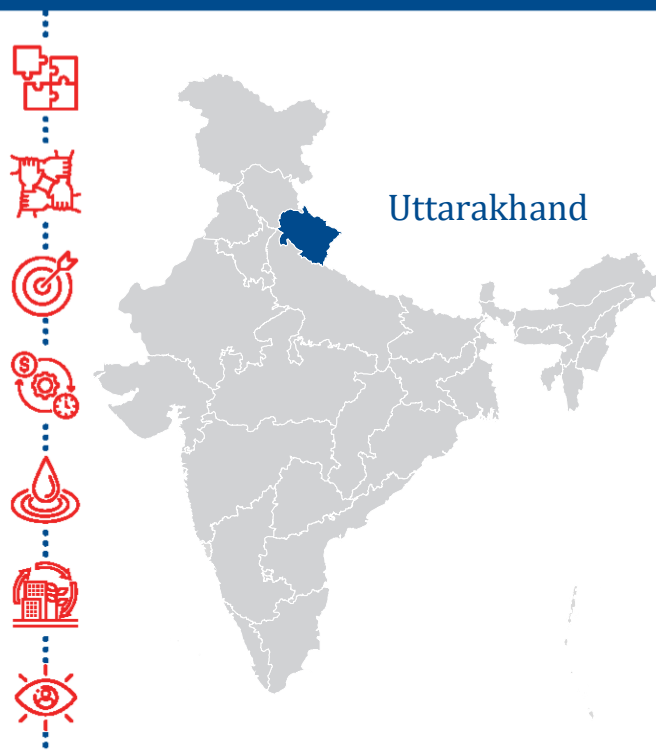
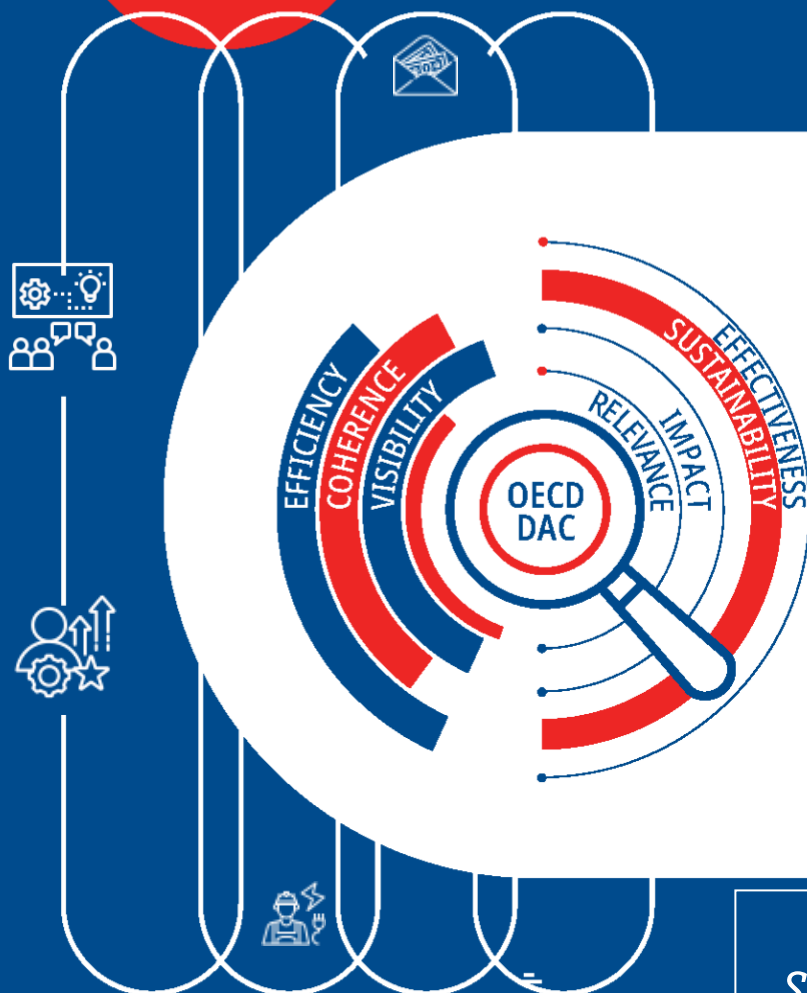




Project P0942
*Strengthening Health Systems Through
Strong Infrastructure*

IMPACT ASSESSMENT REPORT

Towards A Better Tomorrow

FY 2025-26

Executive Summary

Project P0942 (TB Elimination Programme) was implemented across **Uttarakhand** from October to December 2024 under **HDFC Parivartan**. This initiative under HDFC Parivartan aimed to decentralize healthcare by transitioning from bulky traditional equipment to 13 ultra-portable, handheld X-ray units. The project successfully brought diagnostic services to remote "shadow zones" where fixed infrastructure is non-existent.

Location	Duration	Total Beneficiaries Reached	Implementation Partner
Districts across Uttarakhand	1st Oct 2024 – 31st Dec 2024	39,000 individuals	The Medico Devices

OECD Framework Score

Relevance	Coherence	Efficiency	Effectiveness	Impact	Sustainability	Visibility
4.6	4	4.2	3	4	3.8	3.4

OVERALL PROJECT SCORE
(Moderate)

3.1

SDGs



Impact & Achievements

Expanded Access: Reached an estimated 39,000 individuals annually across difficult hilly terrains.

Efficiency Gains: AI-enabled triage reduced turnaround to 24–48 hours, supporting 100–120 screenings per day.

Systemic Relief: Provided bedside diagnostics in ICUs and NICUs, reducing city hospital referrals by 50%.

Targeted Care: Successfully identified "missed cases" in blocks where geographical barriers previously prevented diagnosis.

Recommendations

Clinical Scaling: Upgrade AI software to detect **non-TB conditions** like pneumonia and nodules.

Connectivity: Deploy **Wi-Fi hotspots** to ensure functional triage in network-shadow zones.

Physical Proof: Provide **portable thermal printers** to satisfy rural patients' preference for physical reports over digital-only results.

Project Partnership

The Medico Devices was a technically responsive partner that effectively translated administrative goals into field operations. They maintained rapid support, resolving technical issues within **24-48 hours**. However, re-engagement is contingent on providing **ruggedized hardware** to replace fragile accessories like unstable stands and weak charging pins.

Way Forward

The focus must shift to **financial sustainability** by securing maintenance funds with the State Health Department to cover high post-warranty repair costs (estimated at **₹7.5L**). Additionally, **donor visibility** must be improved by hardcoding logos onto digital reports to bridge the current gap where patients credit other entities for the service.

P0942 – TB Elimination Programme

Impact at a Glance



Diagnostic Service Reach & Expansion

88% of respondents strongly agree that more patients now have access to superior diagnostic services, reaching an estimated 39,000 individuals annually across remote hilly blocks.

Systemic Utility & Reduced Referrals



50% of stakeholders reported a reduction in referrals to distant city hospitals as the portable machines provided critical bedside diagnostic support in ICU, NICU, and emergency wards.

Clinical Turnaround & Screening Efficiency:

AI-enabled triage has reduced diagnostic turnaround times to 24-48 hours, enabling high-volume field screenings of up to 100–120 patients per day in mobile camps.



Service Adequacy & Strategic Alignment

63% of respondents rated the intervention as "Extremely Adequate", noting that the handheld technology is perfectly aligned with the National TB Elimination Program (NTEP) goals for difficult terrains.



SDG Alignment

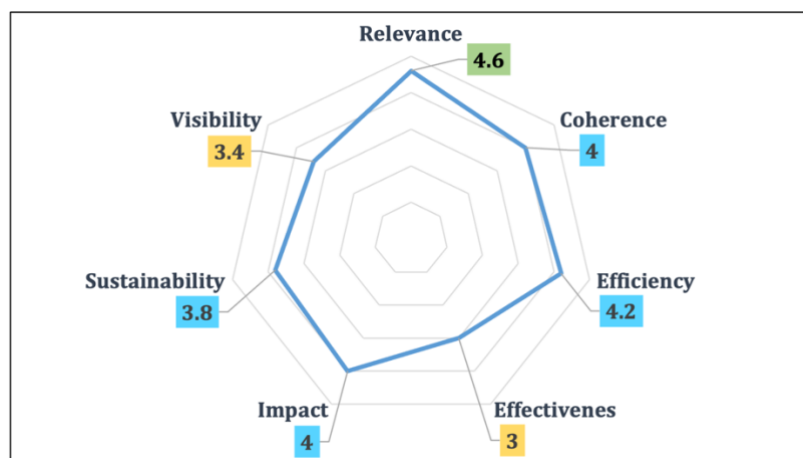
SDG		How the Project Contributes
SDG 3 - Good Health and Well-being		Supports the National TB Elimination Program (NTEP) by providing digital diagnostics to reduce transmission and mortality.
SDG 10 - Reduced Inequalities		Bridges healthcare gaps for hilly populations facing extreme travel and financial barriers to reaching diagnostic centres.
SDG 11 - Sustainable Cities & Communities		Strengthens public health infrastructure, reducing the burden on centralized hospitals through localized screening.
SDG 17 - Partnerships for the Goals		Executes a multi-stakeholder model involving HDFC Bank, the Government of Uttarakhand, and Medico Devices.

Key Achievements

- Decentralization of TB Diagnostics: The "Hospital-to-Patient" Model-** The deployment of 13 Ultra-Portable X-ray machines transformed diagnostic workflows in Uttarakhand. In remote districts, patients previously "wouldn't make it" to the hospital, leading to missed cases. Integrating these handheld units into Mobile Medical Units (MMUs) enabled on-spot screening in blocks like Ramnagar and Kotabagh, identifying patients previously out of reach.
- Overcoming Geographical and Logistical Barriers-** Transitioning from bulky 100mA machines to handheld digital technology solved critical logistical bottlenecks. Technicians highlighted that older portable machines were heavy and new units allow for immediate setup in any environment. The 24–48-hour turnaround allows treatment to start immediately.
- Operational Efficiency and Clinical Versatility-** The intervention is deeply integrated into NTEP workflows. In Haldwani, a dedicated machine for the ambulance prevents equipment swapping waste. Beyond TB, hospitals utilize these machines in ICU and Orthopaedic wards for emergency bedside diagnostics. This ensures assets remain utilized, saving critical minutes for non-TB emergency cases.

FINDINGS

OECD Criteria



LEGEND

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

OECD Impact Assessment

OECD-DAC Criterion	Key Findings
Relevance: 4.6 (Excellent) 	High Local Alignment: 50% of respondents identified the support as a "High Priority" and 50% as "Essential". The handheld design is an "ideal fit" for navigating hilly terrain and reaching immobile populations in remote blocks.
Coherence: 4.0 (Good) 	Strong Systemic Integration: The project is a core tool for the National TB Elimination Program (NTEP). While internal coherence is high, external coherence is moderate (3.38) due to limited coordination with parallel NHM initiatives.
Efficiency: 4.2 (Good) 	Operational Throughput: Teams reported high efficiency, conducting up to 100–120 X-rays per day in urban camps. However, only 50% of interventions were "On Time," with 50% experiencing slight to moderate delays due to hilly logistics.
Effectiveness: 3.0 (Moderate) 	Targeted Outreach: Successfully reached "unreachable" rural populations who previously dropped out of the diagnostic system. 63% of stakeholders agree that cases previously untreated due to infrastructure gaps are now managed.
Impact: 4.0 (Good) 	Transformational Shift: 88% strongly agree that more patients now have access to superior diagnostic services. Beyond TB, the machines provide critical bedside support in ICUs and NICUs, reducing referrals to distant city hospitals.
Sustainability: 3.8 (Good) 	Financial Anxiety: While 63% see adequate measures for continuity, only 13% rate them as "Excellent". Field staff express significant concern over high repair costs (e.g., ₹7.5L for parts) once warranties expire.
Visibility: 3.4 (Good) 	Visibility Gap: A sharp divergence exists; while the Bank sees high visibility via inaugurations, patients consistently credit the Government or NHM for the service.

What worked and What did not work

What Worked Well	What Did Not Work Well
Relevance: Handheld tech was an "ideal fit" for hilly terrain. It reached immobile populations unable to afford travel to district centres.	Visibility: 2.11 visibility score. Patients remain unaware of the donor, often crediting the Government or Apollo instead.
Operational Efficiency: Machines support high-volume screening (up to 120 X-rays/day). AI integration reduced bottlenecks like registration queues.	Accessory Durability: Current stands are not heavy-duty enough, causing machines to fall. Charging pins bend easily.
Coherence: Strong synergy with government Nikshay portals and treatment protocols. Positive cases enter the protocol for free medication immediately.	Technical Barriers: Battery life falls short of daily camp targets by 2-3 hours . Poor network in hills slows AI processing.
Vendor Responsiveness: Medico Devices was exceptionally cooperative, ensuring smooth installation and proactive documentation management.	Sustainability Confidence: Deep field-level anxiety regarding high repair costs (e.g., ₹7.5L for parts) once warranties expire.

Recommendations-

1. **Technological Versatility and Connectivity:** Upgrade AI software to detect non-TB conditions (pneumonia, nodules) to increase value for general hospital staff. Deploy Wi-Fi hotspots for "shadow zones" to ensure the **24-48 hour triage** remains functional everywhere.
2. **Post-Warranty AMC Transition:** Formalize maintenance funds with the State Health Department to address the **₹7.5L repair cost** threat.
3. **Enhanced Visibility:** Hardcode the donor logo onto digital reports and films, ensuring visibility during the **88% diagnostic interaction** rate.
4. **Physical Report Facilities:** Provide portable thermal printers for the **100+ daily screenings**; rural patients often distrust digital-only results.

Key Impacts and Evidence of Change

Key Impact	Evidence of Change
Environmental Access & Clinical Turnaround	Replacing traditional units with handheld digital technology brought diagnostics to the doorstep in remote blocks like Ramnagar. 88% of stakeholders strongly agree that more patients now receive diagnostic services. This led to a measurable increase in sputum collection and early TB identification.
Technological Efficiency & AI Integration	AI-enabled triage results are available within 24-48 hours . Technicians report high throughput of 60-120 X-rays per day in field settings. 63% of administrators agree that cases previously left untreated are now being addressed.
Systemic Healthcare Strengthening	Machines are used for bedside diagnostics in ICUs and NICUs. 50% of stakeholders noted a decrease in referrals to distant city hospitals because diagnostics are available locally.
Sustainability & Visibility Realities	Field data reveals a "visibility-reality gap" where patients credit other partners. While an exit strategy exists, staff express anxiety regarding long-term maintenance costs exceeding ₹7.5L post-warranty.

Implementation Partner Efficiency: The Medico Devices

P0942 The Medico Devices	The Medico Devices proved to be a technically responsive and diligent partner throughout Project P0942. They were highly effective at bridging the gap between administrative needs and actual field execution. Based on their ability to meet deadlines and provide rapid support, re-engagement is recommended for future projects, assuming specific hardware durability and connectivity upgrades are addressed.
What worked	• Administrative & Technical Alignment: Successfully translated complex project requirements into functional operations. • Operational Diligence: Consistently met all documentation deadlines. • Rapid Support: Maintained a high standard of service, resolving technical issues within a 24 to 48-hour window. • Clinical Versatility: The handheld technology was a standout success, providing essential flexibility for clinicians in high-stakes environments like ICUs and NICUs.
What did not work	• Hardware Fragility: Accessories did not hold up to field use; specifically, unstable stands and weak charging pins caused issues. • Lack of Ruggedization: The equipment was not sufficiently durable for the rigors of mountain terrain. • Connectivity Gaps: The system struggled in "network-shadow zones," highlighting a need for offline AI solutions to maintain functionality without a constant signal.

Impact Story

"The biggest heartache was seeing people never show up. They didn't stay away because they weren't sick; they stayed away because the mountains are tall and the cost of the journey often outweighs the hope of a cure." - Staff Member, Haldwani TB Clinic

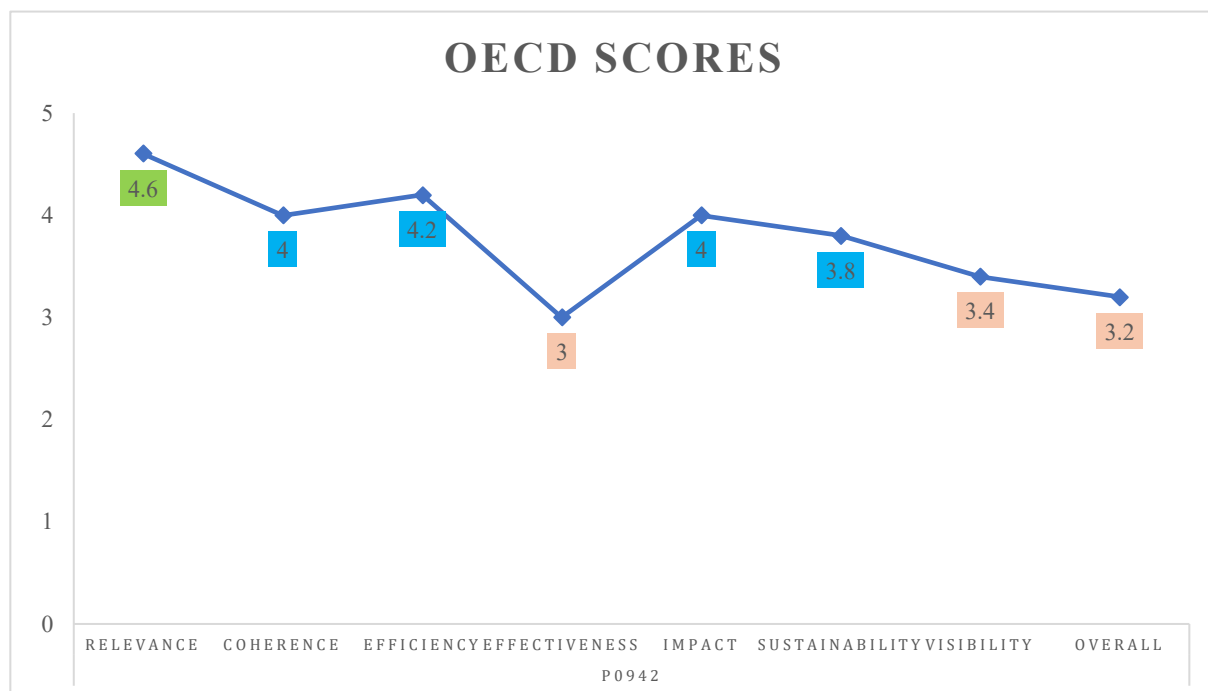
In the steep, mountainous terrain of districts like Bageshwar and Pithoragarh, geography was once the greatest obstacle to TB elimination. For villagers in remote blocks, a diagnosis required a day-long trek and expensive private transport to reach the nearest district hospital. Faced with these physical and financial barriers, many chose to hide their symptoms, becoming "missed cases" who unknowingly continued the cycle of transmission within their communities.

The deployment of ultra-portable X-ray machines has fundamentally shifted this dynamic by establishing a **"Hospital-to-Patient"** model. These handheld units, small enough to be transported in a suitcase, allow medical teams to navigate narrow roads and reach "shadow zones" where fixed infrastructure is non-existent. In blocks like Ramnagar and Kotabagh, what were once quiet village squares have been transformed into active screening camps, or "Mini Travel Hospitals," capable of conducting up to **100-120 X-rays in a single day**.

The clinical impact of this portability is driven by speed. By integrating digital technology and AI-enabled triage, the teams provide diagnostic results within **24 to 48 hours**. This eliminates the need for multiple trips to the city; a patient can be screened, identified as a "suspect," and have their sputum collected on the spot. For many, this has meant the difference between a worsening illness and the immediate initiation of life-saving treatment.

Beyond TB diagnostics, the machines have shown remarkable versatility, being rushed into **ICUs, NICUs, and emergency wards** for bedside diagnostics when every minute counts. By removing the struggle of travel for the sick and elderly, the project has ensured that advanced healthcare is no longer a destination to be reached, but a service delivered directly to the doorstep of those who need it most.

Annexure



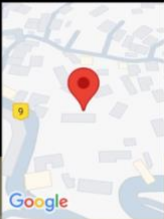
Relevance	Coherence	Efficiency	Effectiveness	Impact	Sustainability	Visibility	Score
4.6	4	4.2	3	4	3.8	3.4	3.2

LEGEND

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

Photos from the Field





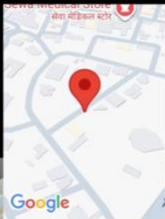


29/11/2025 09:31

H6M7+MW5, near TB Hospital,
Tildhukari, Pithoragarh, Uttarakhand
262501, India

9°C
clear sky

Lat : 29.583941 Long : 80.215202





26/11/2025 10:35

X9CX+5X2, Kichha Rd, Rudrapur,
Uttarakhand 263153, India

20°C
clear sky

Lat : 28.970562 Long : 79.399843



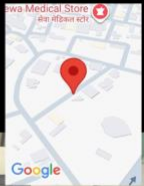


24/11/2025 15:01

NH 72, Chakrata Rd, Jhajra,
Dehradun, Uttarakhand 248015,
India

21°C
clear sky

Lat : 30.342683 Long : 77.910103

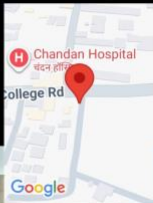




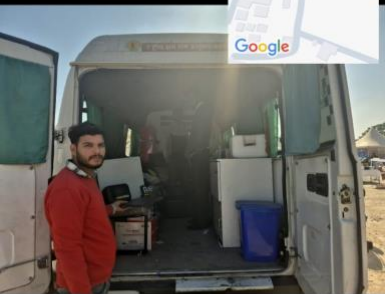
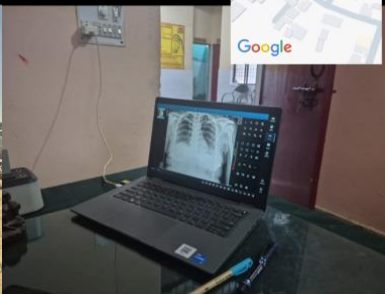

24/11/2025 14:12
22°C
clear sky
NH 72, Chakrata Rd, Jhajra, Dehradun, Uttarakhand 248015, India
Lat : 30.342684 Long : 77.910103

26/11/2025 10:36
20°C
clear sky
Blood Bank, NEAR, Rudrapur, Uttarakhand 263153, India
Lat : 28.970469 Long : 79.399970

26/11/2025 12:42
23°C
clear sky
6G8.J+725, Base Hospital Rd, Mangal Parao, Banbhoolpura, Haldwani, Uttarakhand 263139, Ind...
Lat : 29.215644 Long : 79.529991






26/11/2025 13:04
23°C
clear sky
Durga City Center, Near, Nawabi Rd, Bhotia Parao, Haldwani, Uttarakhand 263139, India
Lat : 29.231886 Long : 79.529294

29/11/2025 16:13
19°C
clear sky
216, Tanakpur, Gayan Khera, Uttarakhand 262309, India
Lat : 29.070221 Long : 80.115527

29/11/2025 16:14
19°C
clear sky
216, Tanakpur, Gayan Khera, Uttarakhand 262309, India
Lat : 29.070217 Long : 80.115529

CSRBOX & NGOBOX

A-404-405, SWATI TRINITY

Applewood Township, SP Ring Road,
Shela Ahmedabad, Gujarat 380058