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# Supporting Hospitals During COVID-19 Through Ventilators (FY 2021-22)

## IMPACT ASSESSMENT REPORT


Submitted By: NuSocia
July 2025

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In response to the critical shortage of ventilators during India's devastating second wave of COVID-19 in 2021, Finolex Industries Limited, in collaboration with its CSR partner, the Mukul Madhav Foundation (MMF), initiated a targeted intervention under its Corporate Social Responsibility (CSR) mandate. This initiative involved the donation of ventilators to 33 hospitals across states/union territories, Maharashtra, Gujarat, Karnataka, Delhi, and Uttar Pradesh, with a strategic focus on district, civil, and charitable hospitals that catered to underserved and high-burden populations.

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# EXECUTIVE SUMMARY

In response to the critical shortage of ventilators during India's devastating second wave of COVID-19 in 2021, Finolex Industries Limited, in collaboration with its CSR partner, the Mukul Madhav Foundation (MMF), initiated a targeted intervention under its Corporate Social Responsibility (CSR) mandate. This initiative involved the donation of ventilators to 33 hospitals across states/union territories, Maharashtra, Gujarat, Karnataka, Delhi, and Uttar Pradesh, with a strategic focus on district, civil, and charitable hospitals that catered to underserved and high-burden populations. In Gujarat, the intervention was implemented with the support of local partners, including Muni Seva Ashram in Waghodia Taluka and ActionAid Association in Dabhoi Taluka, who played a key role in ensuring effective last-mile delivery and hospital coordination. In other States & Union Territories, the ventilators were delivered either through vendors or directly by MMF.

The impact assessment of this initiative was conducted using the REECIS framework developed by the OECD-DAC, which evaluates interventions based on their Relevance, Effectiveness, Efficiency, Coherence, Impact, and Sustainability. The assessment combined desk research with 18 Key Informant Interviews (KIIs) involving doctors, hospital administrators, MMF staff, and operational teams.

Findings indicate that the ventilator support addressed a critical healthcare gap during the peak of the pandemic, particularly in Maharashtra, the worst-hit state. Stakeholders consistently reported that the donated ventilators significantly reduced patient referrals, enhanced ICU capacity, and enabled timely care, thereby saving lives. Hospitals also highlighted improvements in patient outcomes and greater access to affordable critical care.

Beyond immediate relief, the intervention had long-term positive effects. Many hospitals integrated the donated ventilators into their routine ICU operations, instituted regular maintenance protocols, and utilized this opportunity to strengthen staff capabilities through operational training. However, limitations were observed in the functionality of the equipment, as

the current machines are primarily designed for adult use, with some lacking paediatric and neonatal modes. Equipping hospitals with machines that include paediatric and neonatal functionalities would enhance their usability and overall effectiveness. Furthermore, while staff training was often inconsistent and rushed due to the urgent demands of the pandemic, the doctors and operators were largely able to use the machines effectively, given their ease of operation.

Despite these challenges, the initiative was efficiently implemented, aligned well with broader government health strategies, and encouraged systemic improvements in hospital preparedness. Opportunities for improvement include prioritizing multi-mode equipment, embedding structured & periodic training programs, strengthening technical support systems, and institutionalizing data sharing for better monitoring and evaluation.

The ventilator support intervention by Finolex Industries Limited stands as a noteworthy example of CSR-led emergency healthcare response, highlighting how timely and well-targeted support can both address immediate crises like COVID-19 and contribute to sustainable healthcare capacity, enabling access to affordable critical care for the needy populations.

# 1. INTRODUCTION

In 2021, India faced one of its darkest health emergencies as the second wave of COVID-19 struck it. Daily infections surged past 300,000, and thousands of people died each day[1]. Hospitals were overwhelmed and families were left scrambling for beds, oxygen, or medicine. Despite earlier warnings during the first wave, the country was not fully prepared. Many hospitals lacked life-saving equipment, and the public health system was stretched to its limits.

India's health system was already under pressure before the second wave began. Government studies showed that just before April 2021, the number of ICU beds and oxygen-supported beds had decreased by 46% and 36% respectively, compared to the previous wave[2]. Many government hospitals lacked ventilators, trained personnel, or consistent electricity. In urban areas, private hospitals filled up within days. As oxygen demand spiked, factories and railways had to reroute supply lines. Still, delays and transportation gaps cost lives. A major issue was the shortage of trained professionals to operate and maintain ventilators. Some hospitals had machines but no one to use them. Others lacked backup power or spare parts. These gaps were not new, but the pandemic exposed just how deadly their consequences could be. The second wave made it clear that India's healthcare system needs stronger emergency planning, better equipment, and more trained health workers.

The second wave hit hardest those already living in precarious conditions, migrant workers, daily wage earners, and people in slums or remote rural areas. When lockdowns were announced, millions of migrant workers lost their jobs and homes overnight. With no savings, food, or means to return to their villages, many stayed in crowded shelters or walked hundreds of kilometers without access to medical care. Even those who remained in cities often lived in dense, poorly ventilated housing where COVID spread easily. Lacking health insurance, ID documents, or local ration cards, they faced enormous barriers to accessing treatment, hospital beds, or even testing. Mental health issues surged as studies showed that over 70% of people in shelters reported anxiety, stress, or depression[3]. Many depended on community kitchens, NGO-run clinics, or volunteer-led oxygen banks. These efforts helped but couldn't reach everyone. The second wave exposed the devastating impact of systemic gaps, with vulnerable groups bearing the brunt of the crisis.

[1]https://time.com/5957118/india-covid-19-modi/
[2]https://www.indiatoday.in/coronavirus-outbreak/story/just-before-2nd-covid-wave-hit-india-icu-beds-decreased-by-46-oxygen-ones-by-36-1796830-2021-05-03
[3]https://www.thelancet.com/journals/lanpsy/article/PIIS2215-0366(21)00025-0/fulltext

## Maharashtra: The Epicenter of the Crisis

No Indian state was hit harder than Maharashtra. At the peak of the second wave, it was reporting over 60,000 new cases per day[4] . Hospitals in cities like Mumbai, Pune, and Nashik were overwhelmed. In one tragic incident, 22 patients died in Nashik after an oxygen tank leaked, causing a sudden drop in ICU pressure. Days later, a fire in an ICU in Virar claimed the lives of 13 COVID patients[5]. These incidents highlighted how weak infrastructure and poor maintenance worsened an already dire situation. Maharashtra also faced a severe oxygen shortage, needing 1,550 metric tonnes per day but producing only around 1,250.

4https://www.hindustantimes.com/cities/mumbai-news/the-thick-tail-of-maharashtra-s-second-wave-101627722080443.html
https://www.newyorker.com/science/medical-dispatch/indias-crisis-marks-a-new-phase-in-the-pandemic

# 2. BACKGROUND

Finolex Industries Limited, under its Corporate Social Responsibility (CSR) mandate, has consistently invested in strengthening community well-being through targeted, sustainable initiatives across sectors such as education, healthcare, water conservation, rural development, and disaster relief. The emergence of the COVID-19 pandemic, particularly the severe second wave in early 2021, exposed critical deficiencies in India's healthcare infrastructure, most notably the acute shortage of ventilators and other life-saving medical equipment. Public hospitals, especially those serving low-income and rural communities, were rapidly overwhelmed, struggling to provide adequate care for an unprecedented influx of critically ill patients.

In response to this urgent need, Finolex Industries Limited launched coordinated interventions to bolster the capabilities of healthcare providers nationwide. Executed in partnership with the Mukul Madhav Foundation (MMF), they focused on donating ventilators to 33 hospitals across states/union territories, including Maharashtra, Karnataka, Gujarat, Delhi, and Uttar Pradesh. In Gujarat, the intervention was implemented with the support of local partners like Muni Seva Ashram in Waghodia Taluka and ActionAid Association in Dabhoi Taluka to ensure effective last-mile delivery and hospital coordination. Combined, these efforts enhanced the readiness of 33 hospitals to manage the rising demand for intensive care during the peak of the pandemic.

The selection of hospitals prioritized district, civil, and charitable facilities across diverse urban and rural settings, with special consideration for those serving marginalized and underserved populations. Key criteria guiding selection included current ICU and ventilator capacity, case load and surge during the second wave, access to vulnerable communities, and ability to effectively deploy and maintain donated equipment

A notable concentration of these supported hospitals was in Maharashtra, as hospitals here faced some of the country's most severe shortages of life-saving resources. The intervention by Finolex Industries Limited was therefore aimed at providing immediate, targeted relief to ensure that those most in need could access critical respiratory support without delay.

Ultimately, the primary goal of the project was to bridge the dire gap in ventilator availability during the height of the crisis, while also equipping medical institutions with robust infrastructure that would bolster their emergency preparedness and capacity for the long term.

## Distribution of Ventilator Support by State/Union Territory

| States | Direct Support by Finolex | Via MMF | Total |
|---|---|---|---|
| Maharashtra | 19 | 6 | 25 |
| Gujarat | 1 | 1 | 2 |
| Karnataka | 0 | 2 | 2 |
| Delhi | 0 | 1 | 1 |
| Uttar Pradesh | 2 | 1 | 3 |
| Total | 22 | 11 | 33 |

# 3. METHODOLOGY

This section outlines the key objectives, research framework, and methods used to assess the implementation and impact of the ventilator support provided by Finolex Industries Limited during the second wave of the COVID-19 pandemic. It also describes the sampling strategy, data collection process, and best practices acquired during the study.

## 3.1 Objectives

The primary objectives of this assessment are:

- To understand the impact of ventilator support provided to 33 hospitals across India during the COVID-19 second wave.
- To identify key challenges, learnings, and best practices that can inform future emergency health interventions.
- To offer actionable recommendations for strengthening CSR-led healthcare responses in times of crisis.

## 3.2 Research Framework

The evaluation is structured around the REECIS (Relevance, Effectiveness, Efficiency, Coherence, Impact and Sustainability) Framework, developed by the OECD Development Assistance Committee (OECD DAC). This comprehensive framework facilitates a balanced and holistic impact assessment by focusing on the following elements:

**Relevance:** Assessing the necessity and appropriateness of the intervention in the given context.

**Effectiveness:** Measuring the extent to which the project's objectives and intended outcomes were achieved.

**Efficiency:** Evaluating the cost, time, and resource utilisation for optimal results.

**Coherence:** Examining the degree of alignment and complementarity with other similar interventions and government policies.

**Impact:** Assessing both the intended and unintended higher-level effects of the intervention.

**Sustainability:** Considering the prospects for enduring success and continued benefits after the intervention's completion.


Source: OECD DAC: Organization for Economic Co-operation and Development's (OECD) Development Assistance Committee (DAC)

The REECIS Framework ensures that the assessment is robust, offering a multidimensional perspective on project outcomes, processes, and lasting value.

## 3.3 Sampling

A purposive and convenience-based sampling strategy was adopted to draw insights from stakeholders directly involved in the design, planning, and implementation of the ventilator support initiative. Given the geographical spread of the 33 hospitals, selection prioritised relevance to the intervention, accessibility, and availability of respondents. Stakeholders included medical administrators, ICU specialists, frontline doctors, biomedical engineering personnel, and representatives from the Mukul Madhav Foundation. For the data collection process, physical visits were conducted to eight hospitals across three states, Maharashtra, Gujarat, and Rajasthan, providing valuable on-ground insights. All participants were chosen for their firsthand knowledge of implementation challenges during the pandemic surge and their informed perspectives on the utility and sustainability of the support provided.

| Stakeholders | Key informant interviews (KIIs) |
|---|---|
| **Doctors** | **11** |
| **Hospital Administrations** | **06** |
| **MMF Team** | **01** |
| **Total** | **18** |

## 3.4 Data Collection

The study incorporated two primary methods for data collection, desk research and key informant interviews.

**Desk Research:**

This activity involved a thorough review of internal documentation shared by Finolex Industries and Mukul Madhav Foundation, including equipment dispatch records, hospital support summaries, communication logs, and government advisories relevant to the second wave of COVID-19 in 2021. These materials provided crucial quantitative and contextual background for the project.

**Key Informant Interviews (KIIs):**

In-depth interviews were conducted using a semi-structured survey instrument comprising open-ended questions. Respondents included hospital management, clinical staff, administrative personnel, and foundation staff. The mode of contact included both in-person and telephonic interviews, enabling comprehensive insights into project effectiveness and on-the-ground implementation.

# 4. FINDINGS

This section presents the key findings observed during the intervention. Insights are drawn from field visits and interviews with various stakeholders, including doctors, administrative and operational staff, and team members from the Mukul Madhav Foundation (MMF).

## 4.1 Addressing Critical Medical Gaps During COVID-19

The COVID-19 pandemic imposed extraordinary pressure on India's healthcare infrastructure, exposing acute shortages of intensive care resources and life-saving equipment. In response, Finolex Industries Limited provided ventilators to 33 hospitals across states/union territories, a measure that substantially strengthened the ability of medical facilities to respond to the second wave.

All respondent groups unanimously agreed that the ventilator support addressed the most urgent shortfall. For example, an ICU department in charge at a hospital in Pune, Maharashtra, noted, *"During the worst phase of the pandemic, our ICU was packed all the time. As soon as one bed was vacated, another patient was waiting to be admitted. There was no break, full occupancy, 24/7. It felt like a constant emergency."*

Qualitative data underscore that **ventilator support often marked the difference between hospitals being able to treat patients with acute respiratory distress or having to refer them elsewhere, or worse, being unable to provide life support at all.** Reflecting this, a doctor from another hospital in Pune affirmed, *"Ventilators were extremely important during COVID because the entire disease was related to the respiratory system. They were a crucial part of the treatment at that time. Without them, we couldn't have done anything."*

Hospitals serving rural or underprivileged populations explicitly relied on external donor contributions to address the surging demand. As the head of the administration department at a hospital in Pune explained, *"Yes, there was a gap. We had some ventilators already, but the number of patients needing them shot up so fast … We had to request support from multiple places because the pressure was just too high."* In areas with limited resources, this external support proved essential for ensuring an equitable pandemic response.

Picture 1: Key Informant Interview with Administrator Oyester and Pearls hospital Pune

A critical outcome highlighted in the qualitative data was a significant reduction in patient referrals to other hospitals. As the hospital in Maharashtra shared, *"After we got the ventilators, the number of cases where we had to refer patients elsewhere definitely went down. It gave us the support we needed to treat them here. Right now, we use them when there's extra load, since we also have some newer machines. But they're useful and add to our readiness for any future emergencies."* This not only improved patient outcomes but also eased community anxiety during a highly precarious period.

Picture 2: Ventilator provided to Moriya Hospital, Pune

Furthermore, when asked about the selection process for hospitals to receive ventilator support, MMF clarified that it **followed a robust and transparent procedure.** As the MMF team explained, hospitals first submit an appeal to MMF, after which a team conducts a site visit to assess infrastructure needs. Key factors include availability of reliable electricity, presence of trained medical professionals, patient flow, and institutional track record. These criteria ensure readiness and maximize the impact of the support. While support is rarely denied outright, hospitals are encouraged to meet basic standards before the aid is provided.

## 4.2 Building and Sustaining Healthcare Capacity for the Future

Beyond immediate crisis relief, the intervention drove long-term capacity building and health system strengthening. Hospitals now depend on both new and donated ventilators, integrating them into emergency and routine ICU operations, pointing to a sustained enhancement in their clinical capabilities.

Administrative and technical staff emphasized that **the program established or reinforced maintenance protocols.** For example, at the hospital in Maharashtra, maintenance teams were formed for monthly ventilator checks:

*"Yes, there is a regular maintenance routine. Our in-house maintenance team checks all the ventilators every month without fail ... the machines are always in proper working condition."*

Picture 3: Key Informant Interview with Bio-medical team & Admin at Smt. Kashibai Navale Medical College & General Hospital, Pune

On staff development, **the project's focus on operational training produced lasting benefits.** Although the disruptions caused by the pandemic restricted movement and prevented formal training sessions, some hospitals received internal training from vendors or biomedical teams. As a biomedical engineer at a medical facility in Vadodara, Gujarat, explained,

*"The system we are using in the hospital is German-based, a bit advanced, whereas the Finolex-provided Made-in-India product has a different operating system and is easier to understand and adapt."*

**The user-friendliness of the new equipment facilitated peer learning and increased staff confidence in using new technology.** Reflecting this, another doctor noted that most doctors were already familiar with operating ventilators, so adapting to the new machines was not a significant challenge.

Picture 4: Ventilator provided to Muni Seva Ashram (Kailash cancer Hospital) in Vadodara, Gujarat

There were notable spillover gains in institutional preparedness. For example, a doctor at Pune hospital expressed,
*"The intervention enabled us to provide intensive care to COVID patients during the emergency period. Now, these ventilators have become part of our reserve and are being used for routine care. They are currently in good condition and are regularly used in the ICU."*

At the systems level, MMF institutionalized best practices, including clear maintenance contracts, post-installation monitoring, and structured requirements for regular usage reporting, which offer a template for future equipment support efforts.

## 4.3 Improving Patient Outcomes and Reducing Financial & Geographical Barriers

A marked improvement in patient outcomes, especially among vulnerable groups, emerged as a consistent finding. Stakeholders highlighted how ventilator availability enabled timely, life-saving interventions at rates affordable to marginalized patients.

As noted by the Chief Administrator at a hospital in Pune,
*"Many patients recovered just because we had the right support at the right time. It made a difference in reducing serious cases." Administrative staff at a hospital in Maharashtra pointed out, "We provide ventilator support in the ICU at just ₹2,000 per day, while private hospitals charge more than ₹10,000 for the same... During COVID, people from all over started coming in because they couldn't afford private care."*

Field observations by MMF also revealed increased critical care patient footfall:
*"In some government and semi-rural hospitals, once the ventilators were installed, patient footfall increased, as communities began preferring those facilities. In areas where healthcare services had previously been challenging, these interventions made a measurable impact."*

Data confirmed that **hospitals retained and treated more critical patients, expediting recoveries and lowering the risks inherent in transferring patients during emergencies.** According to an executive at MMF, *"Having these machines reduced referrals to other hospitals, especially in rural and semi-urban areas. Patients who might otherwise have been transported long distances for ventilator access could now receive care locally, improving outcomes and reducing the burden of transport during critical illness."*

## 4.4 Implementation Challenges and Opportunities for Improvement

Despite the overwhelmingly positive response, several recurring challenges and areas for improvement emerged. **Some doctors noted that it would have been better if the provided ventilators were compatible for use in pediatric or prenatal care as well, as this would have enhanced their applicability and impact during the crisis.** According to an ICU doctor at a hospital in Pune, *"These ventilators can only be used for adults because there is no option provided for prenatal mode or pediatric mode. Also, these models sometimes show errors on the screen. Another issue is that the machine can only work for up to seven days, so if we have to treat the patients beyond that, it becomes quite a difficult scenario."*

Picture 5: Ventilator provided to the Smt. Kashibai Navale Medical College & General Hospital, Pune

Though training was generally arranged, **respondents reported that the pace and extent of training during the crisis were often inadequate, leaving many to learn while actively treating intensive cases:** *"Training sessions were arranged, but honestly, we didn't get much time to sit through them properly because the situation was so intense. Most of us had to learn while on the job, directly handling critical cases. Whatever small guidance we got, we made use of it immediately. It was all hands on deck."* – A Chief Administrator at a hospital in Pune.

During our interview visits, it was observed that the machine at Inlaks & Budhrani Hospital in Pune has not been functional since June 6, 2025, and an upgrade is needed. The hospital is actively following up to expedite the necessary repairs and bring the machine back into full functionality.

Meanwhile, at Dabhoi Community Health Centre,the ventilator is functional but currently not in use due to the unavailability of trained staff. The hospital is actively working to address this gap by arranging

appropriate personnel to ensure effective utilisation. MMF echoed the need for more structured post-installation engagement, stating: *"India is making progress in medical infrastructure and expertise, but there is still a gap in training when compared to other countries. Countries abroad generally offer more advanced and consistent training for operating such equipment. This gap can hinder optimal outcomes of medical interventions."*

Finally, a key limitation was the logistical barrier or reluctance to share granular patient-level data for tracking outcomes. As the MMF team observed,

*"Hospitals were not always willing to share detailed patient-level data. However, during on-site visits, hospital staff did allow their representatives to inspect physical registers and verify how many patients had used the machines or received related services."*

These findings capture the nuanced, multifaceted impacts of the ventilator support initiative, highlighting both successes and key learnings for future health system interventions.

# 5. ANALYSIS

## RELEVANCE

**Highly Relevant**

*The first criterion in the REECIS framework is to understand how far the program is responding to the needs of the beneficiary group.*

The ventilator support initiative was **highly relevant to India's pandemic context during the second wave, where extreme shortages of intensive care equipment were well documented,** especially in public and semi-rural hospitals. With hospital occupancy rates at crisis levels and marginalized groups disproportionately affected, the intervention directly addressed the most urgent, life-threatening gap: access to respiratory support. By prioritizing facilities serving underserved populations and severely impacted states like Maharashtra, the initiative effectively responded to both immediate medical needs and long-standing health inequities. **Stakeholders consistently emphasized that the ventilators were critical to saving lives and maintaining continuity of care during peak demand.**

## EFFECTIVENESS

**Effective**

*The second criterion in the REECIS framework is effectiveness, which measures the extent to which the intervention achieved or is expected to achieve its objectives, and its results, including any differential results across groups.*

The ventilator support initiative implemented by the Mukul Madhav Foundation (MMF) played a critical role in strengthening hospital infrastructure during the pandemic. **Its effectiveness was evident through reduced patient referrals, enhanced critical care capacity, and improved survival rates among patients.** Stakeholder interviews confirmed that access to ventilators often meant the difference between life and death. Additionally, several hospitals reported a rise in patient trust and footfall following the intervention.

**MMF demonstrated remarkable strong commitment and agility** during an extremely high-pressure period while implementing the ventilator support initiative. The Foundation effectively coordinated with hospitals and vendors to ensure timely installation of ventilators and immediate technical training. Although some training sessions were

understandably rushed due to the emergency situation, MMF's proactive efforts ensured that hospital staff were not left unsupported and could begin using the machines with essential guidance. Beyond implementation, MMF took a hands-on approach in identifying on-ground gaps and responding with practical solutions. This included recommending structured training programs, technical partnerships, and more inclusive equipment procurement strategies to address future needs.

While the core objectives of the project were successfully met, a few limitations emerged. However, importantly, the issues raised in the assessment reflect broader systemic challenges faced during the pandemic rather than organizational shortcomings.Overall, the initiative not only delivered immediate life-saving support but also laid the foundation for longer-term improvements in hospital preparedness and response—underscoring MMF's role as a responsive and responsible implementation partner.

## EFFICIENCY

**Efficient**

*The criterion of efficiency measures the extent to which the intervention delivers or is likely to deliver, results in an economical and timely way.*

**The intervention was operationally efficient, with the rapid deployment of ventilators during a period of critical need.** MMF ensured that all recipient hospitals were pre-assessed for infrastructure readiness—including power supply, space availability, and staffing capacity—laying a strong foundation for effective equipment utilization. While vendor-led follow-ups varied across locations, MMF proactively engaged with hospital administrations to address delays and coordinate timely troubleshooting, reflecting the Foundation's ongoing support and ownership of the project.

Ventilator allocation was thoughtfully prioritized for high-burden hospitals, based on patient load and infrastructure suitability. MMF's coordination efforts streamlined logistics, enabling smooth delivery and installation, while hospital staff facilitated quick integration of the equipment into existing ICU workflows. Despite the limited availability of quantitative data—owing to the pandemic context—qualitative feedback from stakeholders strongly indicated that the intervention delivered high value relative to the resources invested, particularly in terms of lives saved.

## COHERENCE

**Coherent**

*The fourth criterion in the REECIS framework is coherence. This measures the compatibility of the intervention with other interventions in a country, sector, or institution.*

The project was **coherent with broader government and NGO-led pandemic response efforts,** ensuring complementarity rather than duplication. Hospital selection was aligned with both local and national priorities, and MMF worked closely with hospital administrations to integrate the equipment into existing structures. Coordination with local partners in Gujarat, such as Muni Seva Ashram and ActionAid Association, ensured effective last-mile delivery. The intervention **contributed to the landscape of pandemic relief while reinforcing longer-term health system goals,** such as equitable access and infrastructure strengthening.

## IMPACT

**Strong Impact**

*This criterion measures the extent to which the intervention has generated or is expected to generate significant positive or negative, intended or unintended, higher-level effects.*

The intervention's impact remained well beyond the emergency phase. **Hospitals not only retained and regularly used the donated ventilators, but also reported greater confidence in managing future surges.** Community trust in public and charitable healthcare systems improved, and access to affordable critical care for low-income patients was significantly expanded. Spillover benefits included improved maintenance protocols, higher ICU readiness, and stronger staff capabilities. Though some challenges remained, such as machine limitations and gaps in data sharing, stakeholders continued to highlight the project's life-saving role and its contribution to long-term institutional resilience.

## SUSTAINABILITY

**Sustainable**

*The criterion of sustainability measures the extent to which the net benefits of the intervention continue or are likely to continue.*

Sustainability prospects are encouraging, with **many hospitals incorporating the ventilators into routine operations and conducting regular maintenance checks.** The intervention supported the creation of local systems for upkeep and trained biomedical staff, laying the groundwork for future continuity. However, gaps remain in structured refresher training, real-time technical support, and multi-mode equipment functionality. Moving forward, sustainability will depend on embedding climate-resilient infrastructure, establishing robust supply chains, and ensuring a skilled and responsive health workforce prepared for both public health emergencies and climate-induced disruptions.

# 6 RECOMMENDATIONS

Based on evaluation of the ventilator support intervention using the REECIS framework, four key recommendations are proposed to maximize the effectiveness, reach, and sustainability of similar health equipment initiatives in the future. These recommendations also consider the increasing need for healthcare systems to be resilient and prepared for both public health emergencies and climate-related disruptions such as heatwaves, floods, storms, and vector outbreaks:

## 1. Prioritize Multi-Mode (Adult, Pediatric, Neonatal) Equipment

Future interventions should prioritize procurement and distribution of ventilators and life-support equipment with built-in adult, pediatric, and neonatal modes. The current project mainly provided ventilators designed for adults. It is important to prioritize equipment that can also support pediatric and neonatal patients, as this remains a major gap in many under-resourced healthcare facilities.Multi-mode functionality ensures that critical care resources are inclusive across age groups and can be flexibly deployed as patient populations change, enhancing patient outcomes and optimizing resource utilization. This approach reduces the risk of underutilization and guarantees broader health system preparedness for diverse emergencies.

## 2. Embed Comprehensive Technical Support for End Users

The MMF team connected hospitals with vendors before installation, and it was the hospitals' responsibility to follow up with vendors for training and additional requirements. However, to ensure the long-term use and safe operation of donated equipment, future projects should include built-in technical support mechanisms.

This includes establishing partnerships with manufacturers for real-time troubleshooting (hotlines, digital support), scheduled maintenance visits, and rapid response to hardware issues. Technical support should be accessible at all recipient sites, not just urban centers, to address the common challenges faced by understaffed facilities during high-pressure periods. Embedded support also provides a feedback loop for device improvement and local adaptation, ultimately strengthening clinical effectiveness and equipment longevity.

## 3. Institutionalize Ongoing and Structured Training Programs

The urgent conditions of the pandemic often restricted staff to one-time crash courses on new equipment. It is recommended that future interventions establish structured, multi-session training for clinicians and technicians, including scheduled refresher modules. Training should address both machine operation

and troubleshooting, and whenever possible, certification or digital resources should be made available for continuous learning. Incorporating simulation-based and peer-led components can help build local expertise and promote knowledge retention. Going forward, training programs must also be designed to prepare the healthcare workforce for dual-response scenarios, including infectious disease outbreaks and climate-induced health shocks. A skilled, sensitive, and resilient workforce is essential to maintain high-quality critical care standards amidst increasing complexity and risk.

## 4. Establish Data Sharing and Monitoring Agreements

Robust evaluation of health interventions depends on the availability of reliable, standardized outcome data from participating facilities. Future projects should include explicit agreements around data sharing as part of the donation protocol, balancing transparency with patient confidentiality. Monitoring frameworks, with clear indicators such as equipment uptime, patient volumes served, clinical outcomes, and user satisfaction, should be co-designed with recipient hospitals. In parallel, greater investment is needed in building resilient infrastructure, including robust supply chain networks that can withstand pandemic conditions as well as climate-related shocks. In pandemic-like situations, contingency planning should be an integral part of the project design—this includes maintaining buffer stocks of essential supplies, having flexible training and support systems (e.g., remote or hybrid formats), and deploying mobile technical teams for emergency response.

Regular reporting and field visits can contribute to external evaluation of impact and implementation challenges. A data-driven and resilience-focused approach not only strengthens accountability to funders and communities but also ensures that health systems remain adaptive and responsive in the face of future emergencies.

# CONCLUSION

The ventilator support initiative by Finolex Industries Limited, in partnership with the Mukul Madhav Foundation, played a crucial role in India's COVID-19 response during a period of overwhelming demand and infrastructural vulnerability. By equipping 33 hospitals across states/union territories with life-saving ventilators, the project directly contributed to improved survival rates, reduced patient referrals, and greater community trust in public healthcare systems. It enabled hospitals, especially those in rural and semi-urban regions, to meet the challenges of the pandemic more effectively and equitably, while also expanding access to affordable and quality critical care for populations.

Importantly, the intervention went beyond emergency relief, catalysing long-term gains in institutional capacity and service delivery. Through training, maintenance protocols, and better ICU preparedness, hospitals were better positioned to serve their communities even after the immediate crisis had passed. However, the assessment also surfaced key learnings: the need for pediatric-ready equipment, structured post-installation support, formalised training modules, and data-driven monitoring.

These insights form the foundation for a more resilient and responsive model of CSR engagement in public health, emphasising sustainability, inclusivity, and evidence-based planning. As India and the world continue to prepare for future health emergencies, the lessons from this project offer valuable guidance for designing scalable, impactful interventions that bridge gaps in public health infrastructure. The project exemplifies how focused, collaborative, and well-evaluated efforts can deliver lasting benefits in times of crisis and beyond.


Finolex Industries Limited, under its Corporate Social Responsibility (CSR) mandate, has consistently invested in strengthening community well-being through targeted, sustainable initiatives across sectors such as education, healthcare, water conservation, rural development, and disaster relief. The emergence of the COVID-19 pandemic, particularly the severe second wave in early 2021, exposed critical deficiencies in India's healthcare infrastructure, most notably the acute shortage of ventilators and other life-saving medical equipment. Public hospitals, especially those serving low-income and rural communities, were rapidly overwhelmed, struggling to provide adequate care for an unprecedented influx of critically ill patients.

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# Infrastructural Development at I2IT and FAMT (FY 2021-22)

## IMPACT ASSESSMENT REPORT

Submitted By: NuSocia
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This study evaluates the outcomes of a targeted infrastructural development initiative undertaken at two higher education institutions in Maharashtra: International Institute of Information Technology ($I^2IT$), Pune and Finolex Academy of Management and Technology (FAMT), Ratnagiri, during FY 2021–22. The project was implemented through a Corporate Social Responsibility (CSR) partnership between Finolex Industries Limited (FIL) and the Hope Foundation and Research Centre, with the primary aim of strengthening academic environments and institutional capacities.

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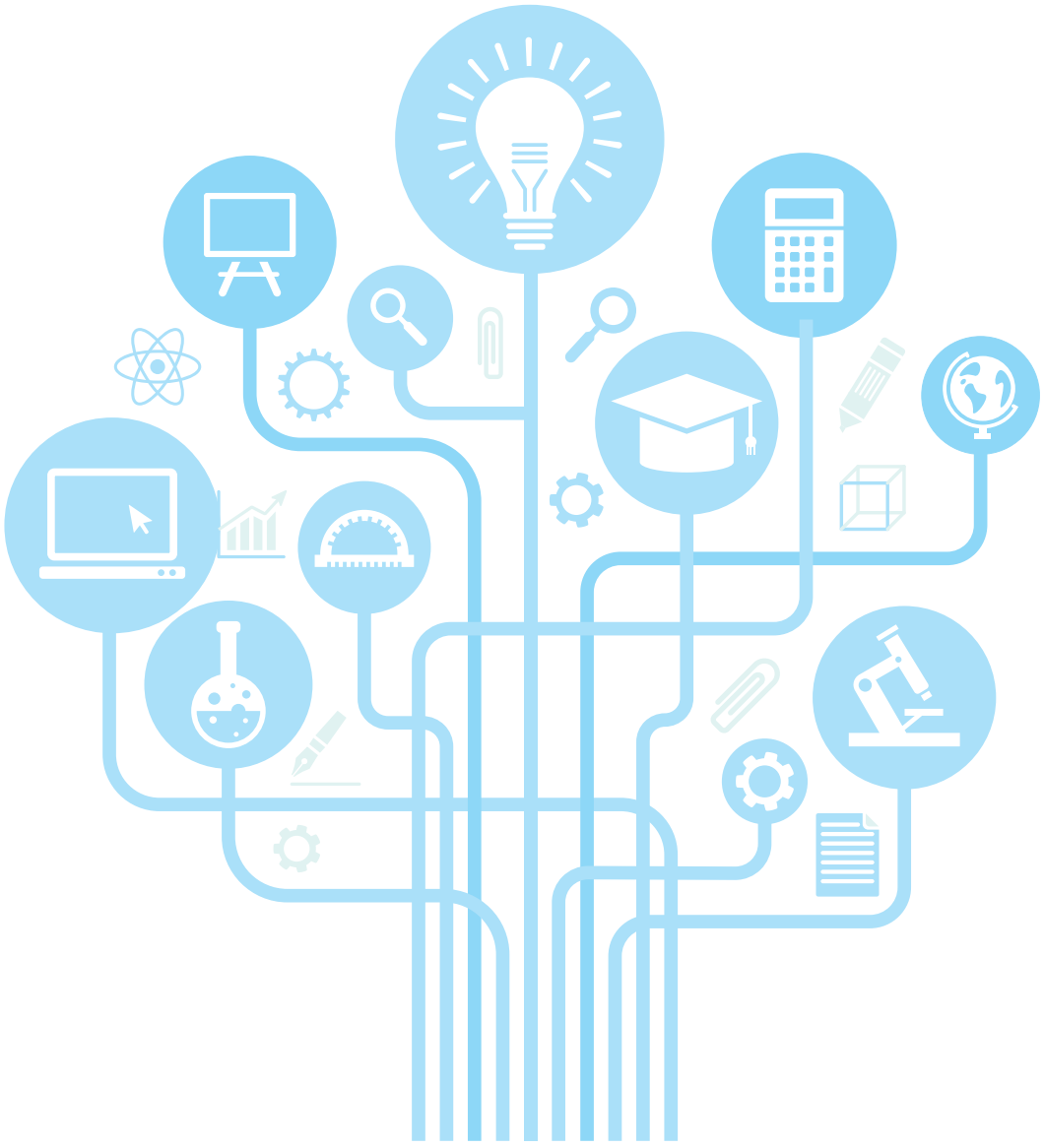
This study evaluates the outcomes of a targeted infrastructural development initiative undertaken at two higher education institutions in Maharashtra: International Institute of Information Technology (I²IT), Pune and Finolex Academy of Management and Technology (FAMT), Ratnagiri, during FY 2021–22. The project was implemented through a Corporate Social Responsibility (CSR) partnership between Finolex Industries Limited (FIL) and the Hope Foundation and Research Centre, with the primary aim of strengthening academic environments and institutional capacities.

India's higher education system continues to face systemic infrastructure gaps, as highlighted by national indicators such as the UDISE+ and NEP 2020 implementation reviews. These gaps disproportionately affect students from underprivileged and rural backgrounds, hampering learning outcomes and regulatory compliance. The intervention at I²IT and FAMT addressed critical issues such as outdated classrooms, insufficient computer labs, limited library and canteen facilities, and unreliable internet connectivity.

The assessment followed a qualitative methodology based on the OECD-DAC REECIS framework (Relevance, Effectiveness, Efficiency, Coherence, Impact, and Sustainability). Primary data were collected through Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs) with stakeholders, including students, faculty, principals, administrative staff, and parents.

Findings revealed that the infrastructure upgrades significantly enhanced the academic environment, enabling more interactive teaching, improved digital access, and better engagement in research and extracurricular activities. Institutions reported strengthened compliance with NAAC and NBA standards, improved enrollment capacity, and smoother implementation of new academic programs. Students and parents expressed higher satisfaction with the quality of campus life and academic support, while the upgraded facilities increased accessibility for economically disadvantaged students, contributing to greater equity and inclusion.

Key recommendations include establishing preventive maintenance systems, expanding digital and renewable infrastructure, enhancing student-centric governance, and formalizing CSR partnerships for replication. The project serves as a scalable model of how CSR, when strategically aligned and locally grounded, can drive meaningful and lasting improvements in India's higher education ecosystem.



# 1. INTRODUCTION

The state of educational infrastructure in India remains a significant concern, with persistent gaps that undermine student outcomes nationwide. According to the Unified District Information System for Education Plus (UDISE+) 2023-24, just 57.2% of schools in India have functional computers, 53.9% have internet access, and only 52.3% are equipped with ramps[1]. As many as 1.52 lakh schools in India continue to operate without electricity, and just 50% offer access to computers for teaching and learning. Only 17.5% of schools have arts and crafts facilities, while half of secondary schools lack integrated science laboratories. School dropout rates escalate from 5.2% at the middle level to 10.9% at the secondary stage, reflecting how poor infrastructure directly contributes to weak retention and negative educational trajectories[2]. These shortages in classrooms of drinking water, sanitation, technology, and safety features disproportionately affect students from vulnerable communities, restricting engagement, attendance, and achievement across rural and urban regions alike.

Maharashtra, while home to leading academic institutions and urban education hubs, mirrors many of these national challenges. Recent government data shows encouraging progress in providing basic amenities, such as electricity, functional toilets, and digital infrastructure, but significant disparities persist between districts and school types. According to state-level statistics from 2023-24, although the majority of schools in Maharashtra now report functional toilets and drinking water, gaps remain in the availability of digitally equipped classrooms and accessible learning spaces, particularly outside major cities[3]. Issues such as the slow adoption of technology, incomplete disability access, and maintenance shortfalls hinder Maharashtra's ambition to deliver high-quality, equitable education statewide.

Quality assurance in Indian higher education is shaped by institutions such as the National Assessment and Accreditation Council (NAAC) and the National Board of Accreditation (NBA). NAAC, under the University Grants Commission, conducts holistic evaluations of universities and colleges, grading them on a scale from A+++ to B++ based on academics, governance, infrastructure, research, and student support. NBA, by contrast, focuses on accrediting individual programs, primarily in technical and professional fields, using criteria aligned with international standards, with accreditations valid from three to six years depending on performance. Both bodies place significant emphasis on the adequacy and quality of physical and digital infrastructure,

[1]https://www.thehindu.com/education/57-schools-have-functional-computers-53-have-internet-access-education-ministry/article69053427.ece
[2]https://www.thehindu.com/education/education-ministrys-udise-report-shows-nationwide-infrastructure-gaps-in-schools/article69054723.ece
[3]https://www.education.gov.in/sites/upload_files/mhrd/files/statistics-new/udise_report_existing_23_24.pdf

considering these as essential for curriculum delivery, faculty excellence, student outcomes, and compliance with regulatory mandates. Institutions that fall short face challenges in attracting talent, introducing innovations, and sustaining their reputation in a competitive educational landscape.

The COVID-19 pandemic brought a radical transformation to the Indian education system. With the sudden closure of schools and universities, institutions were compelled to adapt rapidly to digital modes of teaching and learning. The shift amplified pre-existing infrastructure challenges: the digital divide left significant segments of the student population without meaningful access to online classes or digital materials, particularly those in rural or low-resource contexts. Higher education institutions scrambled to implement remote instruction, online assessments, and virtual laboratories, efforts that exposed the limitations of current infrastructure. While this technological expansion opened new opportunities for blended learning and interdisciplinary collaboration, it also highlighted the urgent need for investments in connectivity, device access, and faculty digital readiness.

Recent policy initiatives underscore a growing recognition of the essential role of infrastructure in educational effectiveness and equity. The Government of India has more than doubled per-child expenditure on education over the past decade, with targeted programs under the National Education Policy (NEP) 2020, Samagra Shiksha Abhiyan, and PM SHRI Scheme aimed at universalizing not just enrollment, but also ensuring safe, accessible, and digitally enabled learning environments. Despite this positive momentum, persistent inequalities in infrastructure, by region, economic status, and institutional category, continue to call for sustained and collaborative investment from both government and private sector stakeholders. Ultimately, bridging these critical gaps is essential for building a resilient, future-ready education system capable of prompting inclusive growth and global competitiveness.

# 2. BACKGROUND

**Finolex Industries Limited (FIL)** has established a strong track record in leveraging its Corporate Social Responsibility (CSR) commitments to address critical gaps in Indian education, health, and community infrastructure. As part of its ongoing mission to improve education quality and equity, FIL partnered with **Hope Foundation and Research Centre** to implement a targeted infrastructure development project at **I²IT, Hinjewadi, Pune and FAMT, Ratnagiri.**

The project was initiated in response to measurable needs within these institutions, specifically, the lack of adequate academic spaces, limited library resources, outdated canteen facilities, and insufficient technology systems. Such shortages can directly impact student learning, faculty productivity, and the institutional ability to deliver on curriculum mandates. FIL and Hope Foundation and Research Centre identified these pain points through consultative engagement with stakeholders, ensuring the strategy was tailored and relevant to real challenges faced by students and staff.

At I²IT, the intervention included the creation of four new classrooms, installation of smart projectors, upgraded computers, and a UPS system, enabling the institution to strengthen both its academic and technological infrastructure. At FAMT, the focus was on technological upgrades, particularly in modernizing computer labs with UPS and enhancing digital accessibility.

Upgrading key infrastructure at these higher education institutions aims to foster a more enabling learning environment. Improvements to classrooms and libraries are designed to support effective pedagogy and access to knowledge. Enhanced canteen and common spaces contribute to student well-being and campus community life. Investment in updated technology systems supports digital literacy, blended learning, and administrative efficiency, factors increasingly critical in contemporary education.

By addressing these specific infrastructure challenges, the program helps reduce barriers to academic success and supports institutional goals of holistic student development. The collaboration between FIL and Hope Foundation and Research Centre serves as a practical example of how private sector CSR, when aligned with local needs and implemented in partnership with experienced organizations, can create measurable and sustainable improvements in the higher education ecosystem.


Computer Lab Set up at FAMT, Ratnagiri

Computer Lab at I2IT

# 3. METHODOLOGY

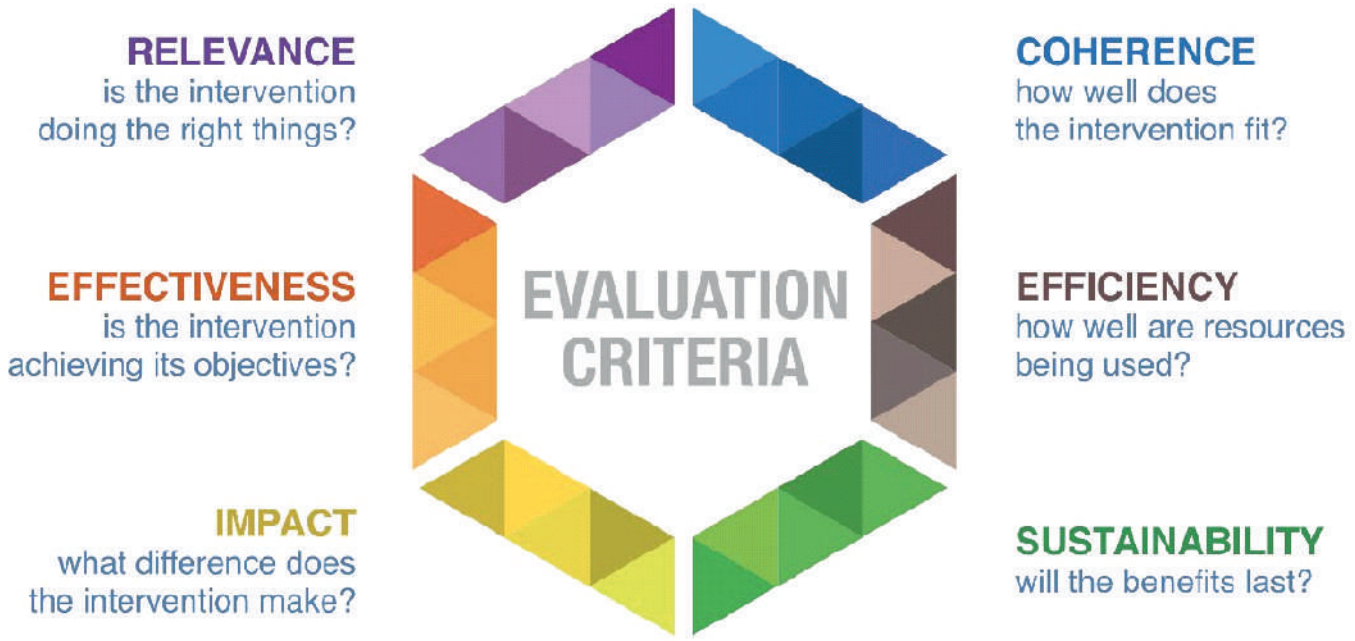
## 3.1 Research Objectives

The impact assessment was designed with the following objectives:

- To evaluate how the academic infrastructure upgrades have benefited the target stakeholders, primarily students and faculty at I²IT, Hinjewadi, Pune and FAMT, Ratnagiri.
- To identify best practices from project implementation that can inform similar future initiatives.
- To suggest actionable recommendations for optimizing infrastructure maintenance and enhancing educational outcomes.

## 3.2 Research Framework

The study employed a qualitative research approach, structured around the OECD-DAC REECIS framework, which evaluates interventions on six criteria: Relevance, Effectiveness, Efficiency, Coherence, Impact, and Sustainability.



## 3.3 Sampling

**A purposive and convenience sampling strategy** was implemented to select key informants and focus group participants who are directly involved with or impacted by the project. Stakeholders were identified based on their roles in institution administration, academic engagement, or community representation to ensure diverse perspectives. The sample comprised:

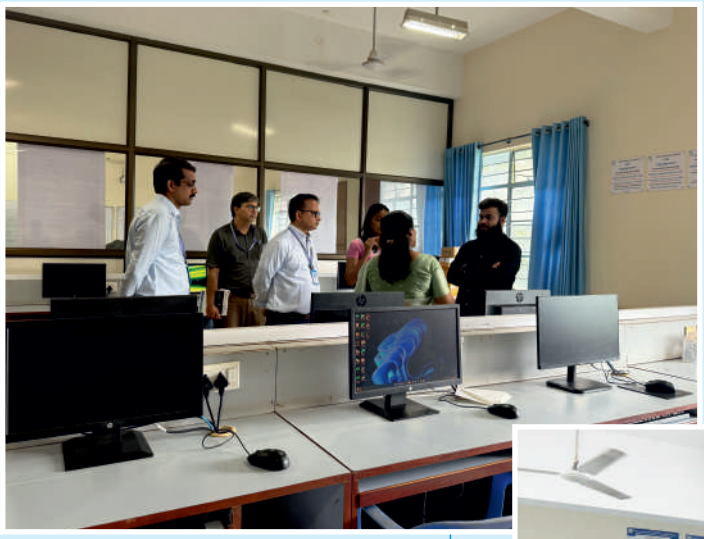
| Stakeholders | Number of Participants |
|---|---|
| Students (Focus-Group) | 2 |
| Principal | 2 |
| HoDs | 10 |
| Registrar | 2 |
| Parents | 5 |
| Trust Representatives | 1 |
| Total | 21 |

## 3.4 Data Collection

The study incorporated two primary methods for data collection, desk research and key informant interviews.

Primary data were collected through **semi-structured Key Informant Interviews (KIIs)** with academic and administrative leaders, including principals, department heads, registrars, wardens, parents, and trust representatives. These interviews aimed to gather detailed insights on project implementation, operational challenges, and institutional benefits from infrastructure upgrades.

**Focus Group Discussions (FGDs)** were conducted with students to gather their perspectives on improvements in academic spaces, library resources, canteen facilities, and technology systems. These discussions provided qualitative evidence on student engagement, satisfaction, and the perceived impact of the enhanced learning environment.



Interactions with students and HODs at FAMT, Ratnagiri

# 4. FINDINGS

## 4.1 Enhanced Academic Environment and Learning Experience

Infrastructure upgrades at I²IT, Hinjewadi and FAMT, Ratnagiri, **transformed the quality of the academic environment and teaching-learning processes.** Before the intervention, both faculty and students reported numerous constraints, including overcrowded classrooms, a shortage of functioning computers, outdated laboratory equipment, and frequent power outages that hampered practical sessions. Interviews with the department heads underscored the frustration caused by a high student-to-computer ratio, system failures, and the inability to integrate advanced tools and simulations into sessions.

*"Earlier, the PC to student ratio was high... Now there are three students per PC. The computers' computing abilities are the backbone. With the increase in intake, previous lab facilities were creating issues. The upgrade was essential from a syllabus perspective as well."* — HOD, I²IT, Hinjewadi.

Following the project, the institutions observed a marked improvement in space utilization, access to digital and physical resources, and participation in hands-on and collaborative activities. New classrooms, upgraded common rooms, well-equipped computer laboratories, and high-speed internet provision enabled more interactive and contemporary pedagogical approaches. Students indicated that the faster, adequately provisioned computer labs have allowed them to complete projects efficiently, collaborate more effectively, and stay engaged in research-oriented and extracurricular activities. Faculty reported a visible shift in the ambition and complexity of student projects. Previously, students faced technical limitations that constrained their ideas. However, with high-performance desktops now in place, they are confidently pursuing more advanced, innovative topics.

A notable example is I²IT hosted an internal Smart India Hackathon (SIH) as part of the national initiative launched by the Ministry of Education and AICTE. In the academic year 2024–25, I²IT served as the nodal center for SIH-2024, where the campus hosted the 45 shortlisted teams and the 5 waitlisted teams came to take part in the Hackathon. In addition to SIH-2024, the upgraded infrastructure has enabled I²IT to consistently host and support various internal and external hackathons. Internal selection rounds have helped prepare students to participate in and win prestigious national-level events, while the campus has welcomed teams from other institutions for 24-hour innovation sprints, showcasing its capacity to host multi-day academic events.

*"It has also helped the students participate in tech events like hackathons… The infrastructure support helped I²IT to host such an activity and host students travelling from other institutes for two days."* — Principal, I²IT, Hinjewadi.

*"After upgradation, things have changed a lot. The lab has become more spacious, better equipped, and technically updated, making it more accessible and comfortable for the students. I often observe them working in the lab late into the evening on projects or exploring new tools out of interest."* — Principal, FAMT, Ratnagiri.

Faculty reported that ICT-enabled classrooms and the introduction of smart projectors expanded the concept of active learning. This improved student interest and attendance, as visual tools enabled quicker explanation of complex concepts and more time for in-class engagement.

*"The projectors provided are smart projectors… The projector shows a QR code and the students are able to scan it and take the quiz."* — Principal, I²IT, Hinjewadi.

Practical time that was previously lost to technical failures or waiting for access is now used productively. Both students' and staff's perception of the college's academic culture improved, fostering higher motivation and retention. Notably, I²IT's enhanced academic environment is reflected in its outcomes; more than 57 students have secured university ranks, a strong indicator of improved teaching quality and academic support post-infrastructure upgrade.

*"Before, many people used the same computers… But now, since there is added storage, they don't delete any files. Many of us have created folders of our name and roll number."* — Student, I²IT, Hinjewadi.

## 4.2 Strengthened Institutional Capacity and Compliance

The project strengthened both institutions' ability to meet regulatory and accreditation benchmarks and increased their administrative agility in adapting to both curriculum reforms and external shocks such as the COVID-19 pandemic. Both I²IT and FAMT reported that enhanced infrastructure was a critical factor in achieving higher NAAC and NBA ratings, enabling increased student intake in key departments and a smooth introduction of new academic programs. At I²IT specifically, enrolment grew steadily, from 1,188 in AY 2022–23, to 1,320 in AY 2023–24, and further to 1,540 in AY 2024–25, highlighting the institution's rising credibility and capacity. I²IT also improved its NAAC accreditation grade from B++ in 2019 to A in 2024, reflecting significant institutional advancement post-infrastructure enhancement.

The administration noted that before these upgrades, compliance gaps existed in lab and classroom space, machine-to-student ratios, and accessibility as outlined by bodies such as AICTE and UGC. With the additional classrooms, high-configuration desktops, and backup power systems, the colleges could expand enrollment, recruit additional faculty, and align with national curriculum mandates (for instance, implementing the practical hour requirements of NEP 2020).

*"With the upgraded infrastructure, we consistently meet compliance standards set by AICTE and have strengthened our eligibility for NAAC and NBA accreditation. This has had a direct impact on the institution's credibility and enrolment capacity."*— Registrar, FAMT, Ratnagiri.

A notable best practice included the use of phased, non-disruptive implementation timed with academic calendars, and active involvement of HODs and staff in needs assessment and planning. Digital tools introduced for classroom management and resource tracking contributed to sustaining new standards and continuous performance monitoring.

*"The planning and execution were well-coordinated... procurement of equipment to the setup of infrastructure was carried out smoothly. Timely completion allowed us to begin using upgraded facilities without disruption."*— Principal, I²IT, Hinjewadi.

However, some challenges persisted, including the slow disbursement of government scholarships and fee restrictions, which required the institutions to leverage CSR resources and maintain flexible budgeting to avoid financial strain or passing costs to students.

## 4.3 Increased Student Satisfaction and Holistic Development

Students and parents widely reported improved satisfaction with both academic and non-academic experiences within the institutions. They highlighted easier access to learning resources, especially computer labs and libraries, improved canteen facilities, and safer, more comfortable common rooms. The positive shift fostered higher levels of attendance, participation in academic clubs and competitions, and students' overall sense of well-being.

Feedback from qualitative interviews documented new opportunities for skill-building (e.g., online add-on courses), group study, and peer learning. Parents observed a noticeable improvement in their children's confidence, self-directed learning, and inclination to pursue technical or research interests. The presence of quality infrastructure was cited as elevating the institutions' standing, drawing positive attention from external stakeholders and boosting word-of-mouth referrals.

*"Initially, I used to go home early, but now, because of the improved facilities, I prefer staying back on campus. We have access to the e-library and external learning platforms. I'm currently attending an online course, and the quality of both the content and the experience is excellent."*- Student, I²IT, Hinjewadi.

*"After the upgrades, the practical are more engaging. Students participate actively, show interest in new software, and are excited to do hands-on activities. Their confidence and focus have definitely gone up."* — HOD, Electronics & Communications, FAMT, Ratnagiri.

*"I've seen good progress in my daughter, not just academically, but also in her confidence and interest in engineering. The college provides a positive environment, updated facilities, and supportive staff, so I would confidently recommend it to others."*— Parent, FAMT, Ratnagiri.

Best practices observed include regular feedback collection via suggestion systems, open-access hours for labs, and participatory approaches to extra-curricular event planning. On the other hand, certain challenges also arose during the transition periods (renovation and setup).

"Yes, the upgrades took place while we were still studying here. Initially, it was a bit messy as some labs were under renovation, and we had to adjust our schedules or use labs from other departments. However, the staff was supportive and managed everything well, so our studies weren't affected too much. Once the new systems and UPS were installed, it genuinely felt like a major upgrade. The transition period was a mix of inconvenience and excitement, but looking back, it was worth it because now the facilities are much better and far more student-friendly."- Student, FAMT, Ratnagiri.

## 4.4 Social Inclusion and Community Confidence

The infrastructural improvements played a critical role in expanding educational opportunities for students from economically disadvantaged and rural backgrounds. At both institutions, a significant proportion of the student body is supported by government scholarships or comes from low-income households. The upgraded campuses, with reliable power, high-speed internet, and open digital access, reduced barriers for these students, who previously faced difficulties in completing assignments or preparing for placements due to a lack of resources at home.

*"The upgrades have significantly improved accessibility for students from low-income backgrounds. With the upgraded labs and reliable infrastructure, these students now have the space to work comfortably without an extra financial burden."* — Principal, I²IT, Hinjewadi.

Feedback from students and parents testified to a more inclusive campus culture, where updated facilities promoted equity and a sense of belonging. With initiatives like scholarship facilitation, flexible payment and emergency funds, and proactive outreach to rural communities, the colleges positioned themselves as accessible, future-ready institutions.

*"We use the common rooms regularly, especially during college fests. They also have carrom boards, and sometimes we just hang out there. For us girls, it has become a safe space. In case we're not feeling well, we can just go there and lie down for a bit."*- Student, I²IT, Hinjewadi.

*"We would confidently recommend this college to others. The kind of improvements and facilities we've seen here... are really helpful for any student who genuinely wants to learn and grow."* — Student, FAMT, Ratnagiri.

Nevertheless, ongoing challenges are also encountered, including the need for further expansion of digital resources, establishing solar power backup for stability, and continuing efforts to reach the most marginalized students.

# 5. ANALYSIS

## RELEVANCE

**Highly Relevant**

*The first criterion in the REECIS framework is to understand how far the program is responding to the needs of the beneficiary group.*

- The project directly addressed major infrastructure gaps in Indian higher education, particularly in semi-urban and rural contexts, as highlighted by UDISE+ 2023–24 and confirmed through stakeholder feedback at I²IT and FAMT.
- Upgrades resolved key challenges such as overcrowded classrooms, inadequate computer labs, and limited digital access, enhancing pedagogy, compliance, and student welfare.
- By improving accessibility for low-income and rural students and aligning with institutional and national education priorities, the intervention was both strategically relevant and socially equitable, offering tailored solutions that balanced practical needs with aspirational academic goals.

## EFFECTIVENESS

**Effective**

*The second criterion in the REECIS framework is effectiveness, which measures the extent to which the intervention achieved or is expected to achieve its objectives, and its results, including any differential results across groups.*

- The intervention effectively achieved its goals, as confirmed by feedback from students, faculty, and administrators, with visible improvements in academic engagement, teaching methods, and administrative efficiency.
- Upgraded classrooms, labs, and internet access enabled hands-on, collaborative learning and timely project completion, boosting participation in activities like hackathons.
- Faculty appreciated ICT-enabled teaching tools, while institutional leaders credited the upgrades for improved regulatory compliance, accreditation readiness, and program expansion. Participatory planning and smooth execution were key factors in the intervention's overall success.

## EFFICIENCY

**Efficient**

*The criterion of efficiency measures the extent to which the intervention delivers or is likely to deliver, results in an economical and timely way.*

- The total project budget was INR ₹1.12 crore for upgradation at two institutions. This funding enabled comprehensive infrastructure upgrades without imposing financial burdens on students.
- The project was executed with high operational efficiency, using a phased implementation approach aligned with academic calendars. This ensured minimal disruption to academic activities while allowing a smooth transition into upgraded spaces.
- Stakeholders praised the effective coordination between the implementation team and college authorities, especially in strategic procurement and timely deployment. CSR funds were targeted toward high-impact areas, and despite challenges like delayed scholarships, the institutions demonstrated strong fiscal responsibility, delivering excellent value for money.

## COHERENCE

**Coherent**

*The fourth criterion in the REECIS framework is coherence. This measures the compatibility of the intervention with other interventions in a country, sector, or institution.*

- The initiative demonstrated strong vertical coherence by aligning with national education priorities, including NEP 2020, Samagra Shiksha, and accreditation standards set by NAAC and NBA, each emphasizing inclusive, digitally enabled, outcome-driven learning.
- Horizontally, the CSR collaboration between FIL and the Hope Foundation effectively complemented institutional strategies through close coordination with leadership, avoiding redundancy and enhancing implementation.
- The project's focus on social inclusion, by improving access for marginalized students, further reinforced its alignment with broader goals of equity and educational access, contributing to a well-integrated and systemically relevant intervention.

## IMPACT

**Strong Impact**

*This criterion measures the extent to which the intervention has generated or is expected to generate significant positive or negative, intended or unintended, higher-level effects.*

- The project created a multi-dimensional impact across academic, institutional, and social levels. On the academic front, improved access to updated labs, internet, and learning spaces led to increased student participation, confidence, and motivation.
- Faculty were able to integrate advanced tools and deliver more interactive content, improving both teaching quality and student outcomes.
- At the institutional level, the project helped bridge accreditation gaps, expanded enrollment capacity, and raised the profile of the colleges, validated by positive word-of-mouth and parent feedback.
- Socially, the improvements fostered inclusion, enabling disadvantaged students to compete on a level playing field.

## SUSTAINABILITY

**Sustainable**

*The criterion of sustainability measures the extent to which the net benefits of the intervention continue or are likely to continue.*

- The sustainability of the project rests on several promising foundations. The use of digital systems for resource tracking and performance monitoring supports ongoing accountability and performance management.
- Feedback mechanisms such as student suggestion systems and open-access lab hours indicate a culture of responsiveness and iterative improvement.
- However, challenges remain, such as ensuring consistent maintenance, expanding renewable energy infrastructure (e.g., solar backup), and addressing scholarship-related financial instability are ongoing needs. To strengthen sustainability, the institutions could consider developing long-term infrastructure maintenance funds or public-private partnerships.

# 6. RECOMMENDATIONS

Based on the assessment of infrastructure upgrades at I²IT and FAMT through the REECIS framework, the following recommendations are proposed to strengthen the long-term impact, replicability, and resilience of educational CSR initiatives:

## 1. Expand Access to Digital Resources and Renewable Power Solutions

To deepen inclusivity and reduce dependency on erratic power supply, it is recommended that both campuses invest in renewable energy sources, particularly solar backup systems, to sustain lab operations and digital classrooms during outages. Additionally, expanding digital resource libraries (e-books, online databases, software simulators) will allow low-income students to continue learning outside institutional hours. Partnering with ed-tech firms or government platforms (e.g., SWAYAM, DIKSHA) could facilitate affordable access to digital content, aligning with NEP 2020's focus on blended learning.

## 2. Scale up of current Student-Centric Feedback Loops and Co-Creation Models

The institutions' current participatory practices, such as feedback channels and open lab hours, are strong foundations that can be scaled further. A structured platform could be established to co-create solutions for academic, infrastructural, and wellness concerns. Regular feedback should be reviewed alongside usage data to guide ongoing improvements. Encouraging student-led initiatives to maintain common spaces or contribute to digital content creation will foster ownership and leadership. This approach also helps develop soft skills and strengthens peer learning ecosystems.

# CONCLUSION

The infrastructural development initiative at I²IT, Pune, and FAMT, Ratnagiri, stands out as a meaningful example of how strategically designed and collaboratively implemented CSR efforts can bridge longstanding gaps in higher education. By responding to critical needs, ranging from digital readiness and classroom modernization to student welfare and accessibility, the project has enhanced both the quality and equity of the academic experience.

The evaluation confirms that the intervention delivered multi-layered benefits: enhancing student learning, increasing institutional capacity for regulatory compliance, and fostering a more inclusive and engaging campus culture. These improvements were not isolated outcomes but the result of context-sensitive planning, stakeholder involvement, and alignment with national education reforms such as the NEP 2020.

Importantly, the project also laid the groundwork for sustained and scalable impact. Its participatory execution model, responsiveness to feedback, and efficient resource use offer a practical roadmap for similar future initiatives, particularly in underserved or semi-urban educational settings.

However, to preserve and build on these gains, continued focus on maintenance, digital expansion, and inclusive outreach will be essential.

Finolex Industries Limited (FIL) has established a strong track record in leveraging its Corporate Social Responsibility (CSR) commitments to address critical gaps in Indian education, health, and community infrastructure. As part of its ongoing mission to improve education quality and equity, FIL partnered with Hope Foundation and Research Centre to implement a targeted infrastructure development project at $I^2IT$, Hinjewadi, Pune and FAMT, Ratnagiri.

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