

Sector:

Forest, Herbal and Environment

Project Title:

Lac Processing Plant

Project Description

Lac is a resinous substance secreted by an insect and is a commercially valuable product with application across a wide range of industries. Lac and Shellac has been used in industries such as paint, varnishes, pharmaceuticals, and confectionaries from centuries.

Lac cultivation is simple and is not capital intensive. Employing advanced methods of cultivation, collection and processing, sustained production and steady returns can be achieved. Lac cultivation is increasing in Madhya Pradesh (MP) as more and more farmers are adopting it as an additional source of income.

The Government of Madhya Pradesh proposes to establish a modern lac processing facility in the State. The Plant would be set up on over 0.5 acre of land and would have adequate downstream capabilities to process crude lac into various value added products such as Shellac, bleached lac, lac wax, Aleuritic acid etc. It would also assist in refining and collection of certain by products of commercial significance such as lac dye (application in textiles) which generally is wasted in the process.

High quality lac has significant demand in the international market. The processing plant would cater to the following target market.

- Adhesive industry
- Food processing and beverages
- Varnish and printing
- Pharmaceuticals and cosmetics
- Textiles
- Leather, electrical and polishes

Project Rationale

Madhya Pradesh is among the key lac producing States in the Country. The present rudimentary and unscientific method of collection and storage leads to deterioration of quality. Prolonged storage of Sticklac (short shelf life) leads to

formation of lump, rise in alcohol content, reduced flow and filtration properties and decreased life. The short life span of crude product coupled with the lack of processing facilities forces the cultivators to sell the product at a throw away prices or move outside the State (Gondi in Maharashtra) for processing.

In the absence of adequate processing facilities, lac cultivators are unable to realize full value of their product as crude lac has very less market value in comparison to final processed products such as Shellac which commands a premium in the market. Further, lac dye which is isolated during lac processing is a valuable product for the textile industry as a colouring agent. The pigment content of the sticklac can be as high as 10% but the yield of isolated lac dye can be less than 1% due to inefficient extraction method and poor quality of sticklac.

A modern lac processing plant is an imperative requirement in the State as it would help the cultivator realize the true vale of their product and would facilitate economic prosperity among the State’s rural and backward population.

Market Potential and Demand Dynamics

India, Thailand and China are the key lac producing countries in the world. India and Thailand dominates global lac market. While Thailand exports the bulk of its production India consumes more than half of its lac production internally. India produces around 21,000 tonnes of lac annually. The key lac producing States in the Country are Jharkhand, Chattisgarh, West Bengal, and Madhya Pradesh. The State wise production of lac is as follows:

(Quantity in M.Tones)

State	2000-01	2001-02	2002-03	2003-04	2004-05
Jharkhand	9,050	10,150	7,640	9,860	10, 780
Chattisgarh, MP, Orissa Maharashtra, Gujarat and Other States	9,590	7,950	8,175	8,420	8,635
Andhra Pradesh	-	-	200	-	-
Uttar Pradesh	400	1,000	650	500	490
West Bengal	1,260	1,350	835	1,270	1,395
Total	20,600	20,450	17,500	20,050	21,300

Source: Shellac Export Promotion Council

India exports more than 7000 tonnes of lac annually to around 75 countries across the globe. Germany, US, Italy, Egypt and Indonesia are the key exports destination for Indian Lac producers. India exports different grades of handmade and machine made shellac.

Export Performance for the last five years are as follows:

year	Shellac		Seedlac		Others		Total	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
2000-01	4,929.315	7,963.52	503.815	759	237.21	651.71	5,670.34	9,374.23
2001-02	5169.47	6472.62	697.62	856.92	1148.48	2676.78	7015.57	10,006
2002-03	4060.04	5714.32	488.84	636.59	472.30	3717.89	5021.18	7,845.68
2003-04	5392.39	8190.38	569.18	903.42	670.46	3827.12	6632.03	12,920.92
2004-05	5894.40	11182.93	748.20	1378.01	658.93	4026.57	7301.53	16587.51

Source: Shellac Export Promotion Council

The price of lac depends upon a variety of factors such as host tree, climate, method of drying and storage. The lac scrapped from the branches is known as crude lac or sticklac. It consists of the resin, encrusted insects, lac dye and twigs. This is processed to form Seedlac which is then converted into shellac by hands or machine. Various kind of commercial products are derived from lac. The following table shows the exports performance of various lac products in 2004-05.

S.No	Grade	Qty. (M/T)	Value (USD million)	Unit Value (USD/MT)
1	Shellac	5894.40	24.85	4216
2	Dewaxed Shellac	213.35	1.32	6187
3	Seed Lac	748.20	3.06	4093
4	Aleuritic Acid	92.50	3.45	37269
5	Bleached Lac	343.90	2.04	5936
6	Gasket Lac	1.46	0.00	2390
7	Molumba Lac	3.00	0.01	189
8	Shellac Wax	4.72	0.02	4637
	Total	7301.53	34.75	
100% E.O.U			2.11	
	Grand Total	7301.53	36.86	

Source: Shellac Export Promotion Council

The use of shellac is preferred because it is eco-friendly, safe, non-toxic versatile and biodegradable thus it is the safe for human contact and consumption. The demand is especially high for bleached lac, aleuritic acid and lac dye in food industry.

Given the positive outlook for the domestic industries such as pharmaceutical, agro, food processing and cosmetics, the demand of shellac is expected to be high in the future as it is an essential ingredient for these industries. The newer use of shellac (in agriculture for coating of urea to make slow release fertilizer) is expected to contribute to the future demand.

Why Madhya Pradesh?

Madhya Pradesh is among the key lac producing State in the Country. With 31% of its area under the forest cover and a large part of tribal population engaged in lac cultivation the State provides an ideal habitat for lac industry.

The processing plant in the State will leverage the following advantages of MP:

- Steady and uninterrupted supply of raw lac.
- Availability of large economic manpower to support lac industry as it is a labour intensive sector.
- Ample availability of economic land for cultivation and for establishing a processing plant.
- Proximity of the plant with the raw material base would facilitate in reducing logistics overheads.
- Although Palash lac is currently the dominating variety in cultivation there is ample potential in the State for the cultivation of Kusmi lac which gives higher productivity and commands higher value in the market.
- Neighboring lac producing State such as Jharkhand and Chattisgarh would further facilitates the supply of cost effective raw material.
- The strategic central location of Madhya Pradesh facilitates cost effective transport and distribution across the Country.
- Proximity with key ports facilitates exports.

Location Analysis

Seoni, Anuppur have been earmarked as potential locations for the envisaged plant



Government Support
<p>The Government would assist in identification of land to set up the plant. Further, it would act as a key facilitating agency for the project.</p> <p>Keeping in view the socioeconomic implications of the project and its potential for employment generation, the Government may extend various fiscal and non fiscal incentives to the developer.</p>
Proposed Capacity
5000 Metric Tonnes
Proposed Investment
USD 4.4 mn
Returns
Internal Rate of return is estimated around 25-28%
Coordinating Agency
Madhya Pradesh Minor forest Products Corporation