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## *Bamboo Tray (Non weaving) with bamboo splits*

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### **a. Introduction**

Tea/food serving trays are one of the common products used at homes, Hotels, Offices etc. Currently most of these trays used are made up of plastic. Bamboo being a woody grass, with strong fibre and long culms, is one of the best natural materials for making trays. Since the traditional times bamboo has been used for making many lifestyle products across the country, which is of utility value. The multiple properties of bamboo before and after conversion allows this material to create a wide array of products. Thus, in the modern world also we can expect this material to create wonderful products by using its indigenous properties and many of this plastic made serving trays can be replaced by a solid bamboo tray of various size and shapes

### **b. Market Demand**

Nowadays there is a high demand of bamboo products for residential uses, Hotel & restaurants, particularly in the tourism sector. Institutional buyers including restaurants, event management companies, temples and government and private canteens across the country. Online portals like India Mart, Amazon, Snap deal etc. can also be explored.

### **c. Production Target**

Bamboo non-woven Serving trays can be manufactured in a very decentralised manner and is easily done by small carpentry shops/ HH carpenters. The unit may be established on a small scale as private household businesses or on a larger scale as a cooperative or government enterprise. Especially for Bamboo artisans, individual carpenters and other disadvantaged groups, which can also ensure better income distribution, and earns valuable foreign exchange through exports.

### **d. Assumptions, if any**

The essential requirements for a successful unit are:

- Regular supply of bamboo culms (especially lower/ middle part with higher thickness)
- Centralised/ Individual treatment facilities
- Unskilled and skilled labor
- Small amount of start-up capital; and
- Market access.

### **e. Production Process**

Bamboo straight Strips are the basic materials for making of a non-woven Bamboo tray of various shape and sizes. Proper treatment of raw materials is a very important aspect for a procedure that affects the final quality of the goods. The processing techniques for making bamboo Strips are;

- cutting of bamboo culms
- Cross-cutting
- Knot removal
- Splitting

- Smoothing
- width-sizing
- Strip making
- Final assembling

**f. List of machinery required along with quantity with Unit Price.**

- The tools required for manual weaving non-woven bamboos Trays are; Striping knives, Hand saws, striking planks, shaving knives, hand planner and hand drills, emery paper and bench vice. These tools can easily be purchased from any local tool supplier or can be made by the weavers themselves.
- Although cross-cutting, splitting of bamboo culms and making thick strips can be done manually, machines are normally used to increase productivity, reduce wastage of raw materials, increase the yield of bamboo strips and remove drudgery in the primary processing of the culms. The main machines are crosscutting machine, splitting machine, 4side strip planner, width sizing machine, disc and Belt sander, Stand drills.

| Sl. no | Tools & Equipments            | Nos. | Unit Price in INR) |
|--------|-------------------------------|------|--------------------|
| 1      | Slivering/striping knives     | 5    | 150                |
| 2      | Hand saws                     | 5    | 200                |
| 3      | Hand Planner                  | 2    | 680                |
| 3      | shaving knives                | 5    | 250                |
| 4      | Electric cross-cutter         | 1    | 10,500             |
| 5      | Electric Splitting machine    | 1    | 1,50,000           |
| 6      | 4-side strip planning machine | 1    | 2,95,000           |
| 7      | Width sizing machine          | 1    | 4,500              |
| 8      | disc and Belt sander          | 1    | 15,000             |

## ONE PAGER SUMMARY OF NON-WOVEN BAMBOO TRAYS

| Sl. No.   | Particulars  | Description   |         |         |         |              |
|---|--|---|---------|---------|---------|--------------|
| <b>A. Project Description</b>   |  |   |         |         |         |              |
| 1   | Proposed Project                                       | <b>Bamboo Tray (Non weaving) with bamboo splits</b>   |         |         |         |              |
| 2   | Capacity of the machine (at 100% capacity utilization) |   |         |         |         |              |
| 3   | Year wise capacity utilization                         | Year- 1   | Year- 2 | Year- 3 | Year- 4 | Year- 5      |
|   |  | 70%   | 80%     | 90%     | 90%     | 90%          |
| 4   | Raw Materials Required                                 | Bamboo, Cane, Boric Borax, Super Glue, Colour/Dye agent, Miscellaneous items, Varnish/Lacquer, Araldite/Resin   |         |         |         |              |
| 5   | Final Product  | Non-woven bamboo tray   |         |         |         |              |
| 6   | Infrastructure Required                                | Shed (500 sq ft)  |         |         |         |              |
| 7   | Plant and machinery                                    | Slivering/stripping knives<br>Hand saws<br>Hand Planner<br>shaving knives<br>Electric cross-cutter<br>Electric Splitting machine<br>4-side strip planning machine<br>Width sizing machine<br>Disc and Belt sander |         |         |         |              |
| 8   | Employment Generation                                  | 8 Hired labour – 6 semiskilled, 2 skilled   |         |         |         |              |
| <b>B. Project Cost</b> <span style="float: right;"><b>(Figures in Rs. Lakhs)</b></span>     |  |   |         |         |         |              |
| 1   | Land (own)   |   |         |         |         | 0            |
| 2   | Civil works and Buildings (500 sqft @200/sqft)         |   |         |         |         | 1            |
| 3   | Machinery  |   |         |         |         | 6.16         |
| 4   | Others   |   |         |         |         | 0.30         |
| 5   | <b>Sub-total (A)</b>                                   |   |         |         |         | <b>7.46</b>  |
| 6   | Working Capital Margin @40% of Total WC Requirement    |   |         |         |         | 1.76         |
| 7   | <b>Total Project Cost</b>                              |   |         |         |         | <b>9.22</b>  |
| 8   | Total Working Capital Req <b>(B)</b>                   |   |         |         |         | 4.40         |
| <b>C. Means of Finance</b> <span style="float: right;"><b>(Figures in Rs. Lakhs)</b></span> |  |   |         |         |         |              |
| 9   | <b>Total Funds Required(A+B)</b>                       |   |         |         |         | <b>11.86</b> |
| 10  | TERM LOAN (75% of A)                                   |   |         |         |         | 5.59         |
| 11  | WORKING CAPITAL (60% of B)                             |   |         |         |         | 2.64         |
| 12  | <b>Total</b>   |   |         |         |         | <b>8.23</b>  |
| 13  | Equity   |   |         |         |         | 3.63         |
| 14  | <b>Total</b>   |   |         |         |         | <b>11.86</b> |

| <b>D. Financial Benchmarks</b> |   | <b>(Figures in Rs. Lakhs)</b>   |                |                |                |
|--------------------------------|---|---|----------------|----------------|----------------|
|                                |   | <b>Year- 1</b>  | <b>Year- 2</b> | <b>Year- 3</b> | <b>Year- 4</b> |
| 1                              | Target Revenue (Lakh)   | <b>17</b>   | <b>19</b>      | <b>22</b>      | <b>22</b>      |
| 2                              | Break Even Point  | <b>50.86%</b>   | <b>41.54%</b>  | <b>33.97%</b>  | <b>30.65%</b>  |
| 3                              | DSCR including Principal repayment                                | <b>4.24</b>   | <b>3.03</b>    | <b>3.96</b>    | <b>4.51</b>    |
| <b>E. Basic Assumptions</b>    |   |   |                |                |                |
| 1                              | Production of non-woven tray                                      | 8 labour will on average be able to produce 5 non-woven trays per worker per day, working 300 days in a year. Price of one tray is assumed to be Rs 200. Only the middle and bottom parts of bamboo are necessary. About 4-5 trays may be made from the bamboo. |                |                |                |
| 2                              | Machinery   | This is a profile of a comparatively larger enterprise with 8 hired labour. Entrepreneur will invest in planning machine to ensure quality of finishing of the strips.  |                |                |                |
| 3                              | Interest rate assumed   | 11%   |                |                |                |
| 4                              | Repayment period  | 5 Years with 3 months moratorium  |                |                |                |
| <b>F. Others</b>               |   |   |                |                |                |
| 1                              | Training Institutes   | CBTC Meghalaya, BCDI Agartala, IIE Guwahati   |                |                |                |
| 2                              | Whether the service is in the Negative list under NEIDS and MSME? | No  |                |                |                |