BUSINESS PLAN · INDIA

Stone-Crusher and Aggregate Unit

Crushing and graded-aggregate production

MINING

AISEVAK.IN · BY ABL DIGITAL TECHNOLOGIES

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This document is confidential and prepared for planning purposes. All financial figures are illustrative model assumptions for an Indian MSME context and must be validated against live quotes, local rates and professional advice before any investment or borrowing decision.

1. Executive Summary

This plan sets out a **Stone-Crusher / Aggregate Unit** in India — a real-asset processing business that buys boulders/rough stone and crushes them into **graded aggregate (20mm/12mm/6mm/dust) & M-sand** for construction. It runs a crushing plant converting feedstock into graded product by volume — a capex-, throughput-, grade-mix-, power/diesel- & regulation (dust/pollution)-driven business tied to construction demand.

India's construction & infrastructure demand for graded aggregate & manufactured sand (M-sand) is large & growing — concrete/RMC, roads, buildings. A stone-crusher unit is a **real-asset processing business**: it invests in a crushing & screening plant (jaw/cone crushers, screens, conveyors), buys boulder/rough-stone feedstock (from quarries), crushes & grades it into aggregate sizes & M-sand, and sells by volume. It is capex-, throughput-, grade-mix-, power/diesel- & regulation-heavy: **consent-to-operate (CTO) is critical (dust/pollution)**, plus factory/land/electricity & feedstock supply. Revenue = **crushed volume × grade realisation**; economics rest on throughput/capacity utilisation, feedstock cost, grade mix (M-sand lifts value), power/diesel & construction demand — it is capex-, throughput-, grade- & cost-driven, real-asset.

This is a capital-intensive real-asset processing business — funded by promoter equity plus term loan & working capital. This plan models a stone-crusher/aggregate unit requiring **₹3.5 crore** (₹1.4 crore promoter + ₹2.1 crore term loan/WC), targeting **₹7 crore** revenue in Year 1 and **₹13 crore** by Year 3. *(Stone-crusher unit; crushed volume × grade realisation, capex/throughput/grade/cost-driven, real-asset — figures illustrative.)*

2. Business Description, Vision & Legal Structure

Concept: A stone-crusher / aggregate unit - crushing boulder/rough-stone feedstock into graded aggregate & M-sand for construction, sold by volume.

Vision: To be a reliable graded-aggregate & M-sand supplier - consistent grades, quality & compliant operation.

Mission: Crush & grade stone efficiently & cleanly - quality aggregate/M-sand within pollution norms, serving construction.

Legal structure options

- **Private Limited / LLP** — recommended for capex, term loan, CTO, liability & supply contracts.
- **Proprietorship/Partnership** — possible for a small unit but weak for finance/liability.

> **Regulatory anchor:** a stone-crusher unit's key regulatory gate is **consent-to-establish/operate (CTE/CTO)** from the pollution board — **dust/air pollution is the critical issue** (siting distance norms, dust-suppression/water-sprinkling, enclosures, ambient-air standards); plus factory/land use, electricity connection/load, GST & feedstock (royalty-paid stone). Throughput/capacity utilisation, feedstock cost, grade mix, power/diesel & construction demand determine success; it is capex-, throughput-, grade-, cost- & pollution-compliance-driven, real-asset.

3. Promoter & Ownership

Led by a promoter with crushing/aggregate, construction-materials or plant expertise. The team includes a plant manager, plant/machinery operators, maintenance, dispatch/logistics, pollution-compliance, sales & accounts. Throughput/utilisation, grade mix, feedstock/power cost & CTO compliance are the differentiators. Ownership, equity & any partner are editable inputs.

4. Market Analysis — India

India's demand for graded aggregate & M-sand is large & sustained — concrete/RMC, roads, buildings, infrastructure — with M-sand increasingly preferred as river-sand is restricted. Demand is construction-/infrastructure-driven & local (freight-sensitive). The market rewards throughput/capacity, grade consistency, M-sand quality, feedstock/power cost, proximity & CTO compliance; it is construction-cycle-, freight- & pollution-compliance-sensitive.

Demand drivers

- **Concrete/RMC & construction** (aggregate-intensive).
- **M-sand demand** (river-sand restricted).
- **Roads/infrastructure & buildings.**
- **Urbanisation & construction growth.**
- **Local demand** (freight-sensitive).

Market sizing (illustrative framing)

Layer	Definition	Indicative scale
TAM	Graded aggregate/M-sand in India	Very large
SAM	Regional/local catchment	Substantial
SOM (Yr 1–3)	Unit throughput & sales	Scaling

Target segments

- RMC/concrete plants.
- Construction contractors & builders.
- Road/infrastructure projects.
- Aggregate/M-sand traders.

5. Competition & Competitive Advantage

Landscape: other crusher units in the catchment, captive crushers of large contractors & traders. The unit competes on throughput/capacity, grade consistency, M-sand quality, feedstock/power cost, proximity/logistics & CTO compliance.

The business's edge

- **Throughput/capacity & utilisation.**
- **Grade consistency & M-sand quality.**
- **Feedstock cost & supply** (quarry linkage).
- **Power/diesel cost & proximity.**
- **CTO/dust compliance & reliability.**

6. Products & Revenue Model

Product	Model	Basis
20mm / 12mm aggregate	Per-tonne/brass sale	Core volume

6mm / dust / GSB	Per-tonne	Volume
M-sand (manufactured sand)	Per-tonne	Higher value
Boulder / oversize (traded)	Per-tonne	Incidental

> Revenue is **crushed volume × grade realisation** (aggregate sizes + M-sand). Economics = throughput × grade-mix realisation − (feedstock + power/diesel + wages) − CTO/compliance; throughput/capacity utilisation, feedstock cost, grade mix (M-sand lifts value), power/diesel & construction demand drive it — the decisive crusher levers (real-asset processing).

7. Go-to-Market — Sales & Logistics

- **RMC/concrete & contractor** supply relationships.
- **Road/infrastructure project** supply.
- **M-sand positioning** (river-sand substitute).
- **Proximity/logistics** (freight advantage).
- **Grade consistency & reliability.**

Sales approach

Set up plant & CTO → secure feedstock (quarry linkage) → crush & grade to sizes + M-sand → supply RMC/contractors/projects nearby → build reliable off-take & M-sand demand → optimise throughput/grade/cost. Throughput/utilisation, grade mix, feedstock/power cost & CTO compliance build a real-asset processing business tied to construction demand.

8. Operations Plan (processing, real-asset)

- **Plant:** jaw/cone crushers, screens, conveyors, M-sand unit (VSI), capacity (TPH).
- **Feedstock:** boulder/rough-stone supply (quarry linkage, royalty-paid), stockyard.
- **Crushing & grading:** primary/secondary crushing, screening to sizes, M-sand, quality/grading.
- **Utilities & dust control:** electricity/DG, water-sprinkling/dust-suppression, enclosures (CTO).
- **Dispatch & maintenance:** weighbridge, loading/haulage, plant upkeep/spares.

Workflow

Stage	Activity	Metric
Feed	Boulder supply/stockyard	Feedstock cost
Crush	Primary/secondary crushing	Throughput (TPH)
Grade	Screen/M-sand/quality	Grade mix/yield
Dispatch	Weigh/load/sell	Tonnes/realisation
Comply	Dust/CTO/pollution	Compliance

9. Regulatory, Licences & Compliance (India)

- **Pollution:** CTE/CTO (pollution board) — dust/air (critical), siting-distance norms, dust-suppression, ambient-air standards.
- **Plant:** factory/land use; electricity connection/load; explosives not needed (buys feedstock).
- **Feedstock:** royalty-paid stone (quarry linkage/transit).
- **General:** company; GST; safety/labour; transport.

10. Organisation & Manpower Plan

Role	Yr 1	Yr 2	Yr 3
Promoter / plant manager	1	2	2
Plant/machinery operators	5	8	11
Loaders, drivers & dispatch	6	10	14
Maintenance & quality	3	5	7
Compliance, sales & accounts	3	5	6
Total	**18**	**30**	**40**

11. Implementation Timeline & Milestones

Phase	Timeline	Milestone
Setup & CTO	Month 0–5	Land, plant, CTE/CTO, electricity, feedstock linkage
Commissioning	Month 5–7	Plant commissioning, first crushing
Ramp	Month 7–12	Throughput & sales, ₹7cr (ramp)
Grow	Year 2–3	Utilisation/M-sand/grade, ₹13cr

12. Financial Plan (Illustrative)

All figures are illustrative model assumptions for an Indian context, shown so the promoter can replace them with live rates. They are not projections of guaranteed results. A stone-crusher unit is a real-asset processing business; revenue = crushed volume × grade realisation; capex (plant) & CTO are the base; feedstock, power/diesel & wages are the main variable costs; construction demand drives throughput.

12.1 Project cost & means of finance

Capital requirement	₹
Crushing plant (crushers/screens/conveyors/VSI M-sand)	1,80,00,000
Land, site development, stockyard & weighbridge	80,00,000
Electricity/DG, dust-control & CTO infrastructure	40,00,000

Working capital (feedstock + power + wages)	50,00,000
Total project cost	**3,50,00,000**
Promoter contribution	1,40,00,000
Term loan / WC finance	2,10,00,000

12.2 Projected Profit & Loss (3 years)

Particulars	Year 1	Year 2	Year 3
Aggregate (20mm/12mm/6mm/dust)	5,00,00,000	7,00,00,000	8,80,00,000
M-sand	1,80,00,000	3,00,00,000	4,00,00,000
Other (boulder/oversize/traded)	20,00,000	30,00,000	20,00,000
Total revenue	**7,00,00,000**	**10,30,00,000**	**13,00,00,000**
Feedstock (boulder + royalty)	2,80,00,000	4,10,00,000	5,15,00,000
Power/diesel, wear-parts & spares	1,70,00,000	2,45,00,000	3,05,00,000
Wages, freight & overheads	1,40,00,000	1,95,00,000	2,40,00,000
Depreciation, interest & other	55,00,000	58,00,000	60,00,000
Total expenses	**6,45,00,000**	**9,08,00,000**	**11,20,00,000**
Net profit (before tax)	**55,00,000**	**1,22,00,000**	**1,80,00,000**
Net margin	7.9%	11.8%	13.8%

12.3 Unit economics & break-even

- **Throughput × grade realisation:** tonnes crushed × grade-mix price; feedstock & power/diesel are the main variable costs; M-sand & grade mix lift realisation; wear-parts (crusher liners) are a real cost; freight is proximity-sensitive.
- **Capacity utilisation & feedstock:** plant utilisation (TPH × hours), feedstock cost/linkage & power cost are the make-or-break; capex is heavy but real-asset; M-sand demand supports margin.
- **Break-even:** at a throughput/sales volume covering feedstock, power, wages & finance; margins expand with utilisation, M-sand/grade mix & operating leverage.

12.4 Projected Cash Flow — Year 1 (quarterly, illustrative)

Particulars (₹)	Q1	Q2	Q3	Q4
Opening balance	50,00,000	32,00,000	30,00,000	32,00,000
Sales collections	1,00,00,000	1,65,00,000	1,95,00,000	2,40,00,000
Feedstock, power, wages & operating	1,18,00,000	1,67,00,000	1,93,00,000	2,32,00,000
Closing balance	**32,00,000**	**30,00,000**	**32,00,000**	**40,00,000**

> A crusher unit is capex-heavy upfront (plant/CTO) with a ramp as utilisation builds; feedstock/power/wages are steady costs. Throughput/utilisation, grade/M-sand mix, feedstock/power management & a WC line manage cash; the key risks are CTO/dust-pollution compliance (critical - siting/dust can halt operations), construction-cycle demand, feedstock supply/cost,

power/diesel & competition — met with compliance, quarry linkage, utilisation & M-sand value-add.

12.5 Key Performance Indicators to Monitor

- **Throughput:** TPH/utilisation; tonnes crushed; wear-part cost/tonne.
- **Product:** grade mix; M-sand share; grade consistency/yield.
- **Cost:** feedstock cost; power/diesel cost/tonne; freight.
- **Compliance & finance:** CTO/dust; net margin; DSCR.

13. Funding Requirement & Bankability

Total ask: **₹2.1 crore term loan/WC** against ₹1.4 crore promoter contribution — for the crushing plant, site & working capital on a real-asset base (plant is financeable collateral). Fundability rests on throughput/utilisation, feedstock linkage, grade/M-sand economics, CTO & construction demand; M-sand demand (river-sand restricted) supports value. Year-1 profit ₹55 lakh growing to ₹1.8 crore as utilisation/M-sand scale; utilisation, feedstock cost & CTO compliance are key. DSCR supported by throughput × grade realisation; capacity, feedstock, power & demand underpin the model.

13.1 Funding utilisation

Use of funds	₹	% of total
Crushing plant (crushers/screens/conveyors/VSI M-sand)	1,80,00,000	51.4%
Land, site development, stockyard & weighbridge	80,00,000	22.9%
Electricity/DG, dust-control & CTO infrastructure	40,00,000	11.4%
Working capital (feedstock + power + wages)	50,00,000	14.3%
Total	**3,50,00,000**	**100%**

14. Risk Analysis & Mitigation

Risk	Mitigation
CTO / dust-pollution compliance (critical)	Dust-suppression/enclosures, siting norms, CTO discipline, ambient-air monitoring
Construction-cycle demand	Diverse off-take (RMC/contractors/projects), local proximity, M-sand demand
Feedstock supply / cost	Quarry linkage/contracts, stockyard buffer, multiple sources
Power / diesel / wear-parts	Utilisation, energy efficiency, wear-part management
Competition	Grade consistency, M-sand quality, proximity, reliability

15. SWOT Analysis

Strengths	Weaknesses
Construction/M-sand demand; real-asset plant; grade/M-sand value-add; local/freight advantage; financeable plant.	Capex-heavy; CTO/dust-compliance-critical; feedstock-/power-dependent; construction-cycle-linked; wear-part cost.

Opportunities	Threats
M-sand demand (river-sand restricted); infrastructure; RMC/EPC supply; grade value-add; nearby projects.	CTO/pollution tightening (siting/dust); construction slowdown; feedstock/power inflation; competition; community pushback.

16. Recommended AiSevak Tools for This Business

This stone-crusher unit would use AiSevak's Mining vertical tools in operations:

- **Throughput & costing:** throughput/utilisation & grade-mix realisation, feedstock/power cost/tonne & wear-part tools.
- **Compliance & supply:** CTO/dust-compliance & feedstock-linkage, royalty & GST tools (with Legal vertical).
- **Practice:** Business Plan, break-even/DSCR and throughput-realisation tools to model the unit.

17. Key Assumptions & Notes

- Stone-crusher unit: real-asset processing — buys boulder feedstock, crushes/grades into aggregate + M-sand; revenue = crushed volume × grade realisation.
- Throughput × grade realisation − (feedstock + power + wages) − CTO/compliance decisive; throughput/utilisation, feedstock cost, grade mix (M-sand), power/diesel & construction demand are the levers; heavy capex but real-asset.
- Equity + term loan/WC (plant financeable); CTE/CTO (dust/air critical), factory/land, electricity, royalty-paid feedstock.
- Utilisation, grade/M-sand mix, feedstock/power cost & CTO compliance drive economics; figures illustrative, exclude GST; construction-cycle-linked.

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