PROJECT PROFILE
ON
CRICKET BALLS

Product Code - NIC 2004:36934
                ASICC: 93101.

Quality & Standard - Following I.S. Specification is available to guide
                   the manufacturer of Hockey Sticks.
                   IS: 416 – 1963

Production Capacity - 30000 Nos. Cricket Balls.

Value - Rs. 30, 60, 000/-

CRICKET BALL MADE OF LEATHER

INTRODUCTION:
Cricket is the most popular game in our country but it is also played all over the
world; cricket is mainly played in commonwealth countries. After partition of the
country in 1947, large number of workers migrated to India. They have subsequently
settled down in Meerut (U.P.) and Jalandhar (Punjab), where they started manufacturing
cricket balls.

MARKET POTENTIAL:
Cricket ball industry is on firm footing looking to the internal and increase in
export demand, there is a good scope for starting new manufacturing units in different
parts of the country. About 90 units at Meerut, Jalandhar and other places are engaged in
the manufacturing of cricket balls each employing 10 to 30 workers. The production is
about 180 thousand dozens per year valued more than Rupees 300 lakhs. The demand for
quality goods is increasing hence there is a scope for another 10 to 15 new units every
year. The important raw materials required for the manufacturing of cricket balls is
leather, thread, cork, polishes and wool. Fortunately all the items mentioned above except cork are indigenously available. Cork will have to be imported.

**BASIS AND PRESUMPTIONS:**

1. The project is worked out on 75% efficiency utilization of its manufacturing capacity and taken 300 working days in a year on single shift basis of 8 hours a day.
2. The time for achieving fully envisaged capacity within 3 years after production.
3. Arrangement for labour wages has been considered as per minimum labour wages basis as per rule of labour department of the State Govt. concerned.
4. Interest rate for fixed and working capital has been charged @ 15% on average basis both the heads.
5. Margin money/state incentives has been calculated as per given by the State Govt. concerned.
6. Pay back period for the project after one year from its production and total repayment of fixed capital within 10 years.
7. The cost of land and building has been calculated as per rates of State concerned.
8. The sale prices are ex-godown including packing, sale commission up to 33% to be added by the entrepreneur before fixing the price.
9. Only cricket balls which has sufficient demand have been included in the scheme. The entrepreneur can also include the other types of product if demand arises.

**IMPLEMENTATION SCHEDULE:**

Every project required some specific time frame for its commercial production and various schedules for its completion are as under.

1. **Selection of Product:**
   
   An entrepreneur should select their product range for manufacturing within 15 to 30 days.
2. **Filing of Enterprise Memorandum:**
   After selection, an Enterprise Memorandum - 1 is to be filed with the local Directorate of Industries / Distt. Industries Centre of the area and it will take about two days after submitting the required documents.

   After commencement of commercial production, Enterprise Memorandum may be filed with District Industries Centre / Directorate of Industries.

3. **Project Report:**
   After filing of EM-1, a project report is prepared through industrial consultants or Govt. Departments like MSME-DI etc. within one week after collecting the quotations/rate list from machinery and raw material suppliers.

4. **Finance:**
   Apply to financial organizations like State Financial Corporations and Nationalized Banks for machinery and working capital. This financial exercise will take 3 to 5 months approximately.

5. **Factory Construction:**
   After taking of sanction the land from District Industries Centre, then construction of factory building is very important step and it will take 6 to 8 months time. In the meanwhile order should be placed to the machinery manufacturers as well as raw materials suppliers.

6. **Trial Production:**
   After that machine should be installed within a month time for production. Trial production should over within two weeks time and finally commercial production in above mentioned period for its marketing.

7. **Man Power:**
   In between machine installation, labour should be recruited for manufacturing the product and contact to work for its and product. Develop commercial relation with concerned official related with the whole process.
TECHNICAL ASPECTS:

1. Manufacturing Process:

    Vegetable tanned leather is used in manufacturing of cricket balls. Care is to be taken to see that properly tanned leather is selected and correct pattern cutting is adopted. The butt portion is used for 1st quality balls while belly and shoulder may be used for medium and cheap quality basis for better quality. It is advisable to retan the leather so as to get desired effect. Now-a-days zirconium-cum-full chrome tanned leather is also used for the manufacture of 1st quality cricket balls. As regards other raw materials such as thread, cork, polish and wool, the quality of material used depends upon the quality of balls required to be supplied.

    The cutting of pieces can be done manually as well as by mechanical clicking process. Two sections are stitched together in seamless stitch which runs inside the leather and are called cups. It should be noted that there should not be more than 25 to 26 stitches in the manufacture of joint otherwise the stitches might tear the leather. Quality is the most important part of a ball and therefore, utmost care should be taken to manufacture the same. The main components of the quilt which consists of a core of layers of cork and wool wounded. Care should be taken that the weight of the quilt is uniform. The quilt size is measured through a “Go” “No Go” ring. When the quilt is formed, it is wet. However, it should be allowed to dry so as to avoid shrinkage. Experience shows that it takes 3 to 6 months to dry them well. Now a days, electric drying over with thermostat control is being utilized for drying the quilts which does not take more than 36 hours. Two pieces are cut and joined through invisible stitches described earlier, put in a mould (Katori) and ordinary hand operated or hydraulic press is used to shape the half cup under the pressure. Care should be taken while pressing so that wrinkles do not appear in the cup. The dried quilt with two cups is placed in between the two spherical half mould of a toggle-operated vice facing each other. The skilled worker has to be very careful in stitching 80 to 84 stitches on the full circle for first quality balls and for cheaper quality, these are 60 to 72. This stitching provides the main strength to the balls. The balls so stitched are clamped in a special mould holding clamps to give the desired shape of the balls. The skilled workers are to be very careful
when making the final stitching. They have to do the stitching in two parallel rows to the initial stitching in supplementary stage and it helps the bowler in delivery and spinning the balls. The balls are then stamped in an electrically heated stamping press. An attractive and good polish is needed which is normally obtained by using synthetic enamel like duco finish. There is also demand for unglazed balls.

(2) **Quality Specifications:**
IS: 416 – 1963 under revision for Cricket Balls. The minimum and maximum weight of cricket balls is as under:

<table>
<thead>
<tr>
<th>Type of Ball</th>
<th>Men</th>
<th>Women</th>
<th>Junior</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Special Grade</td>
<td>156 to 163 gms.</td>
<td>140 to 150 gms</td>
<td>133 to 143 gms</td>
</tr>
<tr>
<td>b. Grade-I-II</td>
<td>150 to 165 gms.</td>
<td>140 to 150 gms</td>
<td>133 to 143 gms</td>
</tr>
</tbody>
</table>

(3) **Production Target Per Annum:**

<table>
<thead>
<tr>
<th>Type of Ball</th>
<th>Quantity</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. 1st Quality cricket balls</td>
<td>6000 No.s</td>
<td>Rs. 9,00,000/-</td>
</tr>
<tr>
<td>b. 2nd Quality Cricket Balls</td>
<td>12000 No.s</td>
<td>Rs. 12,00,000/-</td>
</tr>
<tr>
<td>c. Cheap quality cricket balls</td>
<td>12000 No.s</td>
<td>Rs. 9,60,000/-</td>
</tr>
</tbody>
</table>

**Total:** 30,60,000/-

(4) **Motive Power:** Domestic

(5) **Pollution control:** No Pollution Control measures are required for Cricket Balls
(6) **Energy Conservation:**

The regular maintenance of plant and machinery is required for better performance and conservation of Energy.

**FINANCIAL ASPECTS:**

**Fixed Capital:**

1. **Land and Building:**
   a. Land 300 Sq. meter @ 3,000/- Per Sq. meter = 9,00,000/-
   b. Built up area 200 Sq. meter 5000/- per Sq. meter = 10,00,000/-
   c. Other constructions and arrangement for water supply = 1,00,000/-

   --------------------------
   Total: 20,00,000/-
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2. **Machinery and equipments:**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Description</th>
<th>Nos.</th>
<th>Value (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Core seasoning oven 2 ½’ x 2’ x 4’ with 1/16 H.P. Motor, Thermostat power</td>
<td>1 No.</td>
<td>40,000/-</td>
</tr>
<tr>
<td></td>
<td>control having capacity of 24 dozens balls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Power operated press 10 Ton capacity complete with motor for pressing cup</td>
<td>1 No.</td>
<td>75000/-</td>
</tr>
<tr>
<td></td>
<td>and rounding the balls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Stamping press electrically heated with thermostatic control</td>
<td>1 No.</td>
<td>10,000/-</td>
</tr>
</tbody>
</table>
4. Other equipments
   a. Bench vices toggle operated
   b. Ordinary rounding press with metal moulds
   c. Stitching frames
   d. Katori press
   e. Testing tools
   \[
   \{ \text{L.S.} \} = 30,000/-
   \]

5. Electrification, installation and transportation charges @ 10%
   \[12,500/-\]

6. Other office equipments such as table chair etc.
   \[25,000/-\]

\[
\begin{array}{|l|l|l|l|}
\hline
\text{Sr. No.} & \text{Description} & \text{Nos.} & \text{Salary P.M.} & \text{Total Rs.} \\
\hline
1. & Manager-cum-expert & 1 No. & 10,000/- & 10,000/- \\
2. & Supervisor & 1 No. & 5,000/- & 5,000/- \\
3. & Clerk-cum-cashier & 1 No. & 5,000/- & 5,000/- \\
4. & Salesman & 1 No. & 5,000/- & 5,000/- \\
5. & Chowkidar & 1 No. & 3,500/- & 3,500/- \\
6. & Typist & 1 No. & 4,000/- & 4,000/- \\
\hline
\end{array}
\]

(3) Pre-operated expenses
\[17,500/-\]

Total Fixed Capital: \( (1 + 2 + 3) = 22,10,000/- \)

(4) Working Capital (Per Month):

1. Personnel/Indirect labour:

\[
\text{Rs.: } 1,92,500/-
\]
<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Description</th>
<th>1st Quality Cricket balls</th>
<th>2nd Quality Cricket Balls</th>
<th>Cheaper quality Cricket balls</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Washing and drying of leather</td>
<td>280</td>
<td>240</td>
<td>175</td>
</tr>
<tr>
<td>2.</td>
<td>Clicking</td>
<td>150</td>
<td>130</td>
<td>110</td>
</tr>
<tr>
<td>3.</td>
<td>Inner joint sewing</td>
<td>150</td>
<td>130</td>
<td>110</td>
</tr>
<tr>
<td>4.</td>
<td>Outer joint sewing</td>
<td>150</td>
<td>130</td>
<td>110</td>
</tr>
<tr>
<td>5.</td>
<td>Outer ward sewing</td>
<td>550</td>
<td>400</td>
<td>300</td>
</tr>
<tr>
<td>6.</td>
<td>Katori cutting and pressing</td>
<td>75</td>
<td>50</td>
<td>30</td>
</tr>
<tr>
<td>7.</td>
<td>Rounding and stamping</td>
<td>75</td>
<td>50</td>
<td>30</td>
</tr>
<tr>
<td>8.</td>
<td>Preparation of gola from cork and wool</td>
<td>300</td>
<td>180</td>
<td>140</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>1730</strong></td>
<td><strong>1310</strong></td>
<td><strong>1005</strong></td>
</tr>
</tbody>
</table>

**Total Direct Labour Cost (P.M.):**

- 500 1st Quality cricket balls = 8,650/-
- 1000 second quality cricket balls = 13,100/-
- 1000 cheap quality cricket balls = 10,050/-

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Total: 31,800/-
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Rs. 46,200/-
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Total: 78,000/-
2. Raw Material including packing materials (P.M.):

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Description</th>
<th>1&lt;sup&gt;st&lt;/sup&gt; Quality 5 ½ Oz cricket ball</th>
<th>2&lt;sup&gt;nd&lt;/sup&gt; Quality 5 ½ Oz cricket balls</th>
<th>5 ½ Oz 3&lt;sup&gt;rd&lt;/sup&gt; quality cricket balls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Qty.</td>
<td>Value (Rs.)</td>
<td>Qty.</td>
</tr>
<tr>
<td>1</td>
<td>Cork wood imported</td>
<td>6.5 Kg.</td>
<td>1625</td>
<td>7.5 Kg.</td>
</tr>
<tr>
<td>2</td>
<td>Woolen yarn</td>
<td>4 Kg.</td>
<td>1220</td>
<td>3.5 Kg.</td>
</tr>
<tr>
<td>3</td>
<td>Leather vegetable tanned Cow hides of 2.8 mm above</td>
<td>14 Kg.</td>
<td>1050</td>
<td>12 Kg.</td>
</tr>
<tr>
<td>4</td>
<td>Rubber gola</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>5</td>
<td>Rang Kat (Sod. Hydro sulphate)</td>
<td>200 gms</td>
<td>100</td>
<td>200 gms</td>
</tr>
<tr>
<td>6</td>
<td>Totary (Tartaric acid)</td>
<td>250 gms</td>
<td>10</td>
<td>250 gms</td>
</tr>
<tr>
<td>7</td>
<td>Red colour</td>
<td>350 gms</td>
<td>140</td>
<td>300 gms</td>
</tr>
<tr>
<td>8</td>
<td>Tallow</td>
<td>600 gms</td>
<td>48</td>
<td>500 gms</td>
</tr>
<tr>
<td>9</td>
<td>Oil sarson</td>
<td>300 gms</td>
<td>21</td>
<td>250 gms</td>
</tr>
<tr>
<td>10</td>
<td>Thread L-9</td>
<td>12 balls</td>
<td>72</td>
<td>12 balls</td>
</tr>
<tr>
<td>11</td>
<td>Thread 28-5</td>
<td>4.5 ball</td>
<td>60</td>
<td>4.5 ball</td>
</tr>
<tr>
<td>12</td>
<td>Leather cutting</td>
<td>2.5 Kg.</td>
<td>20</td>
<td>2.5 Kg.</td>
</tr>
<tr>
<td>13</td>
<td>Synthetic glue</td>
<td>70 to 100 gms</td>
<td>10</td>
<td>70 to 100 gms</td>
</tr>
<tr>
<td>14</td>
<td>Lacquer/paint</td>
<td>0.700 lit</td>
<td>140</td>
<td>0.600 lit</td>
</tr>
<tr>
<td>15</td>
<td>Thinner</td>
<td>0.900 lit</td>
<td>36</td>
<td>0.800 lit</td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Unit</td>
<td>Quantity 1</td>
<td>Unit</td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------------------</td>
<td>--------</td>
<td>------------</td>
<td>--------</td>
</tr>
<tr>
<td>16</td>
<td>Stamping foil</td>
<td>10 ft</td>
<td>80</td>
<td>10 fed</td>
</tr>
<tr>
<td>17</td>
<td>Card board boxes for packing outer</td>
<td>1 box</td>
<td>28</td>
<td>1 box</td>
</tr>
<tr>
<td>18</td>
<td>Card board box for ball packing</td>
<td>17 Pcs</td>
<td>24</td>
<td>17 Pcs</td>
</tr>
<tr>
<td>19</td>
<td>Tarred paper</td>
<td>2 mtr.</td>
<td>08</td>
<td>2 mtr.</td>
</tr>
<tr>
<td>20</td>
<td>Polythene bag</td>
<td>400 gms</td>
<td>40</td>
<td>400 gms</td>
</tr>
<tr>
<td>21</td>
<td>Polythene sheeting</td>
<td>100 gms</td>
<td>10</td>
<td>100 gms</td>
</tr>
<tr>
<td>22</td>
<td>Sutli</td>
<td>100 gms</td>
<td>10</td>
<td>100 gms</td>
</tr>
<tr>
<td>23</td>
<td>Strap fixer</td>
<td>08 pcs</td>
<td>04</td>
<td>08 pcs</td>
</tr>
<tr>
<td>24</td>
<td>Poly strip</td>
<td>5 mtr.</td>
<td>04</td>
<td>5 mtr.</td>
</tr>
<tr>
<td>25</td>
<td>Misc expenditure</td>
<td>--</td>
<td>04</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td></td>
<td>--</td>
<td>4744</td>
<td>--</td>
</tr>
</tbody>
</table>
2. **Total Raw material required (P.M.):**
   - 500 Nos. 1\textsuperscript{st} quality cricket balls 23,720/-
   - 1000 Nos. 2\textsuperscript{nd} quality cricket balls 40,060/-
   - 1000 Nos. cheap quality cricket balls 23,470/-
   \hline
   Total: 64,250/-

3. **Utilities (Per Month):**
   - Electricity 3,500/-
   - Fuel 1,000/-
   - Water 500/-
   \hline
   Total: 5,000/-

4. **Other contingent expenses (P.M.):**
   - Stationery & postage 1,000/-
   - Advertisement/Publicity 1,000/-
   - Maintenance & Repair 1,500/-
   - Transport 1,500/-
   - Travel expenses 2,000/-
   - Insurance 1,000/-
   \hline
   Total: 8,000/-

5. **Total recurring expenditure (P.M.):**
   - Salary 78,000/-
   - Raw material 64,250/-
   - Utilities 5,000/-
   - Other expenses 8,000/-
   \hline
   Total: 1,55,250/-
6. Working capital for 3 months 4,65,750/-

7. Total Capital Investment:
   1. Fixed Capital 22,10,000/-
   2. Working capital for 3 months 4,65,750/-

   ------------------------
   Total: 26,75,750/-
   ------------------------
   Say: 26,76,000/-

Machinery utilization:

It is proposed to utilize minimum 80% capacity of the installed capacity.

FINANCIAL ANALYSIS (Per Year):

1. Cost of Production (Per Year):
   - Total recurring cost per year 18,63,000/-
   - Depreciation on building @ 5% 1,00,000/-
   - Depreciation on machinery @ 10% 13,750/-
   - Depreciation on tools @ 20% P.A. 6,000/-
   - Depreciation on office equipment @ 25% P.A. 6,250/-
   - Interest on Investment @ 15% P.A. 4,01,400/-

   ------------------------
   Total Rs.: 23,90,400/-
   ------------------------
   Say Rs.: 23,90,000/-

2. Turnover per year:
   
   By Sale of:
   1. Cricket ball 1st quality 6000 Nos. @ Rs. 150/-
      per ball 9,00,000/-
   2. Cricket ball-2nd quality 12000 Nos. @ Rs. 100/- per ball 12,00,000/-
   3. Cricket ball cheap quality of 12000 Nos. @ Rs. 80/- per ball 9,60,000/-
3. **Net Profit (Per year):**
   
   = Turnover – cost of production
   
   = Rs. 30,60,000 - 23,90,000 = 6,70,000/-

4. **Net Profit Ratio on Sales (%):**
   
   Profit per Annum
   
   = ------------------------- x 100
   
   Turnover
   
   6,70,000
   
   = ------------------------- x 100 = 21.89%
   
   30,60,000

5. **Net Profit on Investment/Return:**
   
   Profit per annum
   
   = ------------------------- x 100
   
   Total investment
   
   6,70,000
   
   = ------------------------- x 100 = 25.04%
   
   26,76,000

6. **Break-even-Analysis:**
   
   Fixed cost per annum x 100
   
   = B.E.P.  -------------------------
   
   Fixed cost + Annual profit
   
   a) **Fixed Cost Per Annum:**
   
   - Total depreciation 1,26,000/-
   
   - Insurance 12,000/-
   
   - Total interest 4,01,400/-
- 40% of other expenses and utilities 57,600/-
- 40% of salary & wages 3,74,400/-

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Total Rs. 9,71,400/-

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b) Break-even-Percentage:

\[
\frac{9,71,400 \times 100}{9,71,400 + 6,70,000} = \frac{9,71,400}{16,41,400} = 59.18\%
\]

ADDRESSES OF MACHINERY & EQUIPMENT SUPPLIERS:

3. M/s. Mistri Ram Rakha, Basti Nau, Jalandhar – 2
4. M/s. Modi Mills, Modi Nagar (U.P.)

ADDRESSES OF RAW MATERIAL SUPPLIERS:

2. M/s. Avtar Singh and Sons, Basti Sheikh Road, Jalandhar – 2 (Punjab)
4. M/s. E.K. Omkar Leather Tannery, Nurmahal Road, Phillaur, Dist. Jalandhar (Pb.)

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ddn/-