th>Name of the district</th>
<th>Latitude</th>
<th>Longitude</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>North</td>
<td>South</td>
</tr>
<tr>
<td>Cooch-Behar</td>
<td>26\degree32'20&quot;</td>
<td>25\degree57'40&quot;</td>
</tr>
</tbody>
</table>

Source: Bureau of Applied Economics & Statistics Cooch Behar
1.2 Topography

The district being crisscrossed with a number of rivers and rivulets. The principal rivers of the district are Teesta, Torsa, Jaldhaka, Dharla, Mansai, Kaljani, Raidhak, Gadadhar and Sankosh. Among other small rivers are Sutanga, Khotamara, Giridari, Gilandi, Dudua, Dolong, Mujnai etc. The climate of the district is characterised by a very high level of humidity and abundant rainfall. The temperature is hardly ever excessive. The flora here constitutes, among others, palms, bamboo, creepers, ferns, orchids, aquatic plants, fungi, timber, grass, vegetable, fruit trees, etc.

1.3 AVAILABILITY OF MINERALS

<table>
<thead>
<tr>
<th>S.NO.</th>
<th>NAME OF MINERAL</th>
<th>PRODUCTION in tones 2010-2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAJOR MINERAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Nil</td>
<td>-</td>
</tr>
<tr>
<td>MINOR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Nil</td>
<td>-</td>
</tr>
</tbody>
</table>

SOURCE: Dte. Of Mines & Minerals, Govt. of W.B

1.4 FOREST

The character of the forest in the district is a admixture of deciduous and evergreen forest. The forests are comprised of protected forest, unclassed forest and khasmahal forests. As the forests are admixture of evergreen and deciduous, both hard and soft stem trees are available in these forests. Flora, fauna and herbs are also found insignificantly.
1.5 ECONOMY

The economy of Cooch Behar is solely agriculture-dependent. The inland marketing of the agricultural products mainly supports the economy of Cooch Behar. Predominantly an agrarian district, Cooch Behar is industrially backward. However, to supplement the agriculture based economy, some measures have been taken up to ensure growth in the industrial sector. As the district is primarily agrarian, the agro-based industries are in the first priority. Hence, the food processing industries like the manufacturing of jam, jelly, sauce & chips (supplemented mainly by the production of potato & tomato) have a good potential in the district. The processed food of the district has a profitable domestic market at the same time they are exported to the neighbouring countries.

2.1 Existing Status of Industrial Areas in Coochbehar District

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Name of Ind. Area</th>
<th>Land acquired (In hectare)</th>
<th>Land developed (In hectare)</th>
<th>Prevailing Rate Per Sqm (In Rs.)</th>
<th>No of Plot s</th>
<th>No of allotted Plots</th>
<th>No of Vacant Plots</th>
<th>No. of Units in Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Coochbehar Growth Centre</td>
<td>131.03 1 acre</td>
<td>84 acre</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>46</td>
</tr>
</tbody>
</table>

Source: - WBSIDC & WBIIDC
INTRODUCTION

Milling process of wheat consist of processing of wheat kernel into flour. This process is a gradual process of reduction of wheat kernel through a process of grinding and shifting into ultimate product of flour. The steps involve cleaning the wheat, magnetic separation, tempering the wheat and grinding through several machines. The grains of wheat enriched with vitamins and minerals.
Wheat is one of the major food of India after rice. India is the second largest producer of wheat and so industrial wheat mill is getting an impedes growth and wheat flour and other processed items are the basic requirement of Indian household.
**PRODUCT:**

1) WHEAT FLOUR (Atta),
2) SOOJI/RAWA
3) WHEAT FLOUR (Maida),
4) BRAN

**QUALITY STANDARD:**
The Product may be manufactured as per ‘AGMARK’ Specification. The BIS have also laid down Specification for the Products:
IS: 1009 - 1979 (Maida)
IS: 1010 - 1968 (Sooji/Rawa)

**QUALITY AND STANDARDS:**
As per AGMARK specifications PRODUCTION CAPACITY: 450 tpa
1.0 PRODUCT AND ITS APPLICATIONS

India produces more than 70 million tonnes of wheat. It is mainly consumed in the form of atta, suji, maida and baking flour. Most of the wheat is milled in small capacity disc mills to produce wheat flour (atta). Maida—the refined wheat flour, used in the bakery industry, could be produced in capital intensive and sophisticated roller flour mills. Small scale bakery industry is often confronted with the problem of availability of right quality of maida. CFTRI, Mysore has now developed a simple mini wheat mill which simultaneously produces bakery flour, maida, atta and suji. Bran is available as a bye product which is used as animal feed.

2.0 MARKET POTENTIAL

The simple low cost mini wheat mill is of great relevance specially to the rural regions. It can produce common of milled wheat products in small quantities at a low investment. Keeping in view the projected growth rate of bread and biscuit industry by 13% and 9% respectively, there is a vast scope for setting up these units in rural areas.
3.0 BASIS AND PRESUMPTIONS

a) The unit will work for 300 days per annum on single shift basis.

b) The unit can achieve its full capacity utilization during the 3rd year of operation.

c) The wages for skilled workers are taken as per prevailing rates in this type of industry.

d) Interest rate for total capital investment is calculated @ 12% per annum.

e) The entrepreneur is expected to raise 20-25% of the capital as margin money.

f) The unit would construct its own building.

g) Costs of machinery and equipment are based on average prices of machinery manufacturers.

4.0 IMPLEMENTATION SCHEDULE

Project implementation will take a period of 8 months. Break-up of the activities and relative time for each activity is shown below:

- Scheme preparation and approval: 01 months
- SSI provisional registration: 1-2 months
- Sanction of financial supports etc.: 2-5 months
- Installation of machinery and power connection: 6-8 months
- Trial run and production: 01 months
5.0 TECHNICAL ASPECTS

5.1 Location

The unit can be set up in rural/urban areas where electricity and wheat are easily available.
5.2 Process of Manufacture

Wheat
↓
Cleaning
↓
(Manual or modified cleaner)
↓
Destoner
Conditioner with water storage tank (Water added @ 2-3%)

Huller
For removal of bran (polishing)

Plate Mill
↓
(For grinding polished wheat)
↓
Sifter

-------------------------------------------------------------------------

Bakery flour
↓↓
Fine atta
↓
Plate Mill

Bran ←  (For regrinding)
(For animal feed)

Chapatti atta
(50-65%)

5.3 Quality Control and Standards:
As per AGMARK requirements.
6.0 POLLUTION CONTROL

There is no major pollution problem associated with this industry except for disposal of waste which should be managed appropriately. The entrepreneurs are advised to take "No Objection Certificate" from the State Pollution Control Board.
DAY-2
A VISIT TO THE RICE MILL
TORSHA AGRO TECH INDUSTRIES
PVT LIMITED

DATE-06.04.2017
LOCATION- COOCHBEHAR CHAKCHAKA INDUSTRIAL COMPLEX

1. Introduction:

The Rice milling is the process that helps in removal of hulls and brans from paddy grains to produce polished rice. Rice is rich in genetic diversity with thousands of varieties grown throughout the world. Rice has been one of man's most important foods. Today, this unique grain helps sustain two-thirds of the world's population. It is life
for thousands of millions of people. It is deeply embedded in the cultural heritage of their societies. About four-fifths of the world's rice are produced by small-scale farmers and are consumed locally.

2. Market:
Global rice production in 2008-09 is 460 million tons while consumption stood around 446 million tons. Andhra Pradesh is one of the major paddy cultivated state in India with 39.78 lakh hectares with an output of 118 lakh tonnes. In Andhra Pradesh rice is grown in 22 districts of which 18 districts are under high productivity group, with an yield of more than 2500 kg/ha.
Yield and Production: The raw material used in rice mill is raw paddy. The yield of rice is given in the table below:

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Yield (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Rice</td>
<td>65</td>
</tr>
<tr>
<td>Husk</td>
<td>21</td>
</tr>
<tr>
<td>Broken Rice</td>
<td>4</td>
</tr>
<tr>
<td>Rice Bran</td>
<td>8</td>
</tr>
<tr>
<td>Rejected Rice</td>
<td>1</td>
</tr>
<tr>
<td>Impurities</td>
<td>1</td>
</tr>
</tbody>
</table>
The Rice mill can work at 70% of installed capacity for the first year, 80% for the second year and 85% from the third onwards. The total manpower requirement is considered at 60 personnel for various levels of casual labour, Technical & Supervisory staff and administrative staff. After harvesting the rice paddy undergoes post-harvest processes including drying, storage, and milling to ensure good eating quality and marketability.
Milling is a crucial step in post-production of rice. The basic objective of a rice milling system is to remove the husk and bran layer and produce an edible white rice kernel that is sufficiently milled and free of impurity.

The steps involved in rice processing are as follows:

Cleaning:

✓ After harvest rice, it is transferred to the processing plant where foreign objects and like stones and tree stumps are removed using destoner.
Hulling:

✓ Next husk is separated from clean paddy.
✓ After the husk is removed, the product is called brown rice and is ready for the milling process.
✓ Paddy graders and paddy cleaners are used to separate brown rice.

Milling:

✓ This stage removes the bran layer of rice turning brown rice into white rice.
Polishing:

✓ The surface of rice is smoothened and it is given a shine by passing it through a series of rollers.
Grading:

✓ It is a process in which broken rice is separated out.
✓ Separating head rice into different lengths.
Sorting:
✓ Discoloured, yellow, and immature rice is removed in this stage adding value to rice.

Packing:
✓ The finished product is then packed.
✓ This is stored to be delivered to valued customer.
DAY 3

A VISIT TO KAMAKSHI JUTE MILL PVT. LIMITED

DATE-07.04.2017

LOCATION-CHAKCHAKA INDUSTRIAL COMPLEX
PROCESS-

1) Raw jute rated fibre is bought from farmers field for processing in the jute mill. These raw fibre are stored in a stock house inside the mill.

2) Then, the raw product is made in the form of bundles with the help of a particular machine as seen below.

Here, the fibre are arranged in a haphazard way.
3) From here the fibre is pressed to a great extent with the help of a machine and finely arranged fibre in the form of long chain comes out from the machine.
4) In the next step, a special machine works and the fibre is made in the form of thin strips and it more compressed and comes out as seen below. In the successive steps the strips become thinner and thinner and also some are dyed into different colours as red.
Fibre is pressed and kept inside a tin drum from where it is run into the next machine.
5) Then the fine fibre is rolled into small bundles as shown below and arrange accordingly.

6) Then individual thread comes out from the bundles in the following way with the help of another machine and it is arranged again in large bundles.
Here the fibre is stitched in the form of large pieces.
7) Now the large pieces of fibre are stitched sideways in the form of sacks.
8) Now these sacks are bundled into piles.
9) At last these are packed for marketing.
DAY 4
A VISIT TO RAGHAV OIL MILL

DATE-10.04.2017
LOCATION-COOCBEBHAR CHAKCHAKA INDUSTRIAL COMPLEX

NAME OF THE PRODUCT : MUSTARD OIL.

QUALITY & STANDARD : PFA regulation is mandatory.
‘Ag Mark’ for quality products.
ISI Specification for Mustard Oil is
(I) INTRODUCTION

Oil seed crops occupy an important place in the agriculture and industrial economy of the country. India is perhaps the only country in the world having the largest number of commercial varieties of oil seeds. Mustard Oil is also one of the major oil seeds from which edible oil is produced. In Northern & Central India, it is medium of cooking food. Besides it is also used in preparation of Pickles. The Mustard Oil Cake (By Product) is used as cattle feed.

(II) MARKET:

It has enormous demand as one of the edible oils and used as cooking medium especially in northern, eastern and north eastern of India. The demand of Mustard Oil is increasing with the time. Refined Ghani, filtered, double filtered mustard oil have given new thrust to its market. Due to consumption in household and in pickle industries it appears to be good scope for establishing mustard oil industry.
(III) BASIS & PRESUMPTIONS:

1. This project is based on single shift basis and 300 working days in a year.

2. The cost of machinery & equipment/materials indicated refer to a particular make and the prices are approximate to these prevailing in the market at the time of preparation of this profile.

3. Depreciation has been taken as an –
   a) On Machinery & Equipment @ 10%
   b) On Office Furniture & Fixture @ 20%

4. Interest on Total Capital Investment has been taken @ 12% per annum.

5. Minimum 40% of the total investment is required as margin money.

6. Payback period of the project will be 7 years, with half yearly installments.

7. Break Even Point has been calculated at the full capacity utilization.

8. For smooth functioning of unit it is suggested that unit should have a good stock of quality raw material (mustard seed).

9. The yield of mustard oil, mustard oil cake and wastage (stone/dust) have been taken as 35%, 60% & 5% based on raw mustard seed.

(IV) IMPLEMENTATION SCHEDULE:

The following steps involves in the implementation of the project.

a) Selection of site.

b) Form ownership.

c) Feasibility report.
d) Registration with DIC, PFA etc.

e) Arrangement of finance.

f) Construction of Factory Shed & Building.

g) Plant Erection & Electrification.

h) Recruitment of manpower.

i) Arrangement of raw materials including packaging materials.

j) Selection of marketing channel.

k) Miscellaneous work ie. Power and Water connection, Pollution control board clearance etc.

Normally 6 months is required to implement the project.

(V) TECHNICAL ASPECTS:

a) Production details & process of manufacture:

The seeds are to be dried in sun and then they are to be cleaned by shakers to remove dust and foreign materials. The seeds are initially steamed and then passed through the expeller and the process is repeated till the maximum oil is extracted out of the seeds. The filtered oil is filled in to the containers, which are subsequently sealed and labeled for marketing. On an average around 35% recovery of oil from the seed is made.

b) Quality Specification-

The quality of seeds should conform at least to the quality and standard laid down in P.F.A. Act. However, for better marketing the standards may be maintained as per ‘AGMARK’ specification. The ISI specification is No. IS-546-1975 (2nd revision). The entrepreneur may approach the appropriate authorities to get ‘AGMARK’ or ISI specification for better marketing of the
**Process**

1) Collection of raw mustard seeds from farmers of Rajasthan.

2) At first, the seeds are crust in a large sized mortar and pestle.
Here, as much as possible is extracted from the seeds by the workers in the mill. The extracted oil is then sent via an iron pipe to an store tank which is located on the other side of the mill.
Fig: Motor and Pestle
Fig- Oil carrying iron pipe
3) After that the remaining materials are sent to a large sized electronic seed crusher where the remaining oil is extracted mechanically and it is again sent to the storage tank via another iron pipe.
4) The oil is extracted in three steps. In the last one it is sent to a more complex mechanical oil extractor where all the remaining oil is taken out of the seeds and the oil cakes are thrown on the other side and collected.
Oil cakes are collected.

5) As earlier, from here also the oil is transferred to the storage tank.

6) The next step is packaging. This is done by the women workers of the mill.
There are taps fixed to the iron pipes which carries the extracted oil. Oil is fixed in the containers of different fixed amount, tags are pasted on the containers and then taken to the market for sale.
Oil containers are being sealed.
Sensitization workshop on

Experiential Learning, Entrepreneurship and Needs of Agro-Industry

Date- 28th Feb-1st Mar 2017

Organised By- Uttar Banga Krishi Viswavidyalaya

In Association With

ICAR-NAARM and BCC&i
A sensitization workshop on experiential Learning, Entrepreneurship and Needs of Agro-Industry was held at ATIC Building in Uttar Banga Krishi Viswavidyalaya (UBKV) on 28 Feb 2017 and 01 March 2017.

It was organized by UBKV in association with ICAR-NAARM and The Bengal Chamber of Commerce and Industry (BCC&I).
RESOURCE PERSONNELS-

Chief Guest-Shri Uttam Hazra Chowdhury
Regional Manager, SBI

Special Guest-Dr R. Kalpana Sastry
Director, ICAR-NAARM

Guest of Honour-Dr P. Ulaganathan
DM, Coochbehar

Distinguished Guests-1) Dr. Ajoy Kar
Consultant, BCC&I

2) Shri. Styabrata Mukherjee
Chairperson, Agriculture and rural development committee, BCC&I

3) Dr. K Srinivas
Principal Scientist ICAR-NAARM

4) Shri Jayanta Chakraborty
Senior General Manager, Indofil Industries Ltd.
The seminar was a great lesson on growing ideas for entrepreneurship development in small scale basis and large-scale basis. Many successful entrepreneurs were invited from different places of West Bengal to address the hall. They shared their experience and innovative ideas about establishing any industry.

Also, a panel was organized with Dr. K. Srinivas, Principal Scientist, ICAR-NAARM as the moderator.
Also, a class was conducted by the dignitaries of NAARM about how to deliver seminar on new entrepreneurial ideas or better say HOW TO PITCH?

On the next day, a competition was held on the same topic that was taught the other day.

Thirteen teams from the 4TH Year Student participated in the competition of “HOW TO PITCH”. They worked on different topics such as Snail Farming, Potato chips, Ecotourism, mushroom production, Tomato sauce, Rubber industry and many more innovative ones. The winning team (Team Snail farming) received a sum of ₹5000/- as cheque and their topic was Snail Farming.

PIC-THE LOGO AND COMPANY NAME OF THE WINNING TEAM
PRIZE GIVING CEREMONY -

The winning team members were:

- Raktim Mitra
- Deepayan Roy
- Krishanu Dey
- Arindam Shannigrahi

Overall it proved a great experience for the students of UBKV.
THANK YOU