ANNEXURE – ECONOMIC IMPACT ANALYSIS

Objection to revision of pre-fixed levelised tariff from Rs 3.13/kWh to Rs 2.98/kWh
I.A. No. 4 in O.P. No. 24 of 2020 | PM-KUSUM Component-A, 2 MW | PPA No. 103

Summary of findings

Metric	At Rs 3.13 (contracted)	At Rs 2.98 (proposed)
Return on the farmer's own capital (equity IRR)	**5.06%**	**3.14%**
Additional capital the farmer must inject from pocket	**Rs 0.75 cr (years 1–10)**	**Rs 1.27 cr (years 1–12)**
Debt-service coverage (DSCR) below 1.0 until	**Year 10**	**Year 13**
Net amount retained over 25 years	**Rs 4.61 cr**	**Rs 3.42 cr**
Loss of profit caused by the cut	—	**Rs 1.20 cr**

The central point: the pre-fixed levelised tariff of Rs 3.13/kWh was determined by the Commission itself on a cost-plus basis that builds in a fixed Return on Equity of 14% (Table-2 and Annexure-4 of the Order dated 02.01.2021). Even at Rs 3.13 the project barely clears its own debt; the proposed reduction strips a further Rs 1.20 crore from the farmer over the term and pushes the return on his own money below a bank fixed deposit. The reduction is justified solely by a fall in GST — but the GST saving never reached the farmer: suppliers raised base prices to absorb it, so the delivered project cost is unchanged.

1. The cut comes directly out of the return the Commission promised the farmer

In the Order, the return on equity is a fixed Rs 0.92/kWh component within the Rs 3.13 tariff. The proposed reduction of Rs 0.15/kWh equals 16% of that entire return. Because every other component (O&M, depreciation, interest) is cost recovery, the cut can only come out of the farmer's return on equity — dragging the Commission's adjudicated 14% down towards ~11.7%, i.e. into the range the Commission expressly examined and **rejected as too low** in 2020 (stakeholders had sought 11%; the Commission held 14%).

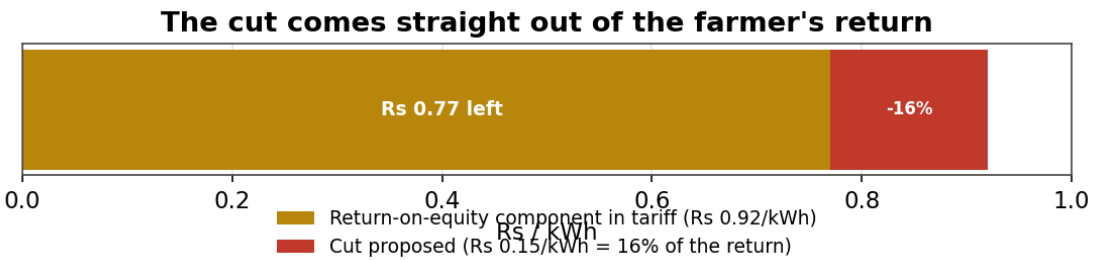

Fig 1 — The proposed Rs 0.15/kWh cut against the Rs 0.92/kWh return-on-equity component.

2. The premise of the cut is false — the GST cut never reached the farmer; cost is unchanged

The Order fixed Rs 3.13 on a normative capital cost of Rs 3.60 cr/MW, on the express view that “solar costs were falling year on year.” That premise no longer holds. The farmer's actual EPC / project cost is **Rs 7.20 crore (Rs 3.60 cr/MW) — exactly the approved norm**; the sanctioned figure of Rs 7.81 crore arises only because the bank capitalised Rs 0.61 crore of interest-during-construction (IDC), which the farmer funds over and above his margin and which is not equipment cost. After every development since 2021 — the GST

reduction included — the plant still cannot be built below the very norm the tariff assumed.

Crucially, the GST reduction has **not** produced any lower delivered cost. The equipment was contracted when GST stood at 12%; when the rate fell to 5%, manufacturers raised their base (pre-GST) prices by almost the same measure — panel, cell, structure and galvanising prices rose sharply (of the order of Rs 40 lakh on modules alone). The farmer now pays the supplier directly what he earlier paid as base-price-plus-tax, so the landed cost is **almost identical to what it was before the GST cut**. The headline tax saving was absorbed by the supply chain and never reached the generator or, through him, the consumer; there is therefore **no net reduction in project cost** capable of being passed through to a lower tariff. Land, and ~Rs 11.5 lakh of pre-operative costs (land levelling, evacuation-line supervision, liaisoning), are borne entirely by the farmer and recognised nowhere in the tariff.

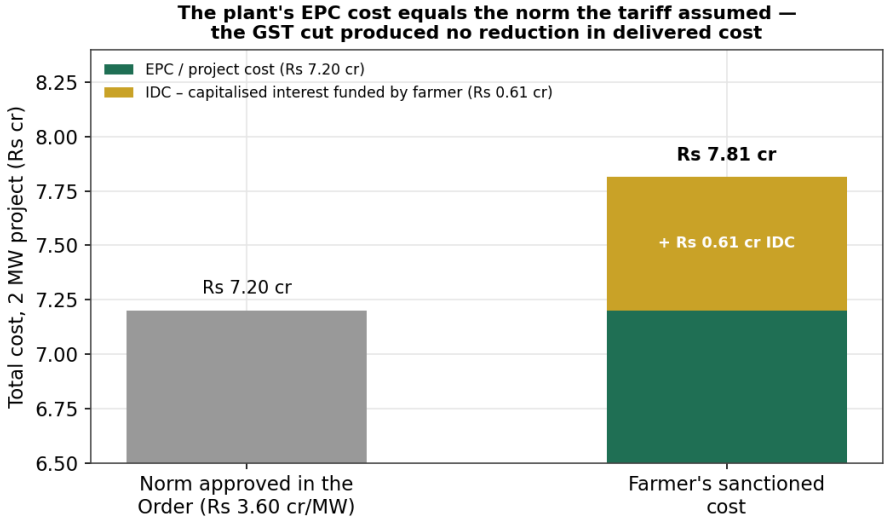

Fig 2 — EPC cost equals the approved norm; the Rs 0.61 cr addition is IDC funded by the farmer, not equipment. The GST cut produced no reduction in delivered cost.

3. The farmer earns less on his own money than a bank deposit

Computed on the project's real cash flows, the return on the farmer's own capital is only 5.06% at Rs 3.13 — below the 8.65% he pays the bank and below a fixed-deposit return — for carrying 25 years of generation, weather, payment-delay and interest-rate risk. At Rs 2.98 it collapses to 3.14%. (For reference, the Order's own record notes that Rs 3.13 yields an equity IRR of about 12% on the optimistic normative model and describes even that as “very low.”)

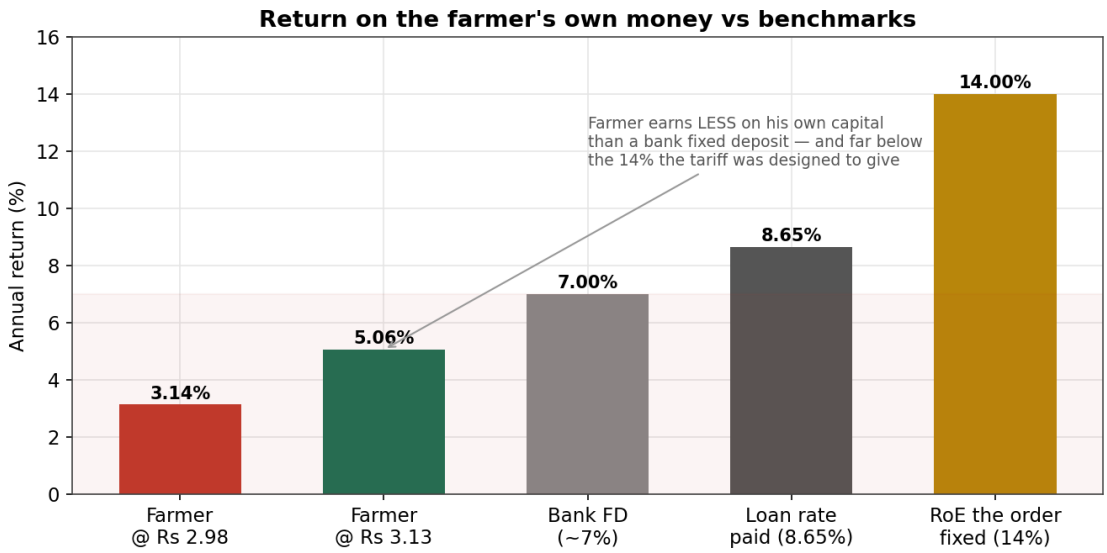

Fig 3 — Return on the farmer's equity versus benchmarks.

4. The project cannot service its own loan in the early years — the farmer must fund the gap

Debt-service coverage (project cash available ÷ loan instalment) stays below 1.0 in every year from 1 to 10 at Rs 3.13, against a normal banking minimum of 1.2. This is the mechanical reason the farmer must inject Rs 0.75 crore from his pocket over and above the Rs 1.51 crore margin. At Rs 2.98 coverage stays below 1.0 until year 13 and the injection rises to Rs 1.27 crore.

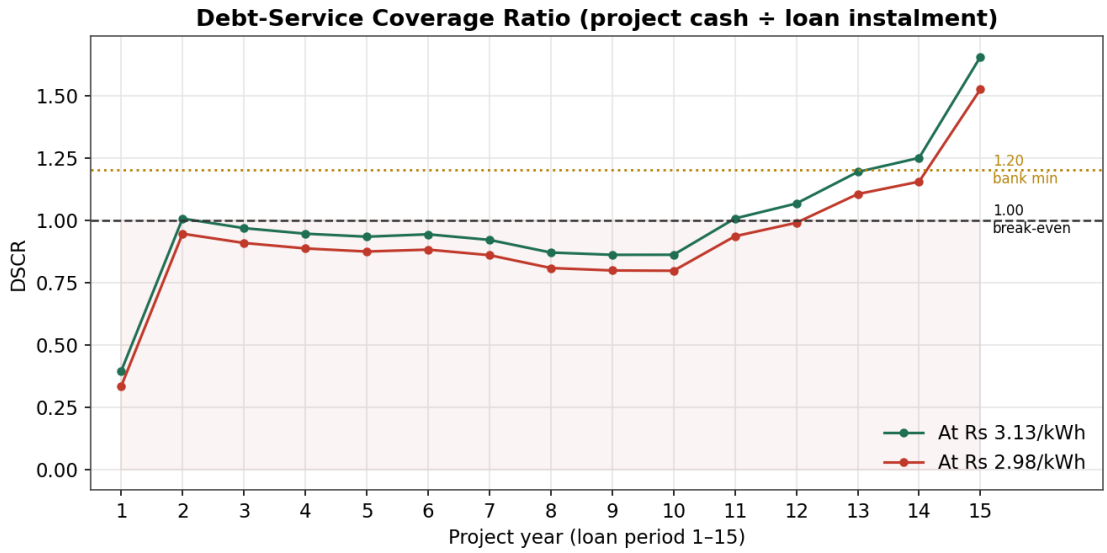

Fig 4 — DSCR by year; below 1.0 means the project cannot pay its instalment from its own income.

5. Annual cash flow and the farmer's capital injection

The farmer is cash-flow negative in nearly every year of the loan period even at Rs 3.13. The reduction to Rs 2.98 deepens the loss and extends it by two more years.

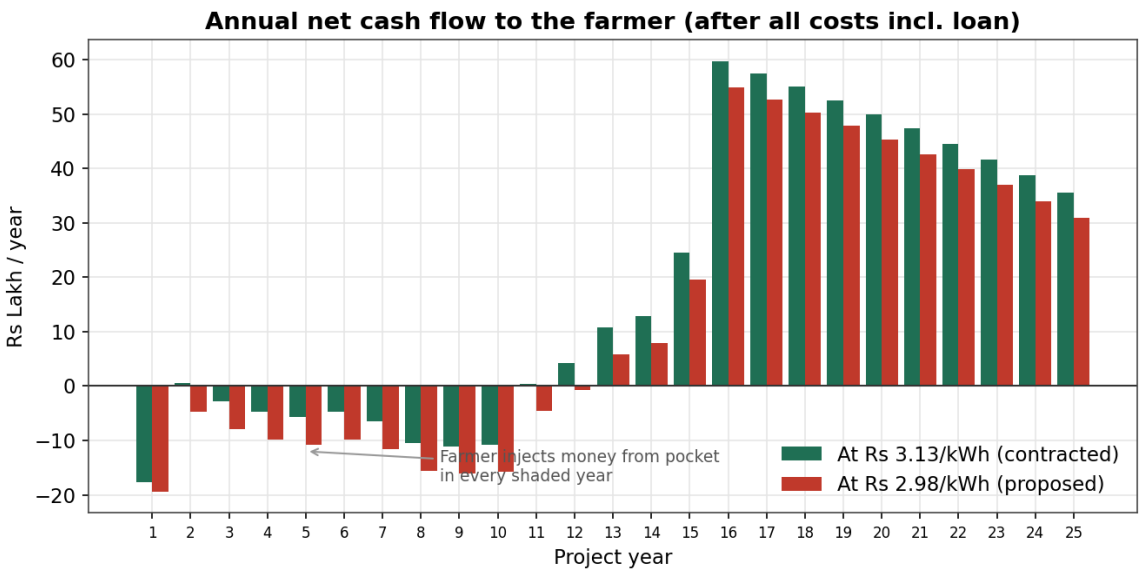

Fig 5 — Net annual cash flow to the farmer after all costs including the loan instalment.

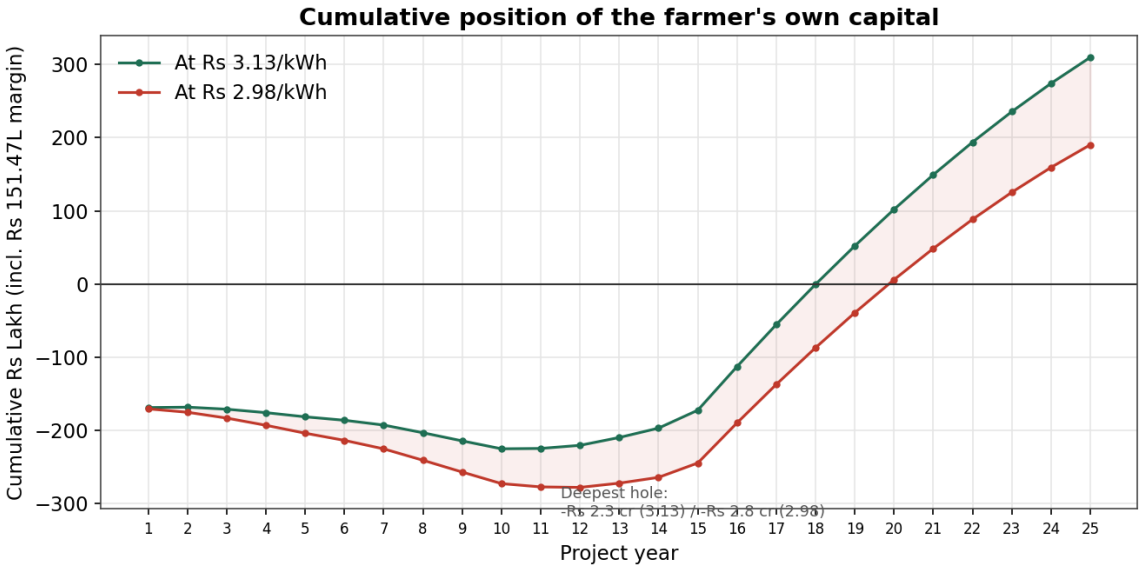

Fig 6 — Cumulative position of the farmer's own capital; break-even only around year 19–20.

6. Who actually benefits from this project

Over 25 years the lender collects about Rs 4.27 crore in interest on the Rs 6.30 crore it lends, and the DISCOM buys clean power at Rs 3.13 — below its own pooled power-purchase cost of Rs 4.28/kWh recorded in the Order — while the farmer supplies directly at the grid, bearing the wheeling and transmission losses the DISCOM would otherwise incur. After carrying all the risk and the largest up-front commitment, the farmer keeps the smallest and last-ranked share — and it is this share alone that the proposed cut reduces.

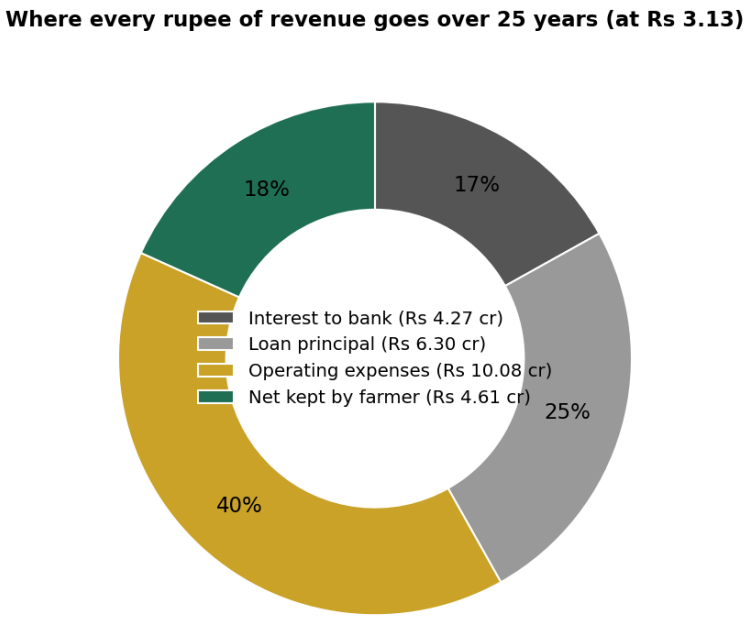

Fig 7 — Allocation of 25-year gross revenue at Rs 3.13/kWh.

7. What the Order's model assumed, against the documented reality

The Rs 3.13 tariff was calibrated on assumptions that the Commission was warned (paragraphs 14–16) the target farmer could not meet, and which the sanctioned figures contradict. The tariff is fixed, so every gap below is absorbed by the farmer.

Parameter	Order's normative model	Documented reality (this project)
Debt : Equity	70 : 30	~81 : 19 (farmers cannot raise 30% — paras 14–16)
Interest (2 MW, full term)	Rs 3.02 cr	Rs 4.25 cr (PNB, 8.65%, 15 yrs)
→ borne by the farmer	—	**Rs 1.23 cr of interest the tariff never allowed**
Debt-service reserve (DSRA / FD)	not provided	Rs 50 L (Rs 25 L upfront + Rs 25 L from revenue) + ~Rs 10 L fees
O&M; scope	single Rs 4.5 L/MW bucket	EPC PM ~Rs 6 L/yr (2 MW) from yr 3; excludes cleaning, vegetation, security
Asset insurance	not separately provided	~Rs 0.75 L/MW per year
Major-component replacement	not provided	inverters / transformers after warranty (the reason the FD is mandated)

Staff salaries (a site technician and security, which the EPC contract does not cover) and pre-operative costs such as land levelling and supervision of the 1.5 km evacuation line are further real burdens borne by the farmer; they are noted here but deliberately excluded from the return calculations above, which therefore understate the true cost to the farmer rather than overstate it.

Prepared by Ajay Nalla, SPG under PM-KUSUM Component-A (2 MW), PPA No. 103, Application No. TG/PM KUSUM-A/24-25/00664. All figures are derived from the project's sanctioned financial model (annexed as a spreadsheet) and from the Commission's Order dated 02.01.2021 in O.P. No. 24 of 2020. Return figures are computed on the project's actual cash flows; the 19% CUF used is the contractual floor under the PPA.