

Profile No.: 60

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STONE CRUSHER

1. INTRODUCTION:

Crushed stone is also known as metal jelly. Crushed stone is segregated into various sizes viz. 35mm, 20mm, 12mm etc. for different uses. Crushed stone aggregates are used for construction of roads, bridges, housing, industrial building construction and other cement based products like RCC pipes, PSC poles, pre-moulded slabs, frames and beams etc. for fabrication.

2. PRODUCT & ITS APPLICATION:

Stone crushing industry is an important industrial sector in the country. The crushed stone is then used as raw material for various construction activities i.e. construction of roads, bridges, buildings and canals. Over the last 10 years, the Construction sector has been registering strong growth rates in the range of 7-8%. Housing and construction is one of the major drivers of growth in more than 40 allied industries including STONE CRUSHING. In addition, for the building of roads, flyovers and bypasses, there is a mass and consistent need of crushed stone across the country. Several projects are in progress and are being commenced shortly which will have high demand of crushed stone all over the country. In order to make up the backlog and meet the projected requirements for the next 20 years, overall housing construction has to raise 500,000 housing units per annum. The area under consideration is badly affected by the earthquake and rehabilitation and reconstruction is in process. This process leads to construction of roads, bridges, new houses , markets , etc. resultantly gear up construction activities and more use of crushed stones. Construction of Diamir-Basha Dam and Kohala Hydro –Electric Project are also synergic factor for this project. The aforementioned facts and statistics provide enough evidences, assuring a steep and continuous growth vis a vis investment opportunity in the STONE CRUSHING business. There are increasing allocations from budget in the Public Sector Development Projects of Pakistan.

There is sufficient skilled labor available at less cost to run the project. The raw material is abundantly available. If the machinery needs to be imported there are less import duties. The availability of initial depreciation made the project pragmatically five years tax free. There is need to employ latest and modern exploration techniques and machinery. The lack of coordination among various mineral sector agencies is also point of concern for the stone crushing industry.

3. DESIRED QUALIFICATIONS FOR PROMOTER:

Graduate in any discipline. Promoter with high skill of chemical processing and having contacts with building and construction industries is advantage.

4. MARKET POTENTIAL AND MARKETING ISSUES, IF ANY:

Stone Crushing Industry is an important industrial sector in the country engaged in producing crushed stone of various sizes depending upon the requirement which acts as raw material for various construction activities such as construction of Roads, Highways, Bridges, Buildings, Canals etc. It is estimated that there are over 12,000 stone crusher units in India. The number is expected to grow further keeping in view the future plans for development of infrastructure of roads, canals and buildings that are required for overall development of the country. In India, the Stone Crushing Industry sector is estimated to have an annual turnover of Rs. 5000 crore and is therefore an economically important sector. The sector is estimated to be providing direct employment to over 500,000 people engaged in various activities such as mining, crushing plant, transportation of mined stones and crushed products etc. Most of these personnel are from rural and economically backward areas where employment opportunities are limited and therefore it carries greater significance in terms of social importance in rural areas. It is a source of earning for uneducated poor unskilled rural people. Since it is an allied industry of the construction sector, growth in construction sector may be considered as proxy for the growth in stone crushing sector, The market scope for crushed stone is found to be encouraging in local market with the increased demand from building industry & construction fields. There is also a sufficient demand from Government.

Contractors for laying of roads and construction of industries etc. The entry in the target market is easy and there is a narrow gap in the supply and demand, which is expected to grow in the coming years. Stone Chips are primarily used in construction activities including Building, Roads, and Bridges etc. Since the area is undergoing tremendous infrastructure development work. Apart from above the Road Construction work under P.W.D., P.M.G.S.Y increased vast scope for this unit. Looking at the huge demand potential, easy marketing is possible.

5. RAW MATERIAL REQUIREMENTS:

Raw materials required for this project is granite stone boulders of various sizes. Basic raw material is boulder and same shall be obtained from rocks. Hard Lime and granite Stone will be used as raw material for manufacturing crushed stone. Raw stone could be purchased directly from the excavator (quarry lease holder) or crusher may hold his own quarry lease to produce raw stone. It is recommended to obtain a quarry lease holding to avoid any possible threat in procuring raw stone as well as to keep the project economically stable. For the proposed project, a total of 15,000 C.ft. of Hard Lime/granite Stone would be the daily requirement. This requirement could sufficiently be fulfilled from the obtained quarry site over a period of years.

6. MANUFACTURING PROCESS:

It is advantageous if the crushed stone unit is set up near the queries where the granite boulders of various sizes are available for the crushing unit. The wastage from the granite industry will be of much use to the crushed stone unit. The granite stones of various sizes are fed into the jaw crushers for size reduction. Depending on the desired output size of the crushed stone, the raw materials may be fed to one or two jaw crushers in a sequence. Then these crushed stones are passed on to the rotary screen for size gradation. Material is handled through a belt conveyor to the different places of operation. The main machinery involved in the stone crushing industry is Hammer Crusher, Screen, Conveyors etc. The process involved is to feed the stone in to the Hammer Crushers to make it further smaller in

size as required by the customer. In the hammer crusher, the stone is crushed. The crushed stone is screened to separate the produce in different sizes by the separator. The crushed stone is conveyed by the conveyors to trucks for transport to the market place or storage area.

7. MANPOWER REQUIREMENT:

Sr. No.	Designation of Employees	Salary Per Person	Monthly Salary ₹	Number of employees required				
				Year-1	Year-2	Year-3	Year-4	Year-5
	Variable Labour: Workers							
1	Machine Operators	12,000	24000.00	2	2	2	2	2
2	Helpers	8,000	64000.00	8	8	8	10	10
	<i>sub-total</i>		88000.00	10	10	10	12	12
	Fixed Staff:							
1	Production supervisor	15,000	15000.00	1	1	1	1	1
2	Accounts/Stores Asst	12,500	25000.00	2	2	2	3	3
3	Office Boy	9,000	9000.00	1	1	1	1	1
	<i>sub-total</i>		49000.00	4	4	4	5	5
	Total		137000.00	14	14	14	17	17

8. IMPLEMENTATION SCHEDULE:

The project can be implemented in 4 months' time as detailed below:

Sr. No.	Activity	Time Required (<i>in months</i>)
1	Acquisition of premises	1.00
2	Construction (if applicable)	1.00
3	Procurement & installation of Plant & Machinery	1.00
4	Arrangement of Finance	2.00
5	Recruitment of required manpower	1.00
	Total time required (<i>some activities shall run concurrently</i>)	4.00

9. COST OF PROJECT:

Sr. No.	Particulars	₹ in Lacs
1	Land	5.00
2	Building	15.00
3	Plant & Machinery	15.20
4	Furniture, Electrical Installations	1.52
5	Other Assets including Preliminary / Pre-operative expenses	1.82
6	Margin for Working Capital	37.50
	Total	76.04

10. MEANS OF FINANCE:

Bank term loans are assumed @ 75 % of fixed assets. The proposed funding pattern is as under:

Sr. No.	Particulars	₹ in Lacs
1	Promoter's contribution	19.01
2	Bank Finance	57.03
	Total	76.04

11. WORKING CAPITAL CALCULATION:

The project requires working capital of ₹ 40.00lacs as detailed below:

Sr. No.	Particulars	Gross Amt	Margin %	Margin Amt	Bank Finance
1	Inventories	20.00	0.25	5.00	15.00
2	Receivables	8.00	0.25	2.00	6.00
3	Overheads	12.00	100%	12.00	0.00
4	Creditors	-		0.00	0.00
	Total	40.00		19.00	21.00

12. LIST OF MACHINERY REQUIRED:

A detail of important machinery is given below: Power Requirement: 200 HP

Sr. No.	Particulars	UOM	Qty	Rate (₹)	Value
					(₹ in Lacs)
	Plant & Machinery / equipments				
a)	Main Machinery				
i.	Jaw crusher 400X225mm 25HP	NOS.	1	520000	5.20
ii.	Jaw crusher 350x150 mm 25HP	Nos	1	450000	4.50
iii.	Rotary screens for 35 mm,	Nos	1	300000	3.00
b)	Ancilliary machinery				
i.	Belt conveyor with 15 HP motor	Nos	1	100,000	1.00
ii.	Pollution control cyclonic dust	NOS.	1	150000	1.50
	<i>sub-total Plant & Machinery</i>				15.20
	Furniture / Electrical installations				
a)	Office furniture	LS	1	100000	1.00

Sr. No.	Particulars	UOM	Qty	Rate (₹)	Value
b)	Stores Almirah	LS	1	15,000	0.15
c)	Computer & Printer		L. S.	37000	0.37
	<i>sub total</i>				1.52
	Other Assets				
a)	preliminary and preoperative				1.82
	<i>sub-total Other Assets</i>				1.82
	Total				18.54

13. PROFITABILITY CALCULATIONS:

Sr. No.	Particulars	UOM	Year-1	Year-2	Year-3	Year-4	Year-5
1	Capacity Utilization	%	60%	70%	80%	90%	100%
2	Sales	₹. In Lacs	90.00	105.00	120.00	135.00	150.00
3	Raw Materials & Other direct inputs	₹. In Lacs	73.18	85.37	97.57	109.76	121.96
4	Gross Margin	₹. In Lacs	16.82	19.63	22.43	25.24	28.04
5	Overheads except interest	₹. In Lacs	5.14	5.47	6.11	6.30	6.43
6	Interest	₹. In Lacs	5.70	5.70	3.80	2.85	2.28
7	Depreciation	₹. In Lacs	10.64	7.60	5.32	3.80	3.42
8	Net Profit before tax	₹. In Lacs	-4.66	0.86	7.20	12.28	15.91

14. BREAKEVEN ANALYSIS:

The project shall reach cash break-even at 30.20 % of projected capacity as detailed below:

Sr. No.	Particulars	UOM	Value
1	Sales at full capacity	₹. In Lacs	150.00
2	Variable costs	₹. In Lacs	121.96
3	Fixed costs incl. interest	₹. In Lacs	8.71
4	BEP = FC/(SR-VC) x 100 =	% of capacity	31.07%