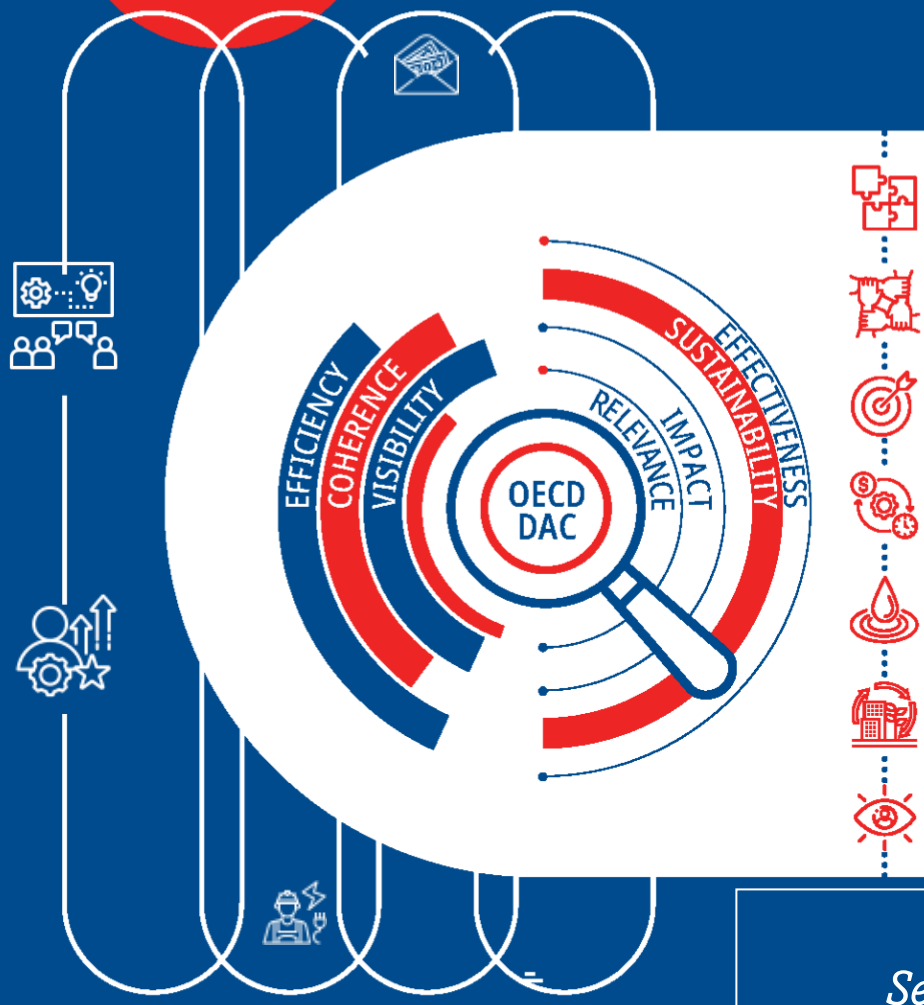
HDFC BANK

PARIVARTAN
A step towards sustainable progress



Project G0280
Setting up an Oxygen Plant

IMPACT ASSESSMENT REPORT

Towards A Better Tomorrow

FY 2025-26

Submitted By

CSRBOX®
Doing Good in a Better Way

Executive Summary

Project G0280, under HDFC Parivartan, focused on strengthening critical healthcare infrastructure through the installation of a PSA oxygen plant at Shri Mukund Hospital, Delhi. The intervention addressed a life-critical gap in oxygen availability, ensuring uninterrupted supply for ICU, OT, and IPD services.

Location	Duration	Total Beneficiaries Reached	Implementation Partner
Shri Mukund Hospital, Shahdara, Delhi	1st Mar 2024 – 31st Mar 2024	>1.5 lac patients annually	Bharat Forge

OECD Framework Score

Relevance	Coherence	Efficiency	Impact	Sustainability	Visibility
4.3	3.5	4.2	3.6	4.6	3.0

OVERALL PROJECT SCORE *(Moderate)* **3.1**

SDGs

Impact & Achievements

Strengthened critical oxygen infrastructure
The PSA plant addressed a key infrastructure gap, ensuring uninterrupted oxygen supply across ICU, OT, and IPD units and supporting life-saving care.

Improved oxygen reliability
Integration with existing systems enabled redundancy and load-sharing, reducing reliance on external cylinders and minimizing risks during power fluctuations or demand surges.

Enhanced emergency preparedness
Strengthened preparedness for high-demand scenarios, including pandemic-like situations, eliminating oxygen shortages and improving patient safetv.

Capacity building and institutional strengthening
Enabled staff to adopt preventive maintenance practices and independently manage operations, reducing operational vulnerabilities.

Recommendations

- Institutionalise redundant oxygen infrastructure models across similar healthcare facilities to ensure uninterrupted supply.
- Integrate PSA oxygen systems into hospital emergency preparedness and disaster response planning.
- Improve on-site branding and communication to increase recognition of HDFC Bank's contribution among patients and the community.

Project Partnership

The project was implemented through a collaboration between HDFC CSR, the beneficiary hospital, and Bharat Forge as the equipment vendor. Bharat Forge was responsible for supplying, installing, and commissioning the PSA oxygen plant, ensuring adherence to technical and safety standards.

The hospital played a critical role in identifying requirements, enabling infrastructure readiness, and managing day-to-day operations post-installation. While the initial partnership enabled successful deployment, limited post-installation vendor engagement highlighted the need for stronger long-term support structures in such collaborations.

G0280 – Setting up an Oxygen Plant

Impact at a Glance

Health & Well-being
Continuous, safe oxygen supply ensured for all critical and non-critical patients requiring oxygen support and elimination of oxygen-supply-related clinical risk during routine operations and emergencies.

Operational Resilience
Hospital maintained uninterrupted services despite equipment faults and brief power disruptions.

Institutional Empowerment
Hospital teams enabled to independently manage oxygen generation without external dependence.

Sustainability
Long-term oxygen availability secured through in-house capacity and preventive maintenance systems.

SDG Alignment

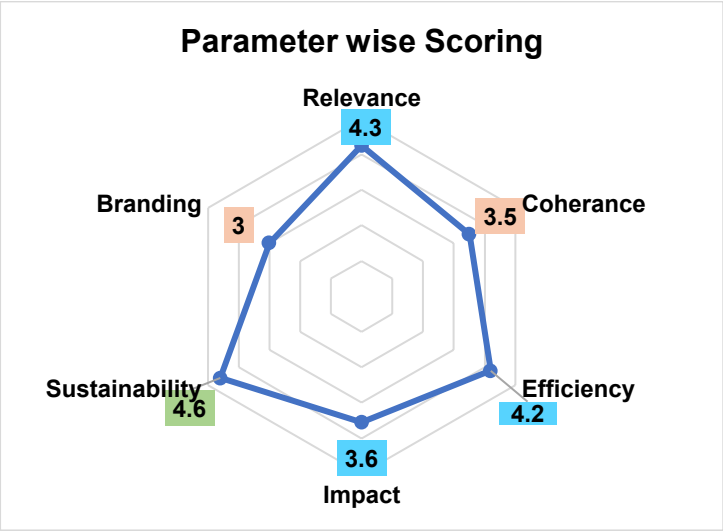
SDG	How the Project Contributes
SDG 3: Good Health and Well-being	**Ensures uninterrupted supply of medical-grade oxygen for ICU, OT, and IPD patients, directly improving patient survival, safety, and quality of care. Strengthens emergency preparedness and reduces mortality risks linked to oxygen shortages.**
SDG 9: Industry, Innovation and Infrastructure	**Strengthens critical healthcare infrastructure through installation of a PSA oxygen generation system, improving hospital resilience, reliability, and technological capacity for life-saving services.**

Key Achievements

1. **Strengthened critical oxygen infrastructure-**The PSA oxygen plant successfully addressed a critical healthcare infrastructure gap at the hospital as it ensured uninterrupted oxygen supply across ICU, OT, and IPD units, directly supporting life-saving clinical care.
2. **Improved oxygen reliability-**Integration of the plant into the hospital's existing oxygen ecosystem created redundancy and load-sharing, significantly reducing dependency on external oxygen cylinders and mitigating risks during power fluctuations or demand surges.
3. **Enhanced emergency preparedness -**It increased the hospital's resilience to emergencies, also scenarios similar to COVID-19, eliminating the threat of shortages strengthening overall patient safety.
4. **Capacity building and institutional strengthening-**The intervention contributed to improved internal technical capacity. Hospital staff adopted robust preventive maintenance practices and developed the ability to manage routine operations independently, reducing operational vulnerabilities.
5. **High clinical effectiveness-** The plant consistently delivers oxygen at clinically appropriate purity (93% ± 3%) and pressure (60 PSI), meeting regulatory and medical standards and ensuring quality of care without service disruptions.

FINDINGS

OECD Framework Assessment



LEGEND

> = 4.6	Excellent
3.6 - 4.5	Good
2.6 -3.5	Moderate
<= 2.5	Poor

OECD-DAC Criterion	Key Findings
Relevance: 4.3 (Good)	The PSA oxygen plant is highly relevant to Shri Mukund Hospital's clinical and operational needs. With 160 beds (expandable to 200) and 40 ICU beds, uninterrupted oxygen supply is life critical. The intervention directly addressed a major infrastructure gap and aligned strongly with hospital priorities and risk exposure.
Coherence: 3.5 (Moderate)	The plant integrates well with existing oxygen infrastructure, pipelines, and hospital SOPs, creating redundancy and operational alignment. However, weak post-installation vendor engagement reduced external coherence and affected long-term service responsiveness.
Efficiency: 4.2 (Good)	Installation was completed within expected timelines, and routine operations are efficiently managed in-house. Efficiency was temporarily affected by post-commissioning equipment failure and delays in vendor-led repairs, though backup systems prevented service disruption.
Impact: 3.6 (Good)	The intervention significantly strengthened oxygen reliability, reduced dependency on external cylinders, and improved patient safety and emergency preparedness. It addressed a high-risk operational vulnerability and enhanced overall hospital resilience.
Sustainability: 4.6 (Excellent)	Sustainability is strong due to skilled technical staff, preventive maintenance systems, and availability of standard spare parts. Long-term risks persist only in cases requiring manufacturer-level intervention because of limited external service support.

Visibility: 3.0 (Good)	Visibility of HDFC Bank's CSR contribution is limited. While technical staff are aware of the support, minimal signage and lack of prominent Visibility restrict awareness among patients, visitors, and the wider community, reducing CSR visibility benefits.

What Worked Well	What Did Not Work Well
High relevance of the oxygen plant to hospital needs, supporting ICU, OT, and IPD services where oxygen is life-critical	Lack of consistent post-installation vendor support from the installation agency
Seamless integration with existing hospital oxygen pipelines and SOPs	High vendor service costs and limited responsiveness for technical visits
Creation of redundancy through integration with multiple PSA plants, improving oxygen security	Initial vacuum pump failure post-commissioning led to 1–1.5 months of reduced functionality
Strong internal ownership and technical capacity for day-to-day operations and minor repairs	Dependence on in-house teams for major repairs due to weak external servicing mechanisms
Stable power supply with effective backup systems (cylinders and alternate PSA plants)	Efficiency losses during initial operational phase despite backup arrangements
Consistent oxygen purity and pressure meeting clinical standards	Absence of cylinder-filling integration, limiting functional flexibility (regulatory constraint)
Effective preventive maintenance practices and quick turnaround for minor issues	Risk exposure in case of major component failure requiring manufacturer-level intervention
Reduced dependency on external oxygen cylinders and emergency procurement	Limited formal mechanisms for long-term technical handholding
Significant improvement in patient safety and emergency preparedness	Minimal visibility of HDFC Bank's contribution at the hospital site
Positive impact on institutional resilience and operational confidence	Low awareness of HDFC's CSR support among patients and the wider community

Recommendations-

1. **Replicate Redundancy-Based Oxygen System Design in Other Facilities-** Scale the model of integrating PSA plants with existing oxygen pipelines, backup cylinders, and alternate oxygen sources across other district and secondary-care hospitals to ensure uninterrupted oxygen.
2. **Embed PSA Oxygen Plants into Emergency Preparedness Planning-** Position PSA oxygen plants as core components of emergency and disaster preparedness frameworks in other hospitals, informed by the project's demonstrated effectiveness in mitigating oxygen supply risks during pandemic-like scenarios.
3. **Strengthen Post-Installation Vendor Support Mechanisms-** Address gaps in post-installation support by enforcing structured vendor engagement models with defined

response timelines, escalation mechanisms, and accountability measures to prevent prolonged downtime after commissioning.

4. **Improve Visibility and Stakeholder Awareness of CSR Support-** Strengthen on-site branding and communication to improve visibility of HDFC Bank's CSR contribution within hospital premises and among patients and the wider community.

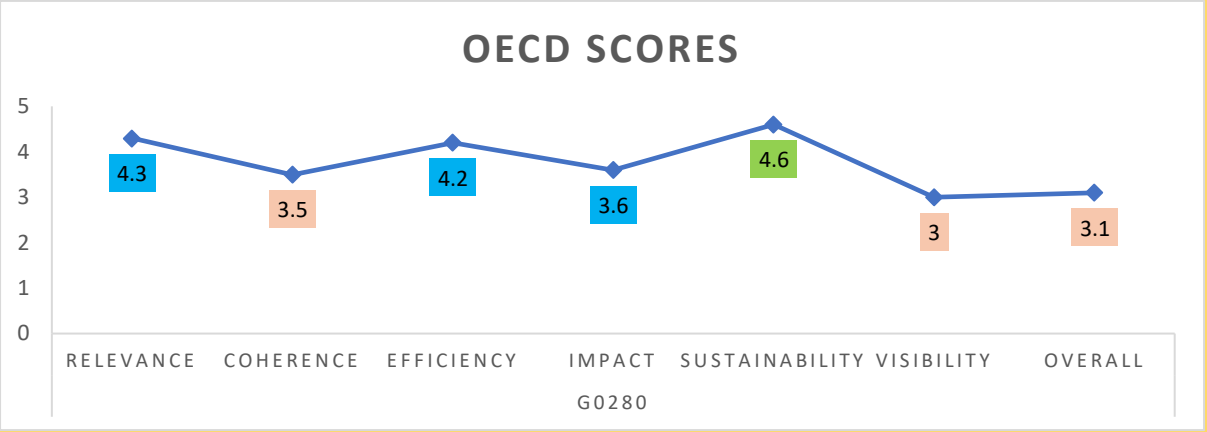
Key Impacts and Evidence of Change

Key Impact	Evidence of Change
Oxygen availability stabilised	PSA plant consistently meets hospital oxygen demand across ICU, OT, and IPD with required purity (93% ±3%) and pressure (60 PSI).
Clinical risk reduced	No reported oxygen-related adverse events since commissioning; backup PSA plants and cylinders ensured continuity during brief downtime.
Shift from external to internal oxygen sourcing	Dependence on external oxygen cylinders reduced to emergency-only usage during short power interruptions.
Improved emergency readiness	Hospital capable of managing high oxygen loads without crisis procurement or service disruption.
Strengthened technical capacity	In-house technical staff resolve minor faults within ~2 hours and conduct routine preventive maintenance independently.
Institutionalised preventive practices	Scheduled filter replacements (bi-monthly) and servicing (six-monthly) embedded into hospital operations.
Operational continuity maintained	Power interruptions limited to 2–3 minutes/day; manual cylinder backup ensured uninterrupted oxygen flow.
System-level resilience improved	Hospital infrastructure no longer vulnerable to single-point oxygen supply failure.

Implementation Partner Efficiency: Bharat Forge

G0280 Bharat Forge	**Bharat Forge acted as the third-party vendor responsible for supplying the oxygen plant, along with the required services and manpower for installation and safety compliance. The partner effectively addressed the infrastructure needs of the beneficiary hospital and ensured successful commissioning of the system.** The same agency can be aligned for similar projects that require setting up and installation of oxygen plants and aligning best practices as they specialise in similar themes.
What worked	The installation and commissioning of the oxygen plant were carried out effectively, with Bharat Forge ensuring proper setup, safety compliance, and alignment with hospital requirements. The intervention successfully addressed a critical infrastructure gap and enabled uninterrupted oxygen supply.
What did not work	Post-implementation support from Bharat Forge was limited, particularly in terms of technical assistance and responsiveness. The absence of structured long-term servicing mechanisms led to increased reliance on internal hospital teams for maintenance and troubleshooting.

Annexure



Relevance	Coherence	Efficiency	Impact	Sustainability	Visibility	Overall
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