

COCOA PROCESSING PLANT

A cocoa processing plant transforms cocoa beans into three main components: cocoa liquor and cocoa butter and cocoa powder. These components can be used to make different products.

- *Cocoa liquor* - Cocoa liquor is used, with other ingredients, to produce chocolate. Chocolate is used as a product on its own or combined with other ingredients to form confectionery products.
- *Cocoa butter* - Cocoa butter is used in the manufacture of chocolate. It is also widely used in cosmetic products such as moisturising creams and soaps.
- *Cocoa powder* - Cocoa powder can be used as an ingredient in almost any foodstuff. For example, it is used in chocolate flavoured drinks, chocolate flavoured desserts such as ice cream and mousse, chocolate spreads and sauces, and cakes and biscuits.

Cocoa bean cultivation has been taken up in Andhra Pradesh and production at present is reported to be about 800 tons per year.

Proposal:

The market for chocolates and other food products based on cocoa powder (chocolate flavored drinks, desserts and sweets) is growing. Availability of raw material and good market prospects make investment in a cocoa bean processing unit a profitable proposition

Product mix:

Processing of 600 tons per year cocoa beans to give

Cocoa butter 250 tons

Cocoa powder 250 Tons

Market

The products cocoa butter and cocoa powder can be sold to confectionery and sweet makers.

We are suggesting that a brand that can be franchised may be developed for long-term benefits. Our proposal involves opening of two / three shops of the size of sweet shops with a brand name. Chocolates and sweets made with proprietary recipe are made in these shops and retailed. This brand can then be franchised with tie-up for raw materials. This way marketing costs can be minimized and a brand can be created.

Manufacturing process:

The cocoa beans are cleaned to remove all extraneous material. To bring out the chocolate flavour and colour the beans are roasted.

A winnowing machine is used to remove the shells from the beans to leave just the cocoa nibs. The cocoa nibs undergo alkalisation, usually with potassium carbonate, to develop the flavour and colour.

The nibs are then milled to create cocoa liquor (cocoa particles suspended in cocoa butter). The cocoa liquor is pressed to extract the cocoa butter leaving a solid mass called cocoa press cake. The amount of butter extracted from the liquor is controlled by the manufacturer to produce press cake with different proportions of fat.

The cocoa press cake is pulverised to form cocoa powder.

Cocoa liquor is used to form chocolate through the addition of cocoa butter. Other ingredients such as sugar, milk, emulsifying agents and cocoa butter equivalents are also added and mixed. The mixture then undergoes a refining process by traveling through a series of rollers until a smooth paste is formed. Refining improves the texture of the chocolate.

Conching: A kneading or smoothing process called conching further develops flavour and texture. The speed, duration and temperature of the kneading affect the flavour.

The mixture is then tempered or passed through a heating, cooling and reheating process. This prevents discolouration and fat bloom in the product by preventing certain crystalline formations of cocoa butter developing.

The cocoa butter, Cocoa powder and liquid chocolate are packed in suitable containers and stored.

Technology:

The manufacturing technology is simple. However, suitable tie up for coca bean processing technology and product recipe is necessary. This can be arranged.

Plant and Machinery:

Cleaning equipment (screening and washing), drum roaster, willowing machine, roller mill, hydraulic press, kneaders, mixers and pulveriser are the main machinery required.

Raw materials:

Cocoa beans, suitable vegetable fats are the main raw materials.

Utilities:

Power, water and steam

Project cost:

The project cost will be around Rs. 8 Crores.

Turnover and profitability:

Turnover will be about Rs. 20 crores. Net profit margins can be 20 %.

Suggested location:

The processing plant can be set up at any major industrial area.

Entrepreneur profile:

This project is best suited for successful entrepreneurs from Indian sweet business or milk products business.

Apitco's consultancy:

1. Technology tie-up
2. Project planning