NNL Bricks

Export Modernization Business Plan

From a local red-brick zigzag kiln to an export-grade clay facing-products manufacturer

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Note: *All financials in this plan are indicative ranges for planning. Final numbers require (1) a clay laboratory test, (2) actual supplier quotes, and (3) the accompanying financial model (NNL_Financial_Model.xlsx). This is the strategy and sequence, not a quotation.*

1. Executive Summary

NNL Bricks today makes ordinary red bricks on a manual zigzag/Bull's-trench kiln and sells only in the local Ballia market. This plan converts it into a maker of high-value clay facing products for the premium Indian market and for export — the same business our benchmark Prayag Clay Products (Varanasi, UP) built into a multi-crore exporter, but using a gas-fired tunnel kiln to beat them on the one thing premium buyers pay for: consistent, repeatable colour.

The decision (what to start with):

- **First product to MASTER:** the wire-cut / extruded facing brick. It is the smallest jump from our current red brick, and it is the parent of every higher-value product — coloured bricks and cladding slips are both made from it.
- **First product to SELL (for cash + learning):** premium / coloured facing brick, sold domestically to architects, villas, farmhouses and commercial façades in UP / Bihar / Delhi-NCR.
- **First product to EXPORT (the real profit engine):** brick slips / cladding tiles — thin (~20 mm) slices of our facing brick. Freight economics make them 3–5× more profitable to ship than solid bricks. First export market: GCC / Dubai.

Why this sequence wins: one production line (clay prep → vacuum extruder → tunnel kiln) produces all three products. We de-risk by selling domestically first, perfect colour and firing, then face export buyers and certifications once the product is already proven.

Investment: Phase 1 (modest export-grade line, ~40k bricks/day) ≈ ₹7.6 cr all-in; Phase 2 add-ons (slip-cutting + colour/engobe line) ≈ ₹2.1 cr from internal accruals. Total project ≈ ₹9.7 cr, funded ~65% MSME term loan + ~35% promoter equity + applicable subsidies.

Financial headline (5-yr model): Revenue ₹7.7 cr (Y1) → ₹48.7 cr (Y5); net margin settling ~19%; payback ~2.9 years; average DSCR 6.7×. By Year 5 the business overtakes Prayag's turnover — exactly the stated ambition.

2. Core Strategic Logic

Three insights drive every decision in this plan:

1. **Don't automate commodity bricks — climb the value ladder.** Solid red bricks are heavy and cheap-per-kg; ocean freight is 30–60% of their value, so they never export profitably. The money is in thin, high-value-per-kg products.
2. **One brick, three products.** A great extruded facing brick is the foundation. Slice it thin → brick slips. Add colour sand/engobe → coloured facing brick. Master the brick once; sell it three ways.
3. **Beat Prayag on firing, not on size.** Prayag built a national export brand on a zigzag kiln. A gas-fired tunnel kiln gives matched colour batches they can't reliably hit. That is our wedge.

Freight rule (decides what we export): A 20 ft container fills on weight (~26–28 t) long before volume. Solid bricks ship dead weight. Brick slips ship the same tonnage at 3–5× the value/kg → freight falls to single-digit % of price. Export the thin stuff; sell the heavy stuff at home. Always quote FOB Mundra.

3. Current State vs. Target

Dimension	Today (NNL)	Target (Phase 2)
Product	Ordinary red brick	Wire-cut + coloured facing brick, brick slips
Process	Manual moulding, zigzag/BTK	Vacuum extrusion, gas tunnel kiln
Market	Local Ballia only	Premium India + GCC/UK export
Price/unit	~₹7–10/brick	₹18–35/facing brick; slips ~₹1,500/m² FOB
Colour control	None	Repeatable matched batches
Certification	None	ISO 9001, EN 771 / ASTM C1088 / SABER

4. Market Opportunity

Domestic premium (the launch market — funds everything): Indian architects, villa/farmhouse builders and commercial façade projects in Lucknow, Varanasi, Patna, Gorakhpur and Delhi-NCR increasingly specify exposed wire-cut and coloured brick. Prayag sells here from Varanasi; we are closer to the eastern-UP / Bihar corridor.

Export (the profit engine):

- **GCC (Dubai, Saudi, Oman, Kuwait)** — closest, lowest freight, huge construction pipeline (Saudi Vision 2030); SABER certification is more navigable than EU CE. Best first export market. Buys facing bricks, brick slips, jaali, roof tiles.
- **UK / Europe** — biggest brick-slip market, driven by a building-retrofit/energy boom (~$1.2B, ~5.8% CAGR). Needs CE/UKCA + EN 771. Phase 3 target.
- **USA** — pavers, thin veneer (ASTM C1088), architectural terracotta. Later.

Long-term graduation prize: architectural terracotta rainscreen façade panels (~$50–100+/sq ft installed; fire-safety demand post-Grenfell). Year 3+.

5. Competitive Positioning

Player	Where	Tech	Our stance
Prayag Clay Products	Varanasi, UP	Zigzag kiln, extrusion	Direct benchmark — beat on tunnel-kiln colour consistency
JJ Bricks	Gujarat	Facing-brick exporter, ~46 countries	Product / catalogue template — study their SKUs
Jindal Mechno Bricks	Gurgaon	European tech, cladding, exports to Italy	Higher-tech tier — learn
Wienerberger India	Karnataka	Fully automated, Argeton façade	Global benchmark — don't fight head-on

Our positioning: "Tunnel-fired, colour-matched eastern-UP facing brick and cladding — Prayag quality, more consistent colour, export-ready certifications."

6. Product Strategy & Roadmap (the ladder)

#	Product	Market	Why this order
1	Wire-cut / extruded facing brick	Domestic premium	Foundation; smallest jump; parent of all others
2	Multi-coloured / sanded facing brick	Domestic + GCC	Cheap labour shines in colouring/finishing; high margin
3	Brick slips / cladding tiles	Export (GCC → UK)	Best margin-to-freight ratio; sliced from rung 1
4	Clay pavers, terracotta jaali	GCC / US add-ons	High-margin niche SKUs off same line
5	Architectural terracotta façade panels	US / EU / GCC	Graduation prize; highest value, hardest

Keep selling domestically (cash base, never export): ordinary red brick, hollow/Porotherm thermal blocks — too heavy to ship.

7. Operations & Machinery Plan

Spend premium money where quality is made (clay prep + extruder). Buy Chinese where China is genuinely cost-competitive (kiln + dryer).

Stage	Buy from	Indicative cost	Why
Fine clay prep (roller mill <1mm)	China — Brictec / Yingfeng	$80k–200k	"80% of facing-brick quality is prep"
Vacuum de-airing extruder + dies	German/Italian/Turkish — Händle, Lingl, Verdés, Bongioanni	$60k–250k+	De-airing = dense, crack-free, sharp-faced brick
Auto wire cutter	China	$15k–50k	Square, burr-free cuts
Brick-slip diamond saw (Ph 2)	Italy — Ferrari & Cigarini	$40k–150k	Uniform slip thickness for tight cladding joints
Tunnel dryer	China	$80k–250k	Facing bricks crack if dried wrong; China cost-competitive
Gas-fired tunnel kiln	China — Yingfeng (triple-ISO)	$250k–800k	Matched colour batches; beats Prayag's zigzag
Engobe / sanding line (Ph 2)	China / Turkey	$50k–150k	One clay body → many coloured premium SKUs

CAPEX bands:

- **Phase 1 — modest export-grade line, ~40k bricks/day:** ~$400k–900k machinery (≈ ₹3.4–7.6 cr). With civil/shed, power, installation and working capital → ₹7.6 cr all-in.
- **Phase 2 — add slip saw + engobe/colour line:** +₹1.5–3 cr (modelled at ₹2.1 cr, from internal accruals).
- **Phase 3 — full serious plant (premium extruder, 200–300k/day, terracotta):** $1.5M–4M+ (₹13–34 cr).

8. Go-to-Market

Stage A — Domestic premium (Months 0–18): Sell wire-cut + coloured facing brick to architects and premium builders in eastern UP, Bihar and Delhi-NCR. Build a sample catalogue, colour range and architect relationships. This funds and de-risks everything.

Stage B — First export, GCC/Dubai (Months 18–30): Brick slips + coloured facing brick. SABER/SASO certification. Exhibit at The Big 5, Dubai (Nov). Quote FOB Mundra.

Stage C — UK/EU (Year 3): Brick slips for the retrofit market. CE/UKCA + EN 771. Exhibit at Cersaie Bologna / BAU Munich. Get into architect material libraries (Material Bank, NBS Source) with published Declarations of Performance — cladding is specified, not bought on marketplaces.

9. Export Plumbing (setup checklist)

One-time registrations: IEC (DGFT, ~₹500) → GST + LUT (zero-rated exports) → RCMC from CAPEXIL (the correct export-promotion council; ceramics panel covers bricks/tiles) → AD Code at chosen port → ICEGATE + Class-3 DSC. Re-confirm IEC every Apr–Jun or it auto-deactivates.

HS codes: 6904 (building bricks) · 6907 (cladding, brick-slips, pavers, tiles — lead with this) · 6905 (roof tiles).

Certifications (get before quoting that market):

- **EU/UK** → CE/UKCA + EN 771-1 (legally mandatory)
- **USA** → ASTM C216 / C1088 (thin veneer) (specifier-mandatory)
- **Saudi/GCC** → SABER + SASO (customs won't clear without it)
- **Everywhere** → ISO 9001 (table stakes)

Incentives: RoDTEP scrips (rate recently cut to ~50% — verify current Appendix 4R), Duty Drawback (~1–2%), Udyam/MSME trade-fair (MAI) support + export-credit interest subvention.

Logistics: No port near UP → container-stuff at ICD Dadri/Loni (NCR) or Kanpur, rail to Mundra (best EU/US sailings) or Nhava Sheva.

10. Indicative Unit Economics (the "why slips" math)

Costs below are fully loaded (clay, fuel/gas, direct labour, consumables, maintenance, packing, breakage) — not just marginal cost. Deliberately conservative for bank review.

Product	Sell ₹	Loaded cost ₹	Margin
Ordinary red brick (today)	8	6.5	₹1.5
Wire-cut facing brick	18	13	₹5 (~28%)
Coloured facing brick	35	25	₹10 (~29%)
Brick slip (per slip, FOB)	25	14	₹11 (~45%)

Brick slip per m²: ~60 slips/m² → fully-loaded cost ~₹840/m², FOB ~₹1,500/m² (conservative; UK supply is £20–65/m², leaving headroom to ₹2,400+/m²).

The point: slips multiply the revenue from the same tonne of clay (one brick body → 3 slips → ~₹75 of slip vs ~₹8 as a brick) while staying light enough to export. Go thin, go certified, sell surface area not weight.

11. Financial Summary (5-Year Projection)

From NNL_Financial_Model.xlsx (figures in ₹ crore; model is built in ₹ lakh and fully editable).

₹ crore	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue	7.7	20.9	34.2	43.1	48.7
EBITDA	0.8	4.8	9.1	11.9	13.8
Net profit (PAT)	(0.4)	2.6	5.9	8.0	9.5
Net margin	–	12%	17%	19%	19%
DSCR	0.7×	3.6×	7.1×	9.8×	12.3×

Returns metric	Value
Total project cost	₹9.7 cr (Ph1 ₹7.6 cr + Ph2 ₹2.1 cr)
Funding	Term loan ~₹4.55 cr (65%) + promoter equity/WC ~₹3.65 cr
Payback period (cash basis)	~2.9 years
Average DSCR	6.7× (Y1 0.7× — covered by 12-month principal moratorium)
Year-5 EBITDA margin	~28%

Y1 shows a small loss and low DSCR — the normal greenfield ramp; banks cover this with a 12-month moratorium on principal. Revenue is capacity-led, so the utilisation ramp is the key conservatism lever (and the key execution risk — see Risks).

12. Risks & Mitigations

Risk	Severity	Mitigation
Local clay can't make premium colours	High	Lab-test in Phase 0 before CAPEX; blend/buy clay or import pigments if needed
Colour inconsistency loses export buyers	High	Gas tunnel kiln + controlled dryer; QC every batch
Demand ramp slower than capacity	High	Utilisation assumptions are conservative levers; domestic premium first, then export
CAPEX overrun / financing gap	Med	Stagger Phase 1/2; MSME loan + subsidies; domestic cash funds Phase 2
Certification delays (SABER/CE)	Med	Start cert process in parallel with line build, not after
Supplier (Chinese) quality/commissioning	Med	Prefer triple-ISO Yingfeng; premium extruder from EU; pre-shipment inspection

13. Success Metrics (KPIs)

- **Phase 1:** colour-match reject rate < 5%; domestic facing-brick sales ramping to plan; ISO 9001 obtained.
- **Phase 2:** first export PO from GCC; export gross margin ≥ 45%; SABER certified.
- **Phase 3:** EU/UK buyer onboarded; export ≥ 30% of revenue (matching/beating Prayag's ~20%).

14. Immediate Next Actions (30 / 60 / 90 days)

- **30 days:** Send local clay to a ceramics lab. Register IEC + Udyam. Email RFQs to Yingfeng + Brictec (kiln) and Händle + Verdés (extruder).
- **60 days:** Visit Prayag + JJ Bricks as a buyer (collect catalogues/prices). Start CAPEXIL RCMC. Compare supplier quotes; shortlist.
- **90 days:** Term-loan application with this plan. Finalise machinery order. Lock Phase 1 site/civil scope.

Prepared as a planning document. A detailed CAPEX + unit-economics spreadsheet (NNL_Financial_Model.xlsx) and a supplier RFQ accompany this plan.