

PROJECT PROFILE

on

Manufacturing of Hospital Fowler Bed

(2019-20)



**Prepared by
Mechanical Division**

**Government of India
Ministry of Micro, Small and Medium Enterprises
Br. M S M E Development Institute
APIDFC Ltd. Building, C- Sector
Itanagar (Arunachal Pradesh) – 791111
Ph. 0360 - 2291176
Email: brmsme.itan@gmail.com**

PROJECT PROFILE – HOSPITAL FOWLER BED

A. INTRODUCTION:

Health is a primary human right and has been accorded due importance by the Constitution through Article 21. Though Article 21 stresses upon state governments to safeguard the health and nutritional well being of the people, the central government also plays an active role in the sector. Recognizing the critical role played by the Health Industry, the industry has been conferred with the infrastructure status under section 10(23G) of the Income Act.

Market Potential

The healthcare sector is one of the most challenging and fastest growing sectors in India. In the First Five-Year Plan, 3.4% of the total plan investment was for health outlays. This rose to 6.5% by the Eleventh Five-Year Plan.

IMF has said in its annual Article IV reports that India can boost its human capital's productivity by investing in education and healthcare. In 2018, it identified poor public health as the 12th most important hurdle for ease of doing business, ahead of crime, tax regulations and policy instability. Health and working conditions are a key recommendation in its suggestions for labour market reforms. The health sector creates both high- and low-skill jobs and can be used for pump-priming the service and manufacturing sectors.

The sector has registered a growth of 9.3 per cent between 2000-2009, comparable to the sectoral growth rate of other emerging economies such as China, Brazil and Mexico. According to the report, the growth in the sector would be driven by healthcare facilities, private and public sector, medical diagnostic and pathology labs and the medical insurance sector.

As per FICCI-Ernst and Young report, India needs an investment of US\$ 14.4 billion in the healthcare sector by 2025, to increase its bed density to at least two per thousand populations.

In India, the emergence of private medicare services, especially through commercialization and corporatization, has contributed to the transformation. The rapid commercialization of the medical practices with the establishment of multi-million rupee hospitals, nursing homes and diagnostic centres, specialized and general, the demand has registered a very high growth rate in the recent years.

B. Technical Aspects

Fowler's position is a standard position used in nursing to promote oxygenation to allow for maximum chest expansion without the effects of gravity. It is usually implemented in cases of respiratory distress. Fowler's position is also frequently used when feeding a patient with feeding precautions, during breathing treatments, to perform ADLS, for dependent drainage after abdominal surgery, pneumonectomy or other such surgeries.

Fowler beds are ergonomically designed, four section perforated beds utilized for knee rest and backrest functions. The beds, operated using cranks or motors, utilize either simultaneous, central or individual braking system. These fowler beds are equipped with easy lifting or collapsible side rails to ensure patient safety

Production Details and Process of Manufacture

The basic operations involved in the manufacture of Fowler (adjustable) beds are as follows:

1. Cutting and Bending of Pipes
2. Cutting of M.S. Angles
3. Cutting of Strips
4. Welding, Riveting
5. Grinding
6. Assembly of elevating mechanism
7. Painting, Baking

Inspection and Quality Control

IS: 7378-1974 specifies dimensional and other requirements of fowlers beds used in hospitals.

IS: 5039 – 1969 specifies material, shape and dimensions for bedstead general purpose for the use in hospitals. The above specifications may be followed for quality control.

ENERGY CONSERVATION NEEDS:

General awareness is to be created for economic use of electricity at all points. Capacitors may be used at suitable points for energy conservation. All machinery and equipment should be properly lubricated and maintained so that they consume less amount of power in use.

C. Production Target:

It is proposed to manufacture 400 Adjustable / Fowler Hospital Beds per annum.

D. BASIS AND PRESUMPTION:

- (i) The unit is expected to work at 75% efficiency on 8 hrs. Single shift basis for full capacity utilizations.
- (ii) The full capacity utilisation will be achieved in three years. 70% in the first year followed by 85% in the next year and the 100% in subsequent years.
- (iii) Labour and wages mentioned as per prescribed minimum wages and the proprietor is considered as a manager.
- (iv) Interest considered @ 12% in the project provide for recurring and non-recurring investment.
- (v) The cost of land, construction charges, cost of machinery and equipment, raw materials and consumables other expenses etc. initiated in the profile are based on the prices prevailing at the time of project preparation. Therefore, they are subject to necessary changes from time to time based on local conditions.

E. IMPLEMENTATION SCHEDULE:

Activity	Period Starting to Completion	
Survey for collection of data in respect of demand, raw material, including power and fuel availability of technology, pollution control	0	1 Month
Arrangement for margin money	0	1st Months
Preparation of project document and registration and other clearance	1st	2nd Months
Financial assistance	2nd	3rd Months
Selection of site and development of land	3rd	4th months
Make shift office	3rd	4th Months
Purchasing of machines & recruitment of staff	4th	5th Months
Construction of building & selection of machinery	5th	6th Months
Installation of machinery & purchase of raw materials	6th	7th Months
Trial production	7th	8th Months

F FINANCIAL ASPECT:**(i) Land & Building:**

Land 250 sq.mtrs. @ Rs.60/- per sq.mtr.-- on rent = 15,000/- per month

(ii) Fixed Capital on Plant & Machinery:

Sl.No.	Description	Qty. (Nos.)	Value (Rs.)
1.	Pipe bending machine hand operated with fixtures locally fabricated	3 No.	60,000
2	Arc welding set	1Set	15,000
3.	Gas cutting set with torch, regulators etc.	1Set	15,000
4.	Bench drilling machine 13 mm capacity	1No.	20,000
5.	Portable drilling machine 13 mm capacity	1No.	4,500
6.	Flexible shaft grinder 150wheel mm	1No.	12,000
7.	Double ended bench grinder 300 mm size	1No.	18,000
8.	Hand shearing machine 3 mm capacity	1No.	4,500
9.	Baking oven 2.5 x 2 mts. x 2 mts. size 20 KW	1No.	60,000
10.	Hand Press No.4	2No.	16,000
11.	Cleaning, Pickling, Phosphating tanks 2.5 x 2 x 2 mts.	7No.	70,000
12.	Compressor with spray gun unit for painting	1No.	25,000
13.	Riveting machine portable type electrical	1No.	18,000
14.	Hand tools, instruments, etc.	-	10,000
15.	Fixtures and dies	-	15,000
5.	Total		363,000
6.	Office furniture, almirah, office instruments etc.	L.S.	25,000
7.	Electrification & installation charges	L.S	20,000
8.	Total Plant & M/c Cost		4,08,000

(iii) Pre-operative expenses @ 2.0 % (Approx) ----- Rs. 40,000

TOTAL FIXED CAPITAL (i+ii+iii) ----- Rs. 8,11,000

WORKING CAPITAL (PERMONTH):

I. Staff & Labour Expenses:

(a) Administrative:

1.	Supervisor	1 No.	10,000
2.	Clerk/Accountant	1 No.	5,000
3.	Peon/Chowkidar	1 No.	3,000
4.	Skilled Workers @7,000/	2 No.	14,000
5.	Semi skilled Workers @5,000/	2 No.	10,000
6.	Helpers@4,000/	2 No.	8,000
7.	Labour benefits 20%	-	10,000
	Total		1,10,000

II. Raw Materials (per month):

1.	M.S Angle Iron 40 mm x 40 mm x 3 mm and 38 mm x 38 mm x 3 mm – 0.75 MT @ Rs.42,000/- per MT	31,500
2.	M.S Tubes 38.10 mm o.d x 1.6/1.22 mm thick – 1.5 MT @ Rs.46,000/- per MT	69,000
3.	M.S Tubes 25.40 mm o.d x 1.6/1.22 mm thick – 1.25 MT @ Rs.46,000/- per MT	57,500
4.	M.S Tubes 19.5 mm o.d x 1.22 mm thick – 0.75 MT @ Rs46,000/- per MT	34,500
5.	M.S Strips 1.25 mm x 25 mm – 0.75 MT @ Rs.38,000/- per MT	28,500
6.	Castor wheels – 200 Nos.	4,000
7.	Nuts, Bolts, Screws, Washers, Flats, Rubber items and paint etc.	12,000
	Total	237,000

III. Utilities (per month):

	Units	Rs.
Power	3000	12,000
Water L.S	L.S	2,000

IV. Other Contingent expenses (P.M.):

1.	Rent	15,000
2.	Postage and Stationery	1,500
3.	Telephone	2,500
4.	Repair and maintenance	3,000
5.	Consumable stores	3,000
6.	Transport charges	3,500
7.	Advertisement and publicity	2,500
8.	Insurance	2,500
9.	Sales expenses	5,000
	Total	38,500

V. Total recurring expenditure (per month):

1.	Staff and labour	1,10,000
2.	Raw material	2,37,000
3.	Utilities	14,000
4.	Other contingent expenses	38,500
	Total	3,99,500

VI. Total working capital (3 months basis) Rs. 11,98,500

2. Total capital investment:

1.	Machinery and equipment	8,11,000
2.	Working Capital (for 3 Months)	11,98,500
	Total	20,09,500

3. Financial Analysis:

a. Cost of Production:

1.	Total recurring cost per year	47,94,000
2.	Depreciation on plant and machinery @ 10%	36,300
3.	Depreciation on Dies, Jigs & Fixtures @ 20%	3,000
4.	Depreciation on office equipments @ 20%	5,000
5.	Interest on total capital investment @ 12%	50,820
	Total	48,89,120

b. Total Sales (per year):

	Total Sales (per annum)	Qty	Cost	
1	By Sales of 250 nos. Fowlers hospital beds	250	19,000	47,50,000
2	150 nos. General purpose hospital beds	150	4,500	6,75,000
3	By scale of scrap		L.S	45,000
	Total			54,70,000

Total Sales per annum = **Rs. 54,70,000**

c. Net Profit (per year) (Before Tax)

Profit = Total sales – cost of production

= 54,70,000 – 48,89,120

= Rs.5,80,880

d. Profit Ratio:= Net profit x 100 / Total turn over

= 5,80,880 x 100 / 54,70,000

= 10.62 %

e. Rate of Return: = Net profit x 100 / Total investment

= 5,80,880 x 100 / 20,09,500

= 28.91 %

f. Break Even Point:

Fixed cost (per year):

1.	Rent	180,000
2.	Interest	50,820
3.	Depreciation of machinery & equipments,tools @ 10%	36,300
4.	Depriciation on Dies, Jigs & Fixtures @ 20%	3,000
5.	Depreciation of office equipment @ 20%	5,000
6.	40% of salaries and wages	528,000
7.	40% of other expenses including utilities and excluding rent	180,000
	Total fixed cost (FC)	983,120

BEP = FC x 100/ FC + Profit

= 983,120x 100 / (983,120 +580880) = 62.85 %

ADDRESSES OF MACHINERY & EQUIPMENT SUPPLIERS:

1. ABM Fasteners (India) Pvt Ltd
79A, Pocket GG-1, Vikas Puri, New Delhi - 110 018, India
2. S. B. Machine Tools
3/4, Lane No.-11, Anand Parbat Indl. Area, New Rohtak Road, New Delhi -
110005, India
3. Bumra Industrial Corporation
G.T. Road, Putlighar, Amritsar - 143001, Punjab, India
4. Allied Machinery Corpn.
9, Gokal Ka Bagh, 100 Ft. Road, East Mohan Nagar, Amritsar - 143001, Punjab,
India

NAMES AND ADDRESSES OF RAW MATERIALS SUPPLIERS:

Raw material can be purchased from the local suppliers available in the market.