

Grid Resilience Through Intelligent Photovoltaic Phase 2

Institutionalizing Community Governance and Accountability in Nepal's Industrial Energy Transition (GRIPS2)

“Redefining Just Transition through Community-Led Co-Planning”

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The Industrial Energy Paradox



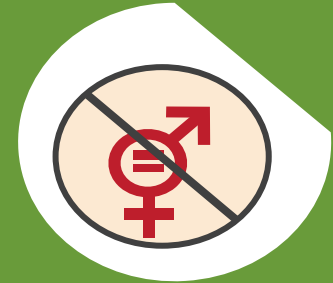
Diesel Deadlock

Nepal's industries
lose \$250M
annually to diesel
expenses despite a
99% renewable grid



Hidden Cost

Air pollution in
industrial corridors
is 7x above WHO
limits.



Exclusion Gap

Historically, industrial energy
has been socially blind
(excluding women, Tharu, &
Dalit groups from decision-
making and economic
rewards.

“A transition is only Just if it opens doors that were previously locked”

Shifting the Energy: Decarbonization

- **The Opportunity:** Clean and Reliable Energy Transition in Energy Intensive Industries
- **GRIPS 2** is funded through the A2D which is managed by UNIDO with funding from UK Government
- **The Innovation:**
 - **924 kW Solar PV + 2 MW/4 MWh Battery Storage (BESS).**
 - **AI-enabled Microgrid Management System (MMS)** for real-time optimization.
 - **GEDSI and ESS** are integrated from design through implementation across every phase of the project

“We aren't just replacing diesel with solar; we are replacing a socially blind transition with a just one”





Shifting the Center: The Zone of Influence (Zol)

01 Consultation Matrix

- Total Participants: 121 stakeholders actively engaged in the Sunawal-7 Zone of Influence.
- Gender Segregation: Achieving a near-perfect 50/50 balance (61 Female / 60 Male).

02 Engagement Tools

- 70 KAP Surveys: Measuring Knowledge, Attitudes, and Practices.
- 30 Focus Group Discussions (FGDs): Deep-dives with workers, students, and mothers.
- 21 Key Informant Interviews (KIIs): High-level strategic dialogues with decision-makers

03 Institutional Reach (17)

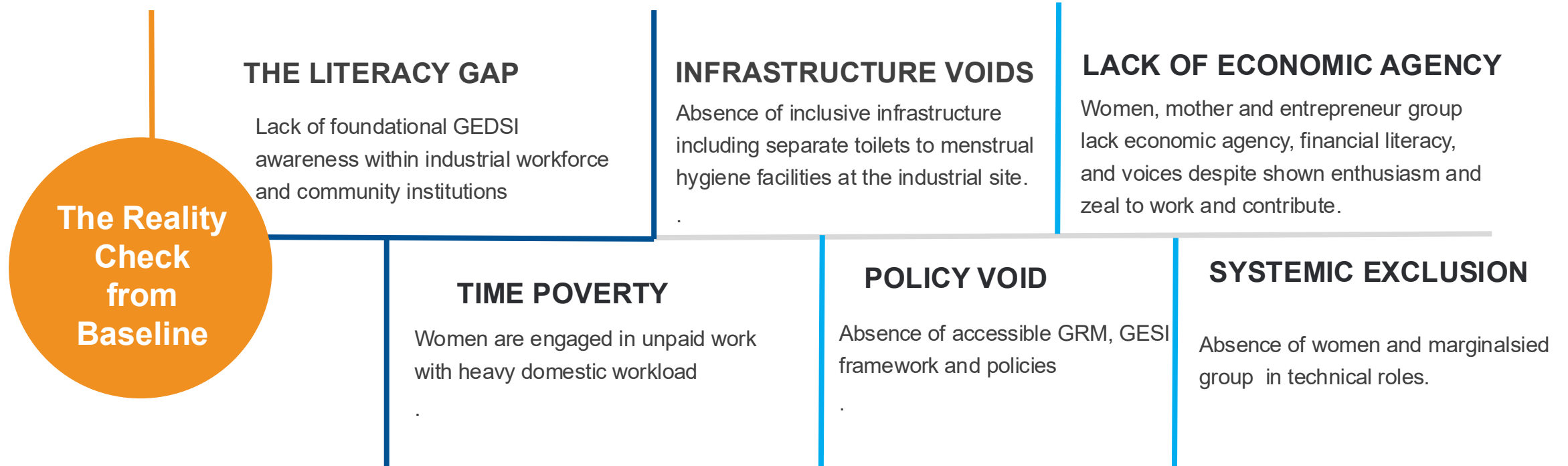
- Industrial Sector: Laxmi Steel Industries P. Ltd; Local Government: Sunwal Municipality & Ward No. 7 Office; Educational Institutions, Women's Entrepreneurs Groups, Mother Groups (CBOs), Resource Management, Cultural/Heritage Protection Committee and Economic/Private Sector

- **Redefining the Boundary:** Those affected by decisions should have a say in the decision-making process. Moving beyond the factory fence to the Zone of Influence through participatory planning
- **The Methodology:** Conducted a rigorous gender baseline, capacity need assessment and gender audit involving 62 deep-dive consultations with community members and 17 local institutions including local government

Community concerns were not just for clean energy, but for management of industrial externalities (smoke/noise), economic agency, and agricultural resilience



Listening Before Designing: The Gender Baseline



Strategic Outcome

Social License to Operate: These findings directly drive the Community-Industry Dialogue Platform, ensuring that technical design (BESS/Solar) solves community-prioritized externalities (noise, health, and economic agency).



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Deliberate Gender Action Plan



Systemic Response to Baseline Voids

- Multi-Tiered Sensitization: Targeted training for Management, Ward Officials, and Supervisors on GEDSI principles
- Workplace Dignity & OHS: Retrofitting site for Separate Toilets/Lighting and updating OHS manuals



Social Engineering: Allies in Inclusion Dialogues

- Transformative Masculinity: Implementing male-engagement dialogues to shift household dynamics, ensuring women have the agency to participate in capacity development and entrepreneurial journey



Agency-Based Empowerment: Beyond Labor

GRIPS 2 builds Agency-Based Empowerment for equipping women and marginalized groups with decision rights through leadership and negotiation skills.



Economic Agency

- Inclusive IGAs: For women who prefer non-technical roles
- Financial & Digital Literacy: Mandatory modules on digital payments, business management, and microcredit access to ensure long-term economic independence.

Co-designing solution by acknowledging gaps to changing power dynamics through Community-Centered Energy Planning because technical innovation alone cannot solve these gaps without a deliberate Gender Action Plan (GAP)

Institutionalizing Governance: Nothing for them without them

The Mechanism

Established a formal **Community-Industry Dialogue Platform** establishing **GEDSI & ESS Advisory Committee**: A high-level committee (45%+ female, PwDs and marginalized representation)



From Passive to Active

This platform institutionalizes participatory planning, enabling local stakeholders to co-design energy-linked priorities



Social License to Operate (SLO)

Transforming community voices of industrial externalities into partners in the energy transition reducing operational and delivery risk through community ownership





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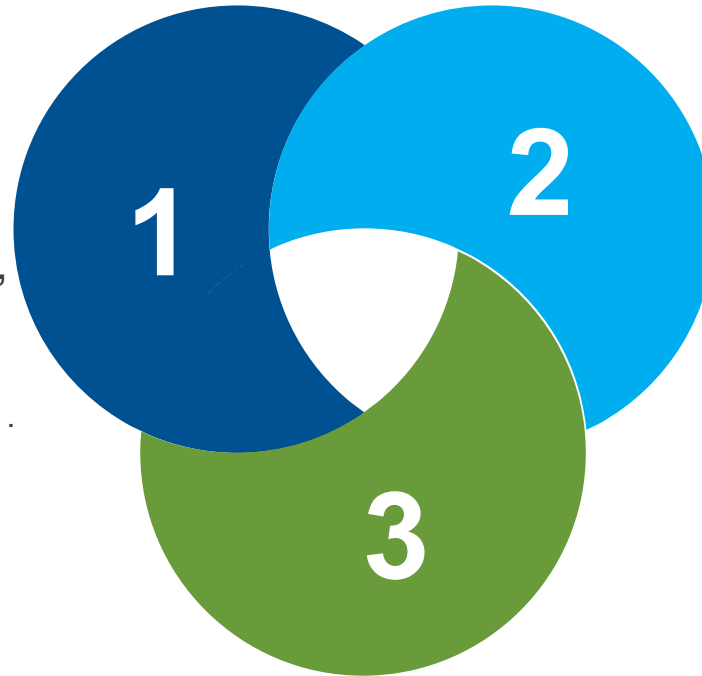


UK Government

The GEDSI Strategy

TRACK 1 (TARGETED)

A mandated 50% technical training for women and marginalized groups (Tharu, Dalit, Mushar)



TRACK 2 (SYSTEMIC)

Embedding GEDSI into the industrial host's institutional policies and procurement

INTERSECTIONALITY

Explicit inclusion of Tharu (marginalized), Dalit, Madhesi, and PwD voices to ensure the transition "leaves no one behind."

- Aligned with UNIDO fiduciary standards and international best practices
- Full compliance with GEDSI and ESS frameworks, policies & procedures of UNIDO policies



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GRIPS2 Accountability Framework

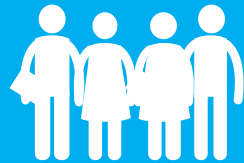
Digital Grievance Redress Mechanism

An accessible, transparent channel for community feedback, ensuring project accountability.



Sex-Disaggregated MIS

Real-time data tracking that applies an Intersectionality lens (caste, age, disability) to every KPI.



De-risking Capital

Robust social safeguards (ESMP OS 1-12) make the project bankable for impact investors and BFIs.



Inclusive Procurement

10% weightage for GESI-compliant suppliers, forcing the market to value inclusion.



The Just Transition ROI

- 01 **De-Risked Capital**
Projects with robust social safeguards are more likely to attract blended finance
- 02 **Reduced Turnover**
Safer, cleaner workplaces lead to higher productivity due to SLO
- 03 **Policy Leverage**
GRIPS 2 is directly informing Nepal's 10 MW national BESS initiative
- 04 **Financial Leverage**
USD 4.5 Million mobilized in private capital for expansion
- 05 **Scalable Blueprint**
Proven model for replication across Asia

 **Laxmi Steels | Sunwal, Nepal**



924 kW Solar PV Commissioned

2 MW / 4 MWh BESS



\$1.3M
Financial savings

2,800T
Carbon emissions curbed

1,000kl
Diesel displacement

924 kWp
Solar PV installed

“Building a Blueprint for Smarter, Greener & Inclusive Industrial Decarbonization”



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***“The GRIPS 2 lighthouse demonstration
model proves Inclusion as a Commercial
Enabler”***



**Thank
YOU**