

Hockey Sticks

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|-------------------------------|--|
| PRODUCT CODE | : N.A |
| QUALITY AND STANDARDS | : The following Indian Standard specification is available to guide the manufacture of Hockey Sticks. IS 829:1978 Reaffirmed 1990 |
| PRODUCTION CAPACITY | : 18,000 Hockey sticks (6000 Pieces each of 1st, 2nd and 3rd Quality) |
| MONTH AND YEAR OF PREPARATION | : December, 2002 |
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INTRODUCTION

Hockey stick is a stick of particular shape made out of mulberry wood and cane. Hockey is one of major games of the world. As per the registration procedure of players in foreign countries, there are more than one lakh players each in Holland and West Germany and 50,000 in New Zealand. Similarly East Europeans, South American countries have also started popularizing hockey. In India now more stress is being laid on the encouragement of hockey.

MARKET POTENTIAL

Hockey sticks are mainly manufactured in Punjab and U.P. due to availability of mulberry wood being grown on the banks of canals, roadsides and other areas. This type of mulberry wood is also available in considerable quantity in

parts of Haryana, Rajasthan and Himachal Pradesh. The wood available in Punjab is of high quality having flexibility and parallel grain structure, which resists the jerk while hitting the ball, and does not crack. Cane is available in Andaman and Nicobar Islands, Karnataka, Kerala, Goa etc. Hockey stick units can be started by getting mulberry blades, if wood available is not of good quality. Mulberry grown for breeding silk worms is not suitable for manufacturing hockey sticks. The demand of Hockey sticks is increasing day by day all over the world and also in domestic market. In foreign countries, players are generally purchasing at least one hockey stick in two years. At present about Rs. 5.50 crores worth Hockey sticks are being exported and their export is expected to increase substantially in the year to come. Thus, the item offers good scope in domestic as well as export market.

BASIS AND PRESUMPTIONS

1. Working hours 8 hours per day
2. Time period for achieving full/ envisaged Capacity utilisation One Year
3. Labour wage Monthly salary basis
4. Interest rate for fixed and working capital 15% per annum
5. Margin money 25%
6. Pay-back period of the product Three months
7. Rented value 5,000 per month.

IMPLEMENTATION SCHEDULE

Total time required will be 4 to 6 months.

TECHNICAL ASPECTS

Process of Manufacture

Mulberry wood karies are boiled in hot water for four to six hours, ties in vices and moulded in press. Moulded karies are dried completely, removed from vices and sawed into blades. Selection of grade is done after examining the grain lines and knots etc. of sawed blades. The cane handles are manufactured, separately. Both are finished and glued together in vices and also tied with rope. After drying the sticks are finished by hand with file and emery paper. Cloth type and twine is wrapped after applying duco paint or the joint is bound with parchment. Towel or leather grip is fixed on handles. Blade is finished by lacquer polish etc.

Quality Control and Standards

As per IS 829:1978 Reaffirmed 1990. In process quality control will be strictly adhered to.

Production Capacity

Quantity: 18000 Hockey Sticks (6000 pcs each of 1st, 2nd and 3rd quality) per annum.

Value: Rs. 43,80,000.

Motive Power 20HP.

Pollution Control

No pollution is created.

Energy Conservation

The suggested machines and equipments may be installed and should be run whenever these are essentially required.

FINANCIAL ASPECTS

A. Fixed Capital

| (i) Land and Building | (Rs.) |
|-------------------------------|-------|
| Rented @ Rs.5,000 per month. | 5,000 |
| Built up Area = 1000 Sq. feet | |
| Open Land = 1000 Sq. meter | |

(ii) Machinery and Equipments

| Sl. No. | Description | Imp./ Ind. | Qty. | Rate (Rs.) | Value (Rs.) |
|---------|-------------------------------------|------------|------|------------|-------------|
| 1. | Sewing machine 36" with 10 HP motor | Ind. | 1 | 35,000 | 35,000 |
| 2. | Bending press | Ind. | 1 | 28,000 | 28,000 |
| 3. | Tools and equipments | L.S. | | | 7,000 |
| 4. | Office equipments | L.S. | | | 10,000 |
| 5. | Electrification, installation etc. | | | | 6,300 |
| | | | | Total | 86,300 |

| | |
|------------------------------|------------|
| (iii) Pre-operative Expenses | 3,700 |
| Total Fixed Capital (ii+iii) | Rs. 90,000 |

B. Working Capital (per month)

(i) Staff and Labour (per month)

| Sl. No. | Designation | No. | Salary (Rs.) | Total (Rs.) |
|---------|------------------|-----|--------------|-------------|
| 1. | Manager | 1 | 4,000 | 4,000 |
| 2. | Clerk-cum-typist | 1 | 2,500 | 2,500 |
| 3. | Watchman | 1 | 2,100 | 2,100 |
| 4. | Sweeper | 1 | 2,100 | 2,100 |

| Sl. No. | Designation | No. | Salary (Rs.) | Total (Rs.) |
|---------|---------------------|-----|--------------------------------|-------------|
| 5. | Accountant | 1 | 3,000 | 3,000 |
| 6. | Mistry | 1 | 2,500 | 2,500 |
| 7. | Skilled Worker | 4 | 2,200 | 8,800 |
| 8. | Semi-skilled worker | 2 | 2,100 | 4,200 |
| 9. | Helpers | 2 | 2,000 | 4,000 |
| | | | Total | 33,200 |
| | | | Add perquisites @20% on Salary | 6,640 |
| | | | Total | 39,840 |
| | | | Say | 39,900 |

(ii) Raw Material (Estimate for 100 Hockey Sticks)

| Sl. No. | Description | Quantity | Amount (Rs.) | | |
|---------|--|----------------|--------------|--------|----------|
| | | | 1st | 2nd | 3rd |
| 1. | Mulberry blades | 100 | 20,000 | 15,000 | 10,000 |
| 2. | Cane handles | 40-50 pcs. | 500 | 400 | 300 |
| 3. | Synthetic glue movicol/fevicol. | 3-4 kg. | 300 | 250 | 200 |
| 4. | Ply pieces | 150-200 pcs. | 150 | 125 | 100 |
| 5. | Glue flaks | 1 to 1.5 kg. | 100 | 75 | 50 |
| 6. | Pachra | 100 pcs. | 50 | 40 | 30 |
| 7. | Towel grip | 90-100 mtrs. | 200 | 175 | 150 |
| 8. | Colour cotton tape | 3 to 4 bundle | 100 | 75 | 50 |
| 9. | Tape (white 1 in cotton markin) | 3 to 4 bundle | 60 | 50 | 40 |
| 10. | Binding cloth | 5-6 mtr. | 100 | 75 | 50 |
| 11. | DUCO paints | 3-4 liters | 125 | 100 | 75 |
| 12. | Thinner | 1-3 ltrs. | 75 | 65 | 55 |
| 13. | N.C. Lacquer | 1-3 ltrs. | 100 | 90 | 80 |
| 14. | Cello Tape | 50 to 100 mts. | 50 | 40 | 30 |
| 15. | Transfer and other | 200 to 400 pcs | 150 | 125 | 100 |
| 16. | Polythene bags and polythene sheet. | | 75 | 65 | 55 |
| 17. | Corrugated or wooden boxes. | 1-3 | 80 | 70 | 60 |
| 18. | Brown and tarred paper | | 50 | 40 | 30 |
| 19. | Hessian cloth and sutli etc. | | 50 | 40 | 30 |
| | Total | | 22,315 | 16,900 | 11,485 |
| | Exp. For 500 sticks 1st, 2nd and 3rd quality | | 1,11,575 | 84,500 | 57,425 |
| | Total | | | | 2,53,500 |

(iii) Utilities (per month)

| Sl. Description No. | Amount (Rs.) |
|--------------------------------|--------------|
| 1. Electricity, Water and Fuel | 5,000 |
| Total | 5,000 |

(iv) Other Contingent Expenses (per month)

| Sl. Description No. | Amount (Rs.) |
|--|--------------|
| 1. Rent | 5,000 |
| 2. Travelling expenses | 3,000 |
| 3. Advertisement and Publicity | 2,000 |
| 4. Transportation and other misc. expenses | 5,000 |
| 5. Repairs and maintenance | 1,500 |
| 6. Insurance | 1,500 |
| Total | 18,000 |

(v) Total Working Capital (per month)

| Sl. Description No. | Amount (Rs.) |
|------------------------------|--------------|
| 1. Raw Materials | 2,53,500 |
| 2. Staff and Labour | 39,900 |
| 3. Utilities | 5,000 |
| 4. Other Contingent expenses | 18,000 |
| Total | 3,16,400 |

| (vi) Working Capital (for 3 months) | (Rs.) |
|--|----------|
| Working Capital for 3 months 3,16,400 x 3 | 9,49,200 |
| Say | 9,49,200 |

C. Total Capital Investment

| Sl. Description No. | Amount (Rs.) |
|-----------------------------------|--------------|
| 1. Fixed Capital | 90,000 |
| 2. Working capital (for 3 months) | 9,49,200 |
| Total | 10,39,200 |

FINANCIAL ANALYSIS

(1) Cost of Production (per year)

| Sl. Description No. | Amount (Rs.) |
|---|--------------|
| i) Total recurring cost | 37,96,800 |
| ii) Depreciation on machinery @ 10% | 6,930 |
| iii) Depreciation on tools and equipments @ 25% | 1,750 |
| iv) Depreciation on office furniture @ 20% | 2,000 |
| v) Interest on Total Capital Investment @ 15% | 1,55,880 |
| Total | 39,63,360 |
| Say | 39,63,400 |

(2) Turnover (per year)

| Sl. Items No. | Quantity | Rate | Value (Rs.) |
|--------------------------------------|-------------|---------------|-------------|
| 1. Sale of 1st quality Hockey sticks | 6000 pieces | 260 per piece | 15,60,000 |
| 2. Sale of 2nd quality Hockey sticks | 6000 pieces | 245 per piece | 14,70,000 |
| 3. Sale of 3rd quality Hockey sticks | 6000 pieces | 225 per piece | 13,50,000 |
| Total | | | 43,80,000 |

(3) Net Profit (before taxation) (per year) (Rs.)

| | |
|--------------------|-----------|
| Turnover | 43,80,000 |
| Cost of Production | 39,63,400 |
| Total | 4,16,600 |

(4) Net Profit Ratio

$$= \frac{\text{Net Profit Per year} \times 100}{\text{Turnover per Year}}$$

$$= \frac{4,16,600 \times 100}{43,80,000}$$

$$= 9.51\%$$

(5) Rate of Return on Total Investment

$$= \frac{\text{Net Profit per year} \times 100}{\text{Total Investment}}$$

$$= \frac{4,16,600 \times 100}{10,39,200}$$

$$= 40.08\%$$

(6) Break-even Point

Fixed Cost

| Sl. Description No. | Amount (Rs.) |
|--|--------------|
| a) Rent for one year | 60,000 |
| b) Depreciation on machinery, tools and equipments | 6,930 |
| c) Depreciation on office equipments | 2,000 |
| d) Interest on capital investment | 1,55,880 |
| e) 40% of Salary and Wages | 1,91,520 |
| f) 40% of other Contingent expenses | 62,400 |
| g) 40% of utilities | 24,000 |
| Total | 5,02,730 |

$$\begin{aligned}
 \text{B.E.P.} &= \frac{\text{Fixed cost} \times 100}{\text{Fixed cost} + \text{Net Profit}} \\
 &= \frac{5,02,730 \times 100}{5,02,730 + 4,16,600} \\
 &= 54.68\%
 \end{aligned}$$

Addresses of Machinery and Equipment Suppliers

1. M/s. Avtar Engg. Works,
Basti Road, Jalandhar,
Punjab.

2. M/s. Aggarwal Engg. Works (Regd.),
G.T. Road, Batala,
Punjab.
3. M/s. N.S. Industries,
Basti Sheikh Road,
Jalandhar.
4. M/s. Golden Engg. Works
Basti Adda,
Jalandhar,
Punjab.
5. M/s. Rattan Engg.
Bhargav Nagar,
Jalandhar.
6. M/s. Standard Furniture
Industrial Co-op. Society,
Bhargav Nagar,
Jalandhar, Punjab.

Raw Material Suppliers

From the dealers of mulberry wood, cane and other hardware merchants.