



IMPACT ASSESSMENT REPORT

DESH BANDHU JAN UTKARSH PARIYOJANA (DBJUP)
INTEGRATED LIVELIHOOD ENHANCEMENT

IMPLEMENTATION YEAR: FY 2023 - 2024

ASSESSMENT YEAR: FY 2025 - 2026



SOULACE CONSULTING PVT. LTD.

IMPLEMENTED BY

Lupin Human Welfare & Research
Foundation (LHWRF)

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BBREVIATIONS

LUPIN

ANM	Auxiliary Nurse Midwife
BPL	Below Poverty Line
CSR	Corporate Social Responsibility
DBJUP	Desh Bandhu Jan Utkarsh Pariyojana
FGD	Focus Group Discussion
FPO	Farmer-Producer Organisation
HDPE	High-Density Polyethylene
KII	Key Informant Interview
KVK	Krishi Vigyan Kendra
LHWRF	Lupin Human Welfare & Research Foundation
MIS	Management Information System
NGO	Non-Governmental Organisation
OBC	Other Backward Classes
OECD-DAC	Organisation for Economic Co-operation and Development - Development Assistance Committee
PRI	Panchayati Raj Institution
SC	Scheduled Caste
SDG	Sustainable Development Goal
SHG	Self-Help Group
SROI	Social Return on Investment
ST	Scheduled Tribe

EXECUTIVE SUMMARY

PROJECT BACKGROUND

The Desh Bandhu Jan Utkarsh Pariyojana (DBJUP), implemented by the Lupin Human Welfare & Research Foundation, is a focused effort to reduce longstanding livelihood vulnerabilities among marginalised rural communities in Maharashtra and Rajasthan. During FY 2023-24, the initiative reached 800 households across 59 villages spanning four districts—Dhule and Pune in Maharashtra, and Bharatpur and Alwar in Rajasthan.

The program recognised that rural poverty stems from multiple, mutually reinforcing constraints, including limited water access, low agricultural productivity, inadequate livestock assets, insufficient technical skills, and restricted market linkages. Accordingly, DBJUP adopted an integrated, multi-model approach designed to simultaneously address agricultural intensification, livestock development, skill enhancement, and enterprise promotion.

PROJECT DETAILS



Implementation year

FY 2023-24



Assessment year

FY 2025-26



Total Beneficiaries

800 Families (Intervention)



Project Location

59 Villages across 11 Blocks



Assessment Location

Dhule & Pune Districts (Maharashtra); Bharatpur & Alwar Districts (Rajasthan)



Total Budget

₹5.03 Crores



Implementing Partner

Lupin Human Welfare & Research Foundation (LHWRf)



Assessment Sample

260 Intervention Households + 100 Control Households

MODEL-WISE BENEFICIARY DISTRIBUTION

Model	Dhule	Pune	Bharatpur	Alwar	Total
Model 1: Irrigated Farming with Poultry	62	0	0	0	62
Model 2: Irrigated Farming with Goat Rearing	146	59	43	33	281
Model 3: Cattle Induction & Dairy Development	10	66	95	82	253
Model 4: Skill Development & Non-Farm Enterprise	6	5	40	0	51
Model 5: Farm-Allied Enterprise Promotion	26	20	22	85	153
Total	250	150	200	200	800

PROJECT ACTIVITIES: FIVE INTEGRATED LIVELIHOOD MODELS

Model 1: Irrigated Farming with Poultry (62 families, Dhule)

- Irrigation support through well deepening, borewells, pipelines, and drip systems
- Vegetable cultivation with quality seeds, bio-pesticides, and vermicompost
- Backyard poultry with cages, chicks, feed, and vaccination support
- Comprehensive training on irrigation, organic farming, and poultry management

Model 2: Irrigated Farming with Goat Rearing (281 families across all districts)

- Irrigation infrastructure with HDPE pipes, drip systems, and sprinklers
- Vegetable cultivation with seeds, crates, bio-inputs, and spray pumps
- Goat rearing: 4+1 Sirohi/Osmanabadi units with sheds, feed trays, and insurance
- Vermicompost support for sustainable soil health

Model 3: Cattle Induction & Dairy Development (253 families across all districts)

- High-yielding Murrah buffalo provision with insurance coverage
- Green fodder seeds, cattle mats, and milk collection cans
- Cattle shed construction support with tin sheets and local materials
- Comprehensive dairy training, vaccination, and vermicompost support
- Second milch animal support in Year 2 for scale-up

Model 4: Skill Development & Non-Farm Enterprise (51 families, primarily Bharatpur)

- Advanced artisan toolkits for marble sculpture and craft production
- Structured skill training (3-15 days) with certification
- Enterprise infrastructure support, including inverters and workspace
- Market linkage development and business mentoring

Model 5: Farm-Allied Enterprise Promotion (153 families across all districts)

- Backyard poultry with 300 chicks (phased), cages, feeders, and feed
- Goat rearing: 4+1 units with sheds, insurance, and vaccination
- Integrated training on dual enterprises for landless/marginal families
- Quick-return income opportunities alongside asset-building livestock

ALIGNMENT WITH SUSTAINABLE DEVELOPMENT GOALS



ALIGNMENT WITH GOVERNMENT INITIATIVES

- PM Vishwakarma Yojana
- National Livestock Mission
- Pradhan Mantri Krishi Sinchayee Yojana
- Paramparagat Krishi Vikas Yojana
- National Rural Livelihood Mission
- Deen Dayal Antyodaya Yojana

FOCUS GROUP DISCUSSION WITH THE CONTROL GROUP, PUNE, MAHARASHTRA



KEY FINDINGS AND IMPACT

MODEL 1: IRRIGATED FARMING WITH POULTRY (N=15)

KEY FINDINGS

**86.7%**

of model 1 beneficiaries adopted two or more crop cycles due to assured irrigation, enabling a shift from mono-cropping to multi-season cultivation.

**100.0%**

of beneficiaries experienced improved irrigation access, with 40% achieving year-round water availability.



Beneficiaries adopted vegetable cultivation, generating regular cash flow, improving nutrition, and increasing women's participation.

**100.0%**

adoption of backyard poultry created a stable supplementary income source, largely managed by women.

**93.3%**

of households moved into the ₹80,000–1.2 lakh income bracket, with complete exit from the less than ₹50,000 category. With an average absolute increase of ~**₹1,34,425**.

**100.0%**

elimination of household debt was observed post-intervention.

**60.0%**

of households adopted soil testing, alongside widespread uptake of improved crop and livestock management practices.

**60.0%**

of households strengthened institutional linkages through access to government schemes.

**80.0%**

of households reported a shift towards joint decision-making in farming activities.

KEY IMPACTS

**40.0%**

of households recorded crop yield gains above 10%, while 13.3% achieved increases exceeding 25%.

**3.9 Tonnes**

was reported to be the average vegetables production by farmers annually.

**100.0%**

of households earned additional annual income from poultry, with over 50% earning above ₹10,000.

**100.0%**

of trained households reported improved production practices and reduced input wastage.

**33.3%**

of households achieved annual income gains exceeding ₹40,000.



**BENEFICIARY INTERACTION
AT SHIRPUR, DHULE,
MAHARASHTRA**

MODEL 2: IRRIGATED FARMING WITH GOAT REARING (N=80)**KEY FINDINGS****75.0%**

of households shifted from single or no crop to two or more crop cycles annually.

**92.5%**

adoption of vegetable cultivation, expanding beyond subsistence levels.

**₹49,750**

was reported to be the average income from vegetable cultivation by farmers.

**98.8%**

adoption of goat rearing, supported by improved animal health services and high survival rates.

**65%**

of households earned Rs 10,000 to Rs 30,000 annually from goatery, while 25.0% reported earning more than Rs 25,000.

**95.0%**

of households saved ₹5,000+ annually, up from 22.5%.

**90.0%**

of households crossed the ₹80,000 income threshold, out of which 60% exceeded ₹1.2 lakh annually.

**95.0%**

of households became debt-free, with over 50% of remaining indebted households reducing loans by more than ₹15,000

**85.0%**

of households accessed government schemes, up from 25%.

KEY IMPACTS



Irrigation access improved substantially, reducing non-irrigated households from 35% to 1.3% and increasing year-round irrigation coverage to 38.8%.



96.3% of households expanded cultivable area, bringing additional land (up to 0.5 ha or more) under productive use.



55.0% of households adopting scientific practices, including soil testing, improved seeds, and multiple PoP interventions.



80.0% of households cultivated two or more crops annually.



66.2% of households reported joint decision-making in farming, alongside increased women's independent participation.



68.8% of households are actively engaged in knowledge sharing and peer learning.

MODEL 3: CATTLE INDUCTION & DAIRY DEVELOPMENT (N=95)**KEY FINDINGS****64.2%**

of households owned three or more cattle post-intervention, up from 2.1%, indicating substantial herd strengthening and asset creation.

**54.7%**

of households achieved adequate or year-round green fodder availability, with zero-availability fully eliminated.

**91.6%**

of households adopted improved fodder varieties and received training, reducing dependence on external fodder purchases and mitigating seasonal feed scarcity.

**100.0%**

of households gained access to veterinary services, with 90%+ receiving at least one visit and 83.2% completing cattle insurance.

**83.2%**

of households sold milk daily, while 93.7% received prices above ₹40 per litre, reflecting improved and more remunerative market access.

**57.9%**

of households reported increased household milk consumption, indicating improved nutritional security.

**96.8%**

of households expressed satisfaction with programme implementation and timely asset handover.

KEY IMPACTS

**96.3%**

of households produced more than 6 litres of milk per day post-intervention, with 42.1% exceeding 10 litres per day and 43.2% yielding between 6 and 10 litres.

**100.0%**

of households achieved moderate-to-good technical competence in cattle management, with high adoption of vaccination, deworming, and improved housing practices.

**41.1%**

of households reported monthly input cost savings of ₹500–1,000 per month through fodder cultivation, alongside 54.7% reporting significant improved animal health and productivity due to the availability of fodder.

**₹1,01,688**

was reported to be the average income from dairy farming.



Declines in cattle morbidity and mortality were observed due to improved veterinary care, insurance coverage, and systematic monitoring.



Most households diversified livelihoods by adding two to three income sources, strengthening income stability and resilience.

MODEL 4: SKILL DEVELOPMENT & NON-FARM ENTERPRISE (N=30)

KEY FINDINGS

**73.0%**

of households crossed the ₹1.2 lakh annual income threshold, with 50% exceeding ₹1.8 lakh. A major shift from the pre-intervention where 46.7% earned below ₹80,000.

**Rs. 1,67,010/-**

was reported to be the average annual income by the beneficiaries.

**86.0%**

of households added one or more new income sources, strengthening income diversification.

**66.7%**

of households saved between ₹5,000-₹10,000 (46.7%) and >₹15,000 (20.0%) annually, overcoming previous limitations where 63.3% saved only ₹500 to ₹2,000 monthly.

**96.7%**

of beneficiaries reported timely and effective programme delivery.

KEY IMPACTS

**93.1%**

of households engaged in artisan activities reported improved product quality, and 69.0% noted a reduction in their production time.

**93.0%**

of households reported moderate to high improvement in livelihood resilience, alongside reduced dependence on wage labour and migration.

**90.0%**

of households experienced moderate to significant reductions in financial vulnerability.

**83.3%**

of beneficiaries obtained formal certification, strengthening market credibility and enabling linkages with government schemes such as the PM Vishwakarma Yojana.



The majority of beneficiaries reported improved product quality, faster production cycles, better prices, and expanded market access, including urban markets.

MODEL 5: FARM-ALLIED ENTERPRISE PROMOTION (N=40)

KEY FINDINGS


97.5%

of the beneficiary households now rear poultry units of 100–300 birds annually.


35.0%

post-intervention earned ₹25,000–₹35,000 and 20.0% exceeded ₹35,000 annually from poultry, whereas 81.3% earned less than ₹3,000 pre-programme.


100.0%

goat ownership was achieved, up from 37.5%, with 60% now rearing more than five goats.


65.0%

of households earned above ₹10,000 to ₹20,000 annually from goatery, specifically 40.0% earning ₹10,000 to ₹20,000 and 25.0% earning more than ₹20,000.


90.0%

of households reported moderate to significant improvements in feeding, vaccination, and animal health management.


87.5%

observed moderate to significant reductions in mortality due to training and strengthened veterinary linkages.


100.0%

of households saved more than ₹5,000 annually, compared to 30% reporting no savings pre-intervention.


90.0%

of households reported moderate to high livelihood resilience, reflected in reduced migration, lower indebtedness, and improved food security

KEY IMPACTS

**80.0%**

of households now maintain two or more income sources, indicating improved livelihood diversification.

**92.5%**

of households reported moderate to significant capacity to meet routine and contingency expenses.

**80.0%**

of households accessed at least one livestock-related government scheme post-intervention.

**97.5%**

of households reported more stable incomes; 82.5% increased savings; 65% reduced dependence on daily wage labour; and 35% reduced outstanding debt.

**100.0%**

of households rated their livelihoods as moderately to highly stable, with 70% reporting high stability and 30% moderate stability.



No seasonal migration was reported post-intervention, whereas it was 10% before intervention.



**INTERACTION WITH MODEL
5 BENEFICIARY AT SAKRI,
DHULE, MAHARASHTRA**

SROI SUMMARY TABLE

SUMMARY

Model	Description	HHs	Net Value (Yr 1)	NPV (5-Yr)	Investment	1-Yr SROI	5-Yr SROI
Model 1	Irrigation + vegetable + Poultry Unit	62	₹85,32,603	₹2,24,97,893	₹36,36,782	2.35:1	6.19:1
Model 2	Irrigation + Vegetable + Goat Rearing	281	₹4,46,08,742	₹15,34,80,749	₹1,60,66,667	2.78:1	9.55:1
Model 3	Dairy Development	253	₹3,11,95,600	₹11,00,42,357	₹1,19,09,000	2.62:1	9.24:1
Model 4	Enterprise Development	51	₹24,43,997	₹53,78,350	₹13,69,000	1.79:1	3.93:1
Model 5A	Backyard Poultry	109	₹81,95,985	₹2,66,58,476	₹36,96,000	2.22:1	7.21:1
Model 5B	Goat Rearing	44	₹40,88,304	₹1,41,18,286	₹40,66,000	1.00:1	3.47:1
TOTAL		800	₹9,90,65,231	₹33,21,76,111	₹4,07,43,449		

Note: HHs: Households, NPV: Net Present Value, SROI: Social Return on Investment

Metric	Value
Aggregate One-Year SROI	2.43
Aggregate Five-Year SROI	8.15

CHAPTER 1

INTRODUCTION



Beneficiary with livestock support (cattle)

BACKGROUND AND NEED OF THE PROJECT

India's rural economy constitutes 46% of the national income^[1], faces persistent structural challenges that perpetuate poverty and vulnerability among smallholder farming communities. Despite agricultural growth, approximately 68.8% of rural households depend on agriculture as their primary livelihood source, with over 86% classified as small and marginal farmers owning less than 2 hectares of land. These structural constraints are compounded by climate variability, degraded natural resources, limited irrigation access, and inadequate market linkages, constraining income generation and perpetuating intergenerational poverty cycles. Scheduled Tribe (ST) and Scheduled Caste (SC) communities, constituting 8.6% and 16.6% of India's population, respectively, experience disproportionate livelihood vulnerabilities.

Tribal households, predominantly concentrated in resource-scarce rainfed regions with fragmented landholdings, limited irrigation infrastructure, and geographic isolation, face systemic exclusion from mainstream development opportunities.

OBJECTIVES OF THE PROJECT



Establish year-round irrigation (borewells, pumps, drip/sprinklers) to enable crop intensification, targeting $\geq 60\%$ households with assured water access.



Promote commercial vegetable cultivation for 250+ households through inputs, training, and market linkages.



Provide 400+ households with goats/buffaloes, veterinary and fodder support to generate ₹8,000–12,000 monthly dairy income and long-term asset accumulation.



Skill and enterprise upgradation of 51 artisan households with toolkits and market access to increase monthly income and shift to self-employment.



Build multi-source livelihood portfolios, enabling households to secure 2–4 income streams for year-round cash flow and climate resilience.



Strengthen women's asset ownership and income control, targeting women with enhanced decision-making and livelihood management roles.



Facilitate convergence with government schemes and market institutions to ensure sustained post-project income and service access.

STAKEHOLDER INTERACTION, IN PUNE, MAHARASHTRA



CHAPTER 2

RESEARCH METHODOLOGY



Beneficiary Interaction in Pune, Maharashtra

RESEARCH METHODOLOGY

The impact assessment study adopted a comprehensive mixed-methods strategy, blending quantitative and qualitative approaches to offer a more intricate understanding of the project's impact. This combination allowed for the acquisition of both numerical data and detailed contextual insights, resulting in a more comprehensive evaluation of the project's outcomes.

APPLICATION OF QUANTITATIVE TECHNIQUES

In the quantitative aspect, the study utilised structured interviews featuring predetermined response options. Closed-ended surveys included specific questions with multiple-choice or Likert-scale options. This approach facilitated the collection of data that could be quantified and statistically analysed, offering a clear and measurable understanding of the project's impact.

APPLICATION OF QUALITATIVE TECHNIQUES

To ensure accuracy and a diverse participant pool, a mix of semi-structured interviews, open-ended interviews, and Focus Group Discussions (FGDs) engaged essential project stakeholders, including beneficiary households, community leaders, Self-Help Group (SHG) members, field-level implementing staff, block-level project coordinators, and representatives of the implementing organisation (LHWRF). These qualitative inputs complemented the quantitative data, providing deeper insights into program effectiveness, significant barriers, challenges, and areas for enhancement.

ENSURING TRIANGULATION

The quantitative research findings were cross validated with the insights derived from the qualitative research. The report was structured to reflect this triangulation, enhancing the reliability and robustness of the findings.

STANDARDISED FRAMEWORK FOR EVALUATION

The research study applied the OECD-DAC framework for evaluation, ensuring alignment with globally accepted standards and norms. This framework offered a strong and uniform method to evaluate the project's impact, bolstering the credibility and relevance of the research findings.



DESIGN SNAPSHOT



Name of the project

Desh Bandhu Jan Utkarsh Pariyojana (DBJUP) – Livelihood Programme



Implementing organisation

Lupin Human Welfare & Research Foundation (LHWRF)



Research design

Descriptive and Interpretive research design



Sampling technique

Purposive Sampling



Sample size

Primary survey of beneficiary households across four project districts



Qualitative Methods used

Case Studies, Testimonials and Focus Group Discussions (FGDs)

KEY STAKEHOLDERS



PROJECT BENEFICIARY HOUSEHOLDS



COMMUNITY LEADERS AND SHG REPRESENTATIVES



FIELD AND BLOCK-LEVEL PROJECT STAFF OF LHWRF

SAMPLING FRAMEWORK

In order to ensure a well-rounded representation of the different sub-groups within the target population, the study employed a stratified random sampling technique. Additionally, for qualitative interactions, purposive sampling was utilised to engage key stakeholders.

Stratified random sampling is a method that involves dividing the population into distinct subgroups and then randomly selecting samples from each subgroup to ensure representative diversity in the study.

Purposive sampling is a method in research where specific individuals or groups are deliberately chosen for inclusion in a study based on their unique characteristics or expertise, to provide targeted and specialised insights into the research topic.

The sampling framework is illustrated below:

STATE	DISTRICT	MODEL 1	MODEL 2	MODEL 3	MODEL 4	MODEL 5	CONTROL GROUP	TOTAL
Maharashtra	Dhule	15	26	8	5	9	29	92
	Pune	-	25	35	3	8	24	95
Rajasthan	Alwar	-	21	30	-	15	28	94
	Bharatpur	-	8	22	22	8	19	79
Total	-	15	80	95	30	40	100	360

INTRODUCTION TO THE SROI ANALYSIS

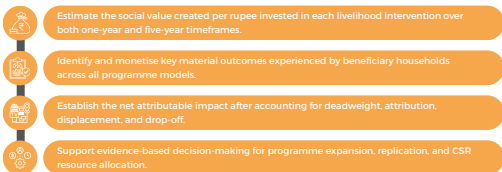
This Social Return on Investment (SROI) analysis has been undertaken to assess the social and economic value generated by the livelihood interventions implemented under the DBJUP Livelihood Enhancement Programme during FY 2023-24. The programme encompassed multiple livelihood models—including Dairy Development, Poultry and Goat Rearing, Enterprise Development, and Skill Training initiatives—supporting rural households across Bharatpur, Alwar, Pune, and Dhule districts.

The SROI assessment builds upon programme monitoring data collected during field assessments and applies an outcome-focused valuation framework to estimate the social value created relative to the investment made. The analysis follows the principles of SROI methodology established by Social Value UK, including stakeholder involvement, outcome materiality, transparency of assumptions, and conservative attribution of impact.

The SROI has been designed as a project-level analysis, capturing both one-year retrospective outcomes and five-year projected outcomes with appropriate discounting and drop-off assumptions. This dual timeframe approach provides both immediate impact evidence and a long-term value perspective for programme evaluation and strategic decision-making.

PURPOSE AND OBJECTIVES OF THE SROI

The primary purpose of this SROI analysis is to:



Specific objectives include:



SROI METHODOLOGY FRAMEWORK

This analysis follows the five-phase SROI framework established by Social Value UK, adapted to Indian CSR and livelihood programme requirements. The framework ensures systematic, transparent, and evidence-based assessment of social value creation.

Phase 1: Establishing Scope and Identifying Stakeholders

This phase defines project boundaries, geographic coverage, assessment period, and stakeholder groups directly affected by programme interventions. For each livelihood model, the scope encompasses the specific intervention components, target beneficiary households, implementation geography across Bharatpur, Alwar, Pune, and Dhule districts, and the FY 2023-24 assessment period.

Phase 2: Mapping Outcomes

This phase documents the chain of interventions, inputs, outputs, and monetisable outcomes based on programme monitoring data and beneficiary assessment records. For each model, outcome mapping captures the logical progression from programme activities to measurable changes experienced by beneficiary households, ensuring that only material and evidenced outcomes are included in the valuation. The purpose of Outcome Mapping is to map the logical pathway through which the intervention generates change for stakeholders. This phase establishes a clear cause-and-effect relationship between project inputs, activities, outputs, and outcomes, forming the analytical foundation for evidencing and valuation in subsequent phases. Consistent with SROI methodology, this phase focuses on identifying material outcomes, differentiating tangible and intangible outcomes, and clarifying who experiences change and how. No monetary values, assumptions, or deductions are applied at this stage.

Phase 3: Evidencing Outcomes and Assigning Value

This phase involves quantifying outcome indicators, selecting appropriate financial proxies or market-based valuations, and justifying the conservatism of valuation approaches. All monetary valuations are grounded in field data, local market rates, and verifiable programme records. Where multiple valuation approaches exist, the more conservative approach is adopted to ensure the credibility of SROI estimates.

Phase 4: Establishing Impact

This phase applies the following deductions to calculate net attributable social value:

- **Deadweight:** Proportion of outcomes that would have occurred without the programme intervention
- **Attribution:** Proportion of outcomes attributable to other actors or external factors
- **Displacement:** Negative consequences occurring elsewhere as a result of programme activities.
- **Drop-off:** Rate of declining benefits over time for projected outcome periods.

Conservative estimates for each deduction factor are applied based on field evidence, stakeholder feedback, and established SROI practice to ensure that impact claims remain credible and defensible.

Phase 5: Calculating the SROI

This phase computes the ratio of total net social value to total project investment, yielding quantitative returns expressed as rupees of social value generated per rupee invested. The SROI ratio is calculated for both:

- One-Year Actual SROI: Retrospective assessment of social value generated during the FY 2023-24 programme period.

1 Year SROI = Net Present Value of Year 1 Outcomes / Total Investment

- Five-Year Projected SROI: Forward-looking estimate accounting for benefit continuation, drop-off rates, and appropriate discounting.

Discounting and Present Value

Future benefits are discounted to present value using appropriate discount rates as per specific, standard practice in social impact assessment in India. The discount factor for each year is calculated as:

$$\text{Discount Factor} = 1 / (1 + r)^n$$

Where r = discount rate and n = year number minus one.

This approach recognises the time value of money, reflecting that benefits received in future years are worth less than equivalent benefits received today.

Calculation Methodology

Year 1: Net value as calculated in a one-year retrospective analysis

Year 2: Year 1 value $\times$ (drop-off) $\times$ (discount factor for Year 2)

Year 3: Year 1 value $\times$ (drop-off)² $\times$ (discount factor for Year 3)

Year 4: Year 1 value $\times$ (drop-off)³ $\times$ (discount factor for Year 4)

Year 5: Year 1 value $\times$ (drop-off)⁴ $\times$ (discount factor for Year 5)

UPHOLDING RESEARCH ETHICS

The impact assessment study upheld a robust framework of research ethics principles throughout its process:



INFORMED CONSENT

Participants made informed decisions after understanding the study goals, risks, and benefits.



CONFIDENTIALITY

Participant information was guarded securely, establishing a foundation of trust.



DATA SECURITY AND ANONYMITY

Rigorous measures ensured participant data remained private and untraceable.



NON-MALEFICENCE

Participant well-being was safeguarded, with no harm caused by the research.



INTEGRITY

Research maintained high credibility through sincere and transparent practices.

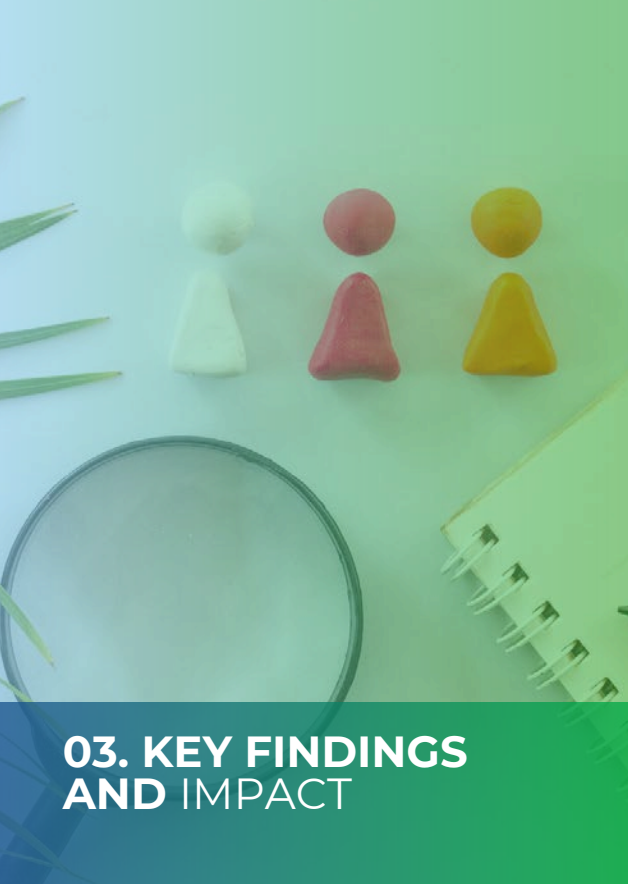


JUSTICE

Equitable treatment prevailed, free from biases or stereotypes, promoting fairness.

BENEFICIARY AT HIS OWN SHOP, PUNE, MAHARASHTRA





03. KEY FINDINGS AND IMPACT

MODEL 1: IRRIGATED FARMING WITH POULTRY

→ (IRRIGATION + VEGETABLE + POULTRY UNIT)

DEMOGRAPHIC PROFILE



86.7%

of the households were male-headed households, with the rest being women-headed.



73.4%

of household heads were under 50 years; 13.3% were above 60.



60.0%

of individuals had no formal schooling, while 13.3% had completed higher secondary education.



53.3%

migrated 1–2 months per year, while 13.4% did so for 3–5 months, indicating that seasonal migration was common.



53.3%

of the population live in semi-pucca housing, while 33.3% reside in kutcha houses, reflecting economic hardship



73.3%

of landholders owned less than 1 hectare, while 26.7% owned between 1 and 3 hectares; none had more than 3 hectares. Farming was primarily partially irrigated (60%), with 20% each being fully irrigated or fully rainfed.



46.7%

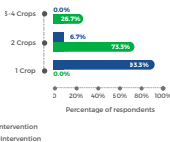
of primary income sources were from agricultural labor and rainfed farming, with 6.6% coming from non-farm labor. Pre-intervention, 80% earned less than ₹40,000 annually, and 20% earned between ₹40,000 and ₹70,000

KEY FINDINGS

The following key findings present the quantitative evidence and contextual analysis of changes observed across agriculture, irrigation, vegetable cultivation, backyard poultry, economic indicators, agricultural practices, government scheme access, and gender-related decision-making patterns amongst Model 1 beneficiaries.

FINDING 1: SHIFT FROM SINGLE CROPPING TO DIVERSIFIED CROPPING PRACTICES

CHART 1: NUMBER OF CROPS GROWN PRE AND POST-INTERVENTION



The cropping pattern indicates a clear shift towards diversification after the intervention. While 93.3% of respondents earlier cultivated only one crop, post-intervention all farmers adopted multi-cropping, with 73.3% growing two crops and 26.7% cultivating three to four crops, suggesting improved agricultural practices and reduced livelihood risk.

The control group continued to rely predominantly on single primary livelihood activities, with only 38% reporting agriculture as a secondary source.



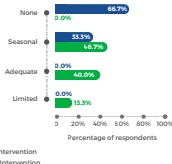
With the irrigation pipeline, I can now grow two crops a year instead of just one. The vegetables I grow, like tomatoes and brinjal, give me a steady weekly income of ₹1,000-₹1,500 that I never had before.

- Babulal Anani Pawara, 44, Shirpur, Dhule.



FINDING 2: TRANSFORMATION IN IRRIGATION INFRASTRUCTURE ACCESS

CHART 2: IRRIGATION AVAILABILITY PRE- AND POST-INTERVENTION



Beneficiaries shared that, before the intervention, most households had no irrigation facility, forcing them to depend entirely on rainfall and limiting cultivation to a single season. They noted that after Lupin's support, irrigation availability improved substantially—many now receive adequate or at least seasonal water supply. Households emphasised that the shift from having “no irrigation” to assured access has been transformative, enabling them to farm more reliably, plan their cropping cycles better, and reduce the risks associated with rain-dependent agriculture.

Category Definitions:

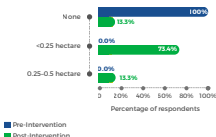
- **Adequate:** Reliable, sufficient water available year-round.
- **Seasonal:** Water access is limited by time (e.g., sources dry up during summer months).

- Limited: Water access is limited by volume or frequency year-round (e.g., low-yielding wells or unavailability of consistent electricity).

None (Rainfed): Zero irrigation infrastructure; 100% dependent on unpredictable rainfall.

FINDING 3: COMPLETE ADOPTION OF VEGETABLE CULTIVATION

CHART 3: VEGETABLE CULTIVATION AREA POST-INTERVENTION (n=15)



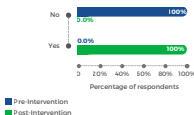
Among the 15 household in the selected sample, there were no respondents who cultivated vegetable prior to the intervention, primarily due to the absence of irrigation and lack of technical knowledge. Post-intervention, 86.7% of households adopted vegetable cultivation, with 73.4% cultivating on less than 0.25 hectare and 13.3% on 0.25-0.5-hectare plots. Only 13.3% did not adopt vegetable cultivation.

Field Observation:

Respondents reported that vegetable cultivation provided regular cash flow throughout the year, reduced household expenditure on vegetables, and improved dietary diversity. Several women mentioned their active involvement in vegetable cultivation, which enhanced their role in household income generation. The project coordinator noted that farmers increasingly adopted Integrated Pest Management practices and need-based fertiliser application following soil testing.

FINDING 4: UNIVERSAL ADOPTION OF BACKYARD POULTRY

CHART 4: ADOPTION OF POULTRY PRE- AND POST-INTERVENTION



Before the project, no participating household (0%, N=15) maintained organised backyard poultry units. Post-intervention, all 15 households (100%) adopted backyard poultry, on average receiving 300 one-day-old chicks in three batches along with feed support and technical training. Women played a central role in poultry management.



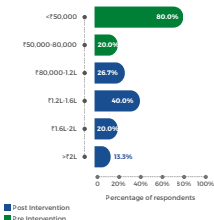
The backyard poultry birds grew very well. I sold the roosters for ₹6,000 last season and kept the hens for eggs.

- Jalam Fuliya Gangurde, 33, Partially irrigated Farmer, Sakri, Dhule



FINDING 5: SUBSTANTIAL UPWARD SHIFT IN HOUSEHOLD INCOME DISTRIBUTION

CHART 5: ANNUAL HOUSEHOLD INCOME PRE- AND POST- INTERVENTION



Inference (as reported by beneficiaries and validated through SROI analysis):

Beneficiaries indicated that, prior to the intervention, household incomes were largely confined to subsistence levels, with 80% of families earning below ₹50,000 annually. Following the intervention, they reported a substantial upward shift in income. Post-intervention, the majority of households have moved into significantly higher income brackets, with 40% now earning ₹1.2-1.6 lakh annually and 13.3% exceeding ₹2 lakh—income levels that were previously unattainable.

Pre-intervention average:	~₹32,500
Post-intervention average:	~₹1,66,925
Absolute increase:	~₹1,34,425
Percentage increase:	~414%

The intervention resulted in more than a fourfold increase in average household income, underscoring a substantial strengthening of economic stability and resilience at the household level. This income growth is attributable to multiple complementary interventions:

income from backyard poultry (₹46,368/year), net income from vegetable sales (₹74,057/year), value of household consumption (₹6,000/year), and avoided crop losses (₹8,000/year).

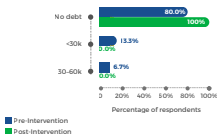
Comparison with the Control group

The control group exhibited a broader income distribution, with 46% earning below ₹50,000 and 43% earning between ₹50,000 and ₹1 lakh annually.

The relatively higher income levels in the control group indicate that these households were already in a stronger socio-economic position prior to the study. Several positive pre-existing factors, such as better access to irrigation, more stable wage opportunities, or diversified income sources, may have contributed to their higher earnings. In contrast, the intervention group started from a more vulnerable baseline. This disparity confirms that the programme successfully targeted households with the greatest livelihood constraints, demonstrating the appropriateness and relevance of the CSR intervention.

FINDING 6: COMPLETE ELIMINATION OF HOUSEHOLD DEBT

CHART 6: DEBT STATUS PRE- AND POST-INTERVENTION



Before intervention, 80% of households (N=15) were debt-free, whilst 13.3% carried debt below Rs. 30,000 and 6.7% held debt between Rs. 30,000-60,000. Post-intervention, all households (100%) reported being debt-free, with previously indebted households successfully clearing obligations through enhanced income.

FINDING 7: ADOPTION OF SOIL TESTING PRACTICE

CHART 7: SOIL TESTING DONE PRE- AND POST-INTERVENTION



Prior to the intervention, no household (0%, N=15) had conducted soil testing, resulting in imbalanced fertiliser application.

Post-intervention, 60% completed soil testing (53.3% once and 6.7% annually), whilst 40% had not yet tested.

FINDING 8: ACCESS TO GOVERNMENT SCHEMES

CHART 8: SCHEME ACCESS PRE AND POST-INTERVENTION



Before the intervention, all households (100%, N=15) had no access to government schemes. Post-intervention, 60% accessed schemes (40% accessed 1-2 schemes and 20% accessed 3-4 schemes), whilst 40% had not yet accessed any schemes.

BENEFICIARY INTERACTION IN BHARATPUR, RAJASTHAN

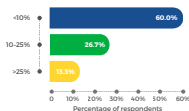


KEY IMPACT

The following section presents the quantified impact of Model 1 interventions across agricultural productivity, economic outcomes, and livelihood diversification. These impact indicators measure the tangible changes resulting from the integrated approach.

IMPACT 1: INCREASE IN MAJOR CROP YIELD

CHART 9: INCREASE IN MAJOR CROP YIELD



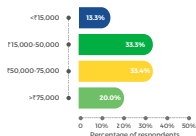
Among the 15 households, 60% reported yield improvements of below 10%, 26.7% achieved increases of 10–25%, and 13.3% realised gains exceeding 25%.

These improvements were reported primarily by farmers cultivating cotton, soybean, and pulses. Overall, the distribution of responses indicates a considerable yield increase across the beneficiary households.

The irrigation support has generated strong agronomic benefits, with 93.3% of respondents reporting extended crop duration or the ability to cultivate a second crop, along with expansion of irrigated area, indicating improved land productivity and water access. Over half (53.3%) experienced reduced crop failure during dry spells, enhancing climate resilience, while 40% reported improved crop quality, suggesting moderate but positive gains in output quality alongside productivity improvements.

IMPACT 2: SUBSTANTIAL INCREASE IN ANNUAL CROP VALUE

CHART 10: INCREASE IN ANNUAL CROP VALUE FROM VEGETABLE CULTIVATION



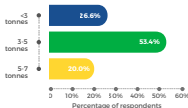
13.3% respondents reported gains in annual crop value below ₹15,000 (early adopters/smaller plots), 33.3% reported gains of ₹15,000–50,000, 33.4% achieved gains of ₹50,000–75,000, and 20% exceeded ₹75,000 annually.

This substantial income reflects the transformative impact of assured irrigation, enabling year-round commercial vegetable production.

The adoption of improved agricultural practices has led to near-universal process-level gains, with 100% of respondents reporting better germination and crop stand and 93.3% noting reduced pest and disease incidence, indicating improved crop management. A large majority (86.7%) also achieved more efficient fertiliser use, enhancing input efficiency. However, only 26.7% reported increased overall crop output.

IMPACT 3: ENHANCEMENT IN VEGETABLE PRODUCTION

CHART 11: INCREASE IN VEGETABLE PRODUCTION PER YEAR



26.6% achieved production below 3 tonnes per year, 53.4% produced 3-5 tonnes, and 20% produced between 5-7 tonnes.



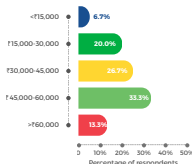
We used to eat only roti and chutney. Now that we have vegetables from our own field and eggs from our birds, my children are eating healthy food every day. Their health has improved significantly.

- Shrvan Gaju Chaurse, 36, Partially irrigated, Sakri, Dhule



IMPACT 4: SUBSTANTIAL ANNUAL INCOME GENERATION FROM BACKYARD POULTRY

CHART 12: ANNUAL INCOME INCREASED DUE TO POULTRY



The backyard poultry income distribution shows significant earning potential: 33.3% of households earned ₹45,000–60,000 annually, 26.7% earned ₹30,000–45,000, 20% earned ₹15,000–30,000, and 13.3% exceeded ₹60,000.

This income was generated through three rearing cycles per year, with each household receiving approximately 300 one-day-old chicks per cycle, feed support, and technical training. The substantial income demonstrates the strong livelihood potential of the backyard poultry intervention when combined with proper inputs and capacity building.

The poultry support has delivered immediate and reliable livelihood benefits, with 100% of respondents reporting regular income from sales, underscoring its role as a consistent cash-flow activity. High bird survival leading to greater saleable stock (86.7%) indicates effective husbandry support. Additionally, 60% reported reduced household expenditure on eggs and meat, contributing to consumption savings, while 33.3% noted the ability to restock more frequently, suggesting emerging but still limited reinvestment capacity.

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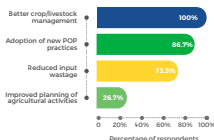
My wife now manages the poultry unit entirely. She keeps the money from egg sales and decides how to spend it on the house. Seeing her confident and financially independent makes me very proud.

- Vijay Kalu Chaure, 44, Partially irrigated, Sakri, Dhule

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IMPACT 5: OBSERVED BENEFIT AND IMPACT OF TRAINING

CHART 13: OBSERVED BENEFITS AND IMPACTS OF TRAINING



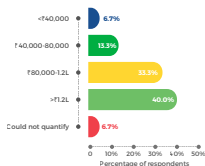
The training resulted in universal improvement in crop and livestock management (100%), with high uptake of new PoP practices (86.7%) and reduced input wastage (73.3%).



SOULACE TEAM INTERACTING WITH WOMEN IN BHARATPUR, RAJASTHAN

IMPACT 6: SUBSTANTIAL OVERALL INCREASE IN HOUSEHOLD INCOME

CHART 14: INCREASE IN HOUSEHOLD INCOME AFTER MODEL 1



The SROI analysis indicates that the total annual income per household averages approximately ₹1,34,425, comprising:

- Average Income from backyard poultry sales: ₹46,368/year
- Average Net income from vegetable sales: ₹74,057/year
- Average Value of vegetables consumed: ₹6,000/year
- Average value of avoided crop loss from assured irrigation: ₹8,000/year

Among the 15 respondents, 40% achieved annual income increases exceeding ₹1.2 lakh, 33.3% gained ₹80,000-1.2 lakh, 13.3% gained ₹40,000-80,000, and only 6.7% reported increases below ₹40,000, with 6.7% unable to quantify the increase.

Nearly all respondents (93.3%) reported increased annual income and diversified income sources, indicating strengthened and more resilient livelihoods. A large majority (86.7%) also experienced improved food consumption, reflecting enhanced household well-being. However, debt reduction remains limited (20%), suggesting that income gains have not yet translated into meaningful debt alleviation and may require a longer gestation period or targeted financial interventions.

CASE STUDIES

CASE STUDY 1: INTEGRATED AGRICULTURE AND POULTRY FOR LIVELIHOOD STABILISATION

Pawara Babulal Anaja Chilare village, Dhule district, Maharashtra, says, 'Our family of seven depended only on 1-1.5 acres of rainfed land, and we earned around ₹40,000 a year. The income was uncertain, we had almost no savings, and we often had to migrate for wage labour.

After receiving the CSR support from Lupin, things began to change. We got irrigation through a pipeline, and I received quality seeds, bio-inputs, soil testing, and technical guidance for vegetable cultivation. I was also supported with backyard poultry—three batches of 300 chicks along with feed, vaccination, and a low-cost shed. With irrigation, we started cultivating two crop cycles instead of one. Vegetables and poultry now give us a regular income and improve the food available at home. The women in my family are actively involved in cultivation, taking care of the birds, and making financial decisions.

Today, our annual income has increased to about ₹1,26,000. We no longer migrate, our food security has improved, and we are able to save money, repay small loans, and invest in our farm and household needs.'

Key Learnings

- Providing irrigation along with high-value crops and poultry can transform the livelihoods of rainfed farmers.
- Vegetables offer a steady weekly income and nutritious food; poultry brings additional earnings and protein intake.
- Training, soil testing, and preventive health care for birds help maintain consistent results.
- When livelihoods become diversified and locally sustainable, families reduce migration and gain confidence, resilience, and better control over their finances

CASE STUDY 2: FROM RAINFED VULNERABILITY TO DIVERSIFIED LIVELIHOOD SECURITY

Ravindra Sursing, 43, from Chilare village, Dhule district, heads a male tribal household of five. Pre-intervention, the family relied on 2 hectares of rainfed land, earning ~₹45,000 annually with irregular income, minimal savings, and limited women's participation in livelihood decisions.

Under Model 1, phased support included irrigation through renovation of existing water sources, vegetable cultivation on 0.25–0.50 acres with quality inputs and training, and backyard poultry (300 chicks across three batches with low-cost shed and veterinary support). Cropping intensity increased from one to two cycles, vegetables and poultry provided regular income and nutrition, and women became actively involved in cultivation, poultry management, and financial decisions. Household income rose, migration reduced, food security improved, and the family began saving, repaying small debts, and investing in farm inputs.

KEY LEARNINGS



Assured irrigation enables increased cropping intensity and diversification.



Vegetable cultivation provides regular cash flow and nutrition benefits.



Backyard poultry supplements income during lean periods and improves protein intake.



Continuous training and veterinary support sustain outcomes.



Integrated livelihood models reduce migration, strengthen resilience, and build household confidence.

CASE STUDY 3: BUILDING LIVELIHOOD RESILIENCE THROUGH IRRIGATION, VEGETABLES, AND BACKYARD POULTRY

Indersing Surmal, 43, from Chilare village, Dhule district, managed 2 hectares of rainfed land with annual earnings of ₹30,000, relying on wage labour and a single Kharif crop. Limited irrigation, technical knowledge, and inputs constrained productivity, income, and food security.

Under Model 1, the household received phased support: a pump set and pipeline enabled irrigation for Kharif and Rabi crops, while vegetable cultivation (tomato, brinjal, leafy greens) on 0.25–0.50 acres provided regular income and improved nutrition. Backyard poultry was later introduced with 3 batches of 300 chicks, feed, and veterinary guidance, generating supplementary income during lean seasons and enhancing protein intake.

The integrated approach increased overall household income, reduced migration, improved food security, and strengthened women's participation in farm and household decisions, with savings reinvested into farming and family needs.

KEY LEARNINGS



Assured irrigation increases cropping intensity and enables diversification.



Vegetable cultivation provides quick returns, cash flow, and nutrition benefits.



Backyard poultry generates supplemental income and improves protein intake.



Training and veterinary support overcome early livestock challenges.



Integrated models reduce vulnerability, income volatility, and migration among rainfed tribal households.

SROI FINDINGS OF MODEL 1

PHASE 1: ESTABLISHING SCOPE AND IDENTIFYING STAKEHOLDERS

SCOPE OF THE SROI ANALYSIS

The scope of this SROI analysis is limited to the Model 1 intervention implemented in Dhule District, Maharashtra. The analysis covers 62 beneficiary households who received comprehensive support, including poultry inputs, irrigation infrastructure, seeds, training, and technical handholding.

PROJECT INVESTMENT SUMMARY

In accordance with SROI best practice, total investment includes both funder contribution and beneficiary contribution (13% of total investment).

Investment Component	Amount (Rs Lakhs)	Percentage
Backyard Poultry (cages, chicks, feed, equipment)	8.05	22.1%
Irrigation Facility (HDPE pipes, drip systems)	17.47	48.0%
Vegetable Cultivation (seeds, inputs, crates)	6.10	16.8%
Farmers Training and Capacity Building	0.02	0.1%
Beneficiary Contribution (13%)	4.73	13.0%
Total Investment	36.37	100.0%

STAKEHOLDER IDENTIFICATION

Stakeholders were identified based on their direct or indirect experience of change resulting from the intervention. Only stakeholders for whom material and measurable outcomes were observed are included in the SROI analysis.

Category	Stakeholder Group	Description	Included
Primary	Beneficiary Households	62 households receiving poultry and irrigation support	Yes
Secondary	Women Members	Women managing backyard poultry operations	No
Secondary	Local Markets	Vegetable and poultry markets are receiving produce	No

In line with SROI best practice, secondary stakeholders were excluded from monetisation due to a lack of direct, attributable, or measurable economic outcomes that could be conservatively valued. Their role is acknowledged under attribution and contextual analysis in later phases.

PHASE 2: MAPPING OUTCOMES

INPUTS, ACTIVITIES, AND OUTPUTS

Inputs	Activities	Outputs
Programme funding of Rs 36.37 lakhs (including beneficiary contribution)	Distribution of day-old chicks in three batches	62 households with functional poultry units
Poultry cages, feeders, drinkers	Installation of HDPE pipes and drip irrigation systems	62 households with irrigation access
HDPE pipes and drip irrigation equipment	Provision of quality vegetable seeds and bio-inputs	Poultry birds are sold, generating income
Vegetable seeds and cultivation inputs	Training on poultry management and vegetable cultivation	Vegetable production and market sales
Technical expertise and training modules	Regular technical handholding and monitoring	Birds retained as productive assets

OUTCOME CHAIN: BACKYARD POULTRY COMPONENT

Tangible Outcomes (Monetised)	Intangible Outcomes (Not Monetised)
Income from the sale of poultry birds	Improved confidence in enterprise management
Value of birds retained as a household asset	Enhanced social status within the community
Value of poultry consumed by the household	Sense of financial security
Avoided the cost of poultry cage infrastructure	Knowledge and skills acquired

OUTCOME CHAIN: IRRIGATION AND VEGETABLE CULTIVATION COMPONENT

Tangible Outcomes (Monetised)	Intangible Outcomes (Not Monetised)
Net income from vegetable sales	Reduced stress from crop water availability
Value of irrigation infrastructure as an asset	Improved agricultural knowledge
Value of vegetables consumed by the household	Community recognition as a progressive farmer
Savings from reduced crop loss	Strengthened market linkages

PHASE 3: EVIDENCING OUTCOMES AND ASSIGNING VALUE

Outcome Description	HHs	Unit Basis	Average per HH (Rs)	Total Gross Value (Rs)
Income from the Sale of Poultry Birds	62	Three rearing cycles	46,368	28,74,816
Value of Poultry Birds Retained as Household Asset	62	125 birds × Rs 150	18,750	11,62,500
Value of Poultry Consumed by Household	62	8 birds × Rs 150	1,200	74,400
Avoided Cost of Poultry Infrastructure	62	Cages, feeders, drinkers	12,984	8,05,000
Net Income from Vegetable Sales	62	Irrigated vegetable cultivation	74,057	45,91,534
Value of Irrigation Infrastructure Created	62	Drip and HDPE system	28,177	17,47,000
Value of Vegetables Consumed by Household	62	Annual household consumption	6,000	3,72,000
Avoided Crop Loss from Irrigation Access	62	Reduced rainfed loss	8,000	4,96,000

PHASE 4: ESTABLISHING IMPACT

Description	Deadweight (%)	Deadweight Rationale	Attribution (%)	Attribution Rationale
Income from the Sale of Poultry Birds	10	A small proportion of households may have undertaken limited poultry rearing using their own resources, but most lacked the capital and technical knowledge to establish viable operations without project support.	10	Local market conditions and buyer networks supported sales, though production and productivity were primarily enabled by project inputs and training.
Value of Poultry Assets Retained	10	Some households may have accumulated small poultry assets over time, but the scale of asset creation achieved is unlikely without systematic support.	20	Market demand and price fluctuations influence the valuation of retained birds, warranting higher attribution to external market forces.
Household Consumption of Poultry	20	Baseline consumption through market purchase or informal rearing would have occurred even without the intervention.	10	Consumption was mainly enabled by project-supported production, with limited influence of external factors.
Avoided Cost of Poultry Infrastructure	10	Very few beneficiaries would have invested in cages and equipment independently due to capital constraints.	10	Infrastructure was directly provided by the project, with minimal contribution from other actors.
Net Income from Vegetable Sales	20	Some rain-fed vegetable cultivation existed prior to the intervention, contributing to marginal income.	20	Income realisation is also influenced by market prices, weather conditions, and government agricultural schemes, alongside project support.

Description	Deadweight (%)	Deadweight Rationale	Attribution (%)	Attribution Rationale
Value of Irrigation Infrastructure	10	Independent installation of drip systems was unlikely due to high capital costs.	10	Infrastructure creation is primarily attributable to the project, with negligible external contribution.
Household Consumption of Vegetables	20	Households previously consumed vegetables from rain-fed plots or markets.	20	Consumption levels are also shaped by dietary preferences and household decision-making in addition to project support.
Avoided Crop Loss from Irrigation Access	10	Some loss reduction may have occurred through traditional coping practices.	20	Weather variability, crop management practices, and extension services also influence crop loss outcomes.

PHASE 5: CALCULATING THE SROI

Summary of Adjusted Social Value (Year 1)

Monetisable Outcome	Gross Value (Rs)	Deadweight	Attribution	Displac.	Total Ded.	Net Value (Rs)
Income from poultry sales	28,74,816	10%	10%	0%	20%	22,99,853
Value of poultry assets	11,62,500	10%	20%	0%	30%	8,13,750
Poultry consumption value	74,400	20%	10%	0%	30%	52,080
Avoided poultry infrastructure cost	8,05,000	10%	10%	0%	20%	6,44,000
Net income from vegetables	45,91,534	20%	20%	0%	40%	27,54,920
Irrigation infrastructure value	17,47,000	10%	10%	0%	20%	13,97,600
Vegetable consumption value	3,72,000	20%	20%	0%	40%	2,23,200
Avoided crop loss	4,96,000	10%	20%	0%	30%	3,47,200
TOTAL	1,21,23,250					85,32,603

Year 1 SROI Ratio

Total Net Social Value (Rs)	Total Investment (Rs)	SROI Ratio
Rs 85,32,603	Rs 36,36,782	2.35:1

The Year 1 SROI ratio of 2.35:1 indicates that for every rupee invested in the Model 1 intervention (including beneficiary contribution), Rs 2.35 of net social value was generated during the assessment period.

Five-Year Projected SROI Calculation

The five-year projection applies a social discount rate of 8 per cent (consistent with Government of India planning parameters) and outcome-specific drop-off rates to account for asset depreciation and reduced intensity of outcomes over time. One-time asset values (infrastructure) are counted only in Year 1.

Drop-off Rates Applied

Outcome Category	Drop-off Rate	Rationale
Poultry income and consumption	15%	Stock depletion
Vegetable income, consumption, and avoided crop loss	10%	Skill retention
Asset values (poultry, irrigation infrastructure)	N/A	One-time only

Five-Year Present Value Calculation

Item	Year 1 (Rs)	Year 2 (Rs)	Year 3 (Rs)	Year 4 (Rs)	Year 5 (Rs)
Undiscounted Value	85,32,603	49,91,931	43,92,781	38,68,539	34,09,466
Discount Factor (8%)	1.000	0.926	0.857	0.794	0.735
Present Value	85,32,603	46,22,158	37,66,102	30,70,971	25,06,059

Five-Year Cumulative SROI

Metric	Value
Total Present Value of Benefits (5 Years)	Rs 2,24,97,893
Total Investment (including beneficiary contribution)	Rs 36,36,782
Five-Year Cumulative SROI Ratio	6.19:1

The five-year cumulative SROI ratio of 6.19:1 indicates that for every rupee invested in the Model 1 intervention (including beneficiary contribution), Rs 6.19 of net present value of social benefits is projected to be generated over a five-year period.

SENSITIVITY ANALYSIS

Sensitivity analysis was conducted to test the robustness of the SROI findings under varying assumptions. Three scenarios were modelled: a conservative (low) scenario with higher deductions, the central scenario as presented in the main analysis, and an optimistic (high) scenario with lower deductions.

Parameter	Low Scenario	Central Scenario	High Scenario
Deadweight Range	15-25%	10-20%	5-15%
Attribution Range	15-25%	10-20%	5-15%
Drop-off Rate	20%	10-15%	5-10%
Discount Rate	10%	8%	6%
Year 1 SROI	1.78:1	2.35:1	2.91:1
5-Year SROI	3.58:1	6.19:1	6.51:1

The sensitivity analysis demonstrates that even under conservative assumptions (low scenario), the intervention generates positive social returns with an SROI ratio exceeding 1.78:1. This confirms the robustness of the findings and the value-generating capacity of the Model 1 intervention across a range of reasonable assumptions.

ANNEXURE: DETAILED OUTCOME VALUATION

Financial Proxy Sources

Outcome	Proxy Value	Source / Justification
Poultry income	Rs. 46,368/HH/year	Project income assessment data
Poultry asset value	Rs. 150/bird	Conservative market benchmark
Household poultry consumption	8 birds x Rs 150	Avoided purchase cost at market rate
Vegetable consumption	Rs 6,000/HH/year	Comparable studies, conservative estimate
Vegetable income	Rs. 74,057/HH/year	Project income assessment data
Vegetable consumption	Rs. 6,000/HH/year	Comparable studies, conservative estimate
Avoided crop loss	Rs. 8,000/HH/year	An estimated 20-30% loss avoidance
Discount rate	8% per annum	Government of India planning parameters

MODEL 2: IRRIGATED FARMING WITH GOAT REARING



IRRIGATION + VEGETABLE + GOAT REARING

DEMOGRAPHIC PROFILE



Among 80 households, 97.5% of respondents were male.



67.5%

belonged to Scheduled Tribes and 28.8% to OBC communities.



Joint families comprised 55% of households, male-headed nuclear 41.2%, and women-headed 3.8%. Family sizes were mostly 6–7 members (40%) and 4–5 members (37.5%), with smaller households (1–3 members) at 8.8% and larger households (8+ members) at 13.8%.



Household heads were predominantly in the 41–50 years bracket (40%), followed by 51–60 years (25%) and 30–40 years (20%). Educational attainment was low: 35% had no formal schooling, 32.5% completed primary education.



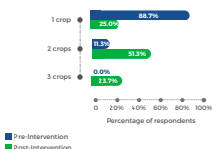
Most households were marginal farmers: 56.3% owned <1 hectare, 36.2% owned 1–3 hectares, 5% had >3 hectares, and 2.5% were landless. Rainfed cultivation combined with limited land constraints affects agricultural income.



KEY FINDINGS

FINDING 1: ENHANCED CROPPING INTENSITY THROUGH MULTIPLE CROP CYCLES (N = 80)

CHART 15: CROP SEASONS CULTIVATED/YEAR PRE- AND POST-INTERVENTION

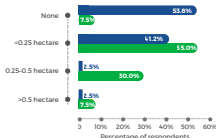


The number of crop seasons cultivated annually increased significantly following the intervention, indicating improved cropping intensity. While 88.7% of respondents earlier cultivated crops in only one season per year, this reduced to 25% post-intervention. A majority of farmers (51.3%) began cultivating in two seasons, and 23.7% expanded to three cropping seasons annually, reflecting enhanced farm utilisation, improved access to agricultural inputs, and strengthened livelihood stability.

Respondents reported specific improvement pathways, with 66.3% transitioning from one to two crops annually, 26.3% advancing from two to three crops.

FINDING 2: EXPANSION IN VEGETABLE CULTIVATION AREA (N = 80)

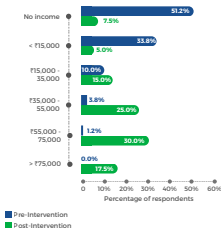
CHART 16: VEGETABLE CULTIVATION AREA PRE- AND POST-INTERVENTION



Over half of respondents (53.8%) had not engaged in vegetable farming prior to the intervention, with the remainder cultivating negligible areas primarily for subsistence consumption. The intervention generated a substantial shift, reducing non-cultivators to 7.5% whilst 92.5% actively cultivated vegetables on varying scales.

FINDING 3: SUBSTANTIAL INCOME GROWTH FROM VEGETABLE SALES (N=80)

CHART 17: INCOME FROM VEGETABLES/YEAR PRE- AND POST-INTERVENTION



The study reveals a transformative shift in vegetable income.

Pre-intervention, 51.2% of households earned no income from vegetables, with most others earning below ₹15,000 annually.

Post-intervention, the income distribution has shifted upward:

- 30% of households now earn ₹55,000–75,000 annually from vegetables.
- 25% earn ₹35,000–55,000 annually.
- 17.5% exceed ₹75,000 annually.
- Only 7.5% remain without vegetable income (non-adopters).

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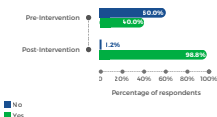
The goats are like a savings account for us. When I needed money for a medical emergency, I sold two male goats and got ₹16,000 immediately. It saved me from going to the moneylender.

- Matadin, 45, Farmer, Panduri, Bharatpur

”

FINDING 4. NEAR-UNIVERSAL ADOPTION OF GOAT REARING AS LIVELIHOOD ACTIVITY (N = 80)

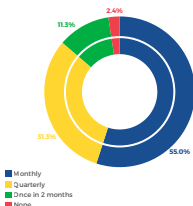
CHART 18: ADOPTION OF GOAT REARING PRE- AND POST-INTERVENTION



Livestock ownership, particularly goats, represented a critical livelihood diversification strategy within Model 2.

Prior to the intervention, 60% of respondents possessed no goats, whilst the remaining 40% maintained small flocks. The programme's provision of foundation stock (typically 4 female goats and 1 male), coupled with veterinary training and shed construction support, generated near-universal adoption, with 98.8% of respondents actively engaging in goat rearing post-intervention.

CHART 19: GOAT VACCINATION/HEALTH VISITS



Regular veterinary health visits (55% monthly, 31.3% quarterly) appeared to have supported survival rates.

Livestock asset accumulation patterns diverged sharply, with Model 2 goat rearing adoption substantially exceeding the control group's 27% goat ownership rate.

The goat rearing intervention has recorded a robust survival rate ranging between 85% and 95%, validated by beneficiary account, confirming the project's successful push for regular veterinary care.

Pre-intervention flock sizes were modest (60.0% owning none, 16.2% owning 1 to 2 animals, 13.8% owning 3 to 5, and only 10% possessing more than 5). The post-intervention distribution showed 38.8% owning 3 to 5 goats, 37.5% owning 5 to 8, and 22.5% maintaining flocks exceeding 8 animals. This indicated successful reproductive management and flock growth from the initial foundation stock provided.



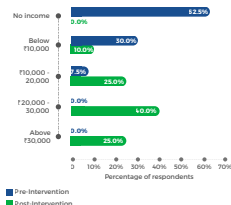
The goats are like a savings account for us. When I needed money for a medical emergency, I sold two male goats and got ₹16,000 immediately. It saved me from going to the moneylender.

- Matadin, 45, Farmer, Panduri, Bharatpur



FINDING 5: SIGNIFICANT INCOME GENERATION FROM GOAT SALES (N=80)

CHART 20: ANNUAL INCOME FROM GOAT REARING PRE AND POST PROGRAM (N=40)



Beneficiaries shared that before the intervention, goat rearing contributed very little to their household income. 62.5% reported earning no income from goats.

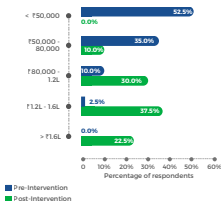
Post-intervention average: ₹2,964/year

Absolute increase: ₹23,000/year

Percentage increase: ~776%

FINDING 6: SUBSTANTIAL INCREASE IN ANNUAL HOUSEHOLD INCOMES (N=80)

CHART 21: ANNUAL INCOME DISTRIBUTION PRE AND POST INTERVENTION



Beneficiaries shared that before the intervention, almost all households earned less than ₹80,000 per year, indicating a highly vulnerable economic baseline. Post-intervention, income levels improved substantially, with the majority of households moving into significantly higher income brackets.

Pre-intervention average: ₹42,320/year

Post-intervention average: ₹1,36,183/year

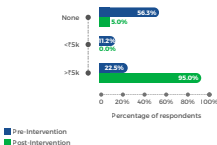
Absolute increase: ₹93,863/year

Percentage increase: ~222%

Respondents reported multiple pathways through which economic benefits materialised, including increased disposable income (86.3%), enhanced spending on essentials (81.3%), ability to save regularly (62.5%), and capacity to repay old debts (55%).

FINDING 7. GROWTH IN HOUSEHOLD SAVINGS CAPACITY (N = 80)

CHART 22: HOUSEHOLD SAVINGS/YEAR PRE AND POST INTERVENTION



Beneficiaries shared that before the intervention, most households had no capacity to save, with 56.3% reporting zero savings and only a small share saving less than ₹5,000 annually. This reflected their limited and unstable income base.

After the intervention, the situation changed dramatically. A large majority of households (95%) reported saving more than ₹5,000 per year, while only 5% still had no savings.

Beneficiaries attributed this improvement to increased agricultural income, reduced crop losses due to assured irrigation, and better cash flow from diversified livelihood activities.

Overall, the shift indicates a significant strengthening of financial resilience, with households moving from a state of no savings to consistent surplus generation, demonstrating the positive economic impact of the intervention.

The control group exhibited modest savings capacity, with only 26% reporting savings below ₹5,000 and 22% between ₹5,000 and ₹15,000.

FINDING 8. ENHANCED ACCESS TO GOVERNMENT SCHEMES AND ENTITLEMENTS (N = 80)

CHART 23: NUMBER OF SCHEMES PRE AND POST INTERVENTION

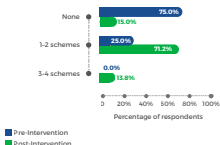
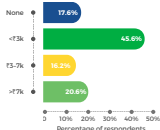


CHART 24: VALUE OF GOVT BENEFITS/YEAR



Prior to the intervention, three-quarters of respondents (75%) had accessed no government schemes. The programme's deliberate scheme convergence efforts generated substantial improvement, with 85% of households accessing at least one scheme post-intervention.

The financial value of government benefits accessed varied, with 45.6% receiving less than ₹3,000 annually, 16.2% receiving ₹3,000 to ₹7,000, and 20.6% receiving over ₹7,000, whilst 17.6% accessed schemes that did not provide direct financial transfers but offered services or subsidised inputs.

Respondents reported multiple benefits from scheme access, including reduced household expenses (80.9%), improved food security (69.1%), timely receipt of subsidies and cash transfers (70.6%), and access to new services or assets (47.1%).

Access to Government Schemes

Respondents who accessed the government schemes, PM-KISAN was the most commonly accessed scheme, followed by limited use of Kisan Credit Card (KCC), livestock-related schemes, and a few other state or central welfare programs.

KEY IMPACT

IMPACT 1. TRANSFORMATION IN IRRIGATION ACCESS (N = 80)

CHART 25: ACCESS TO IRRIGATION PRE- AND POST-INTERVENTION

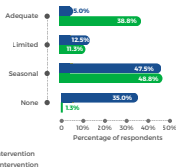
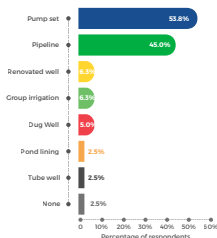


Chart shows a marked improvement in irrigation access after the intervention. Households reporting no irrigation declined from 35.0% to 1.3%, while those with adequate access increased from 5.0% to 38.8%. Seasonal access remained relatively similar (47.5% to 48.8%), indicating a significant shift from no access to at least partial or adequate irrigation coverage.

CHART 26: IRRIGATION SUPPORT RECEIVED POST-INTERVENTION



Irrigation infrastructure emerged as a critical constraint prior to the programme, with 35% of respondents possessing no irrigation access whatsoever and 47.5% relying solely on seasonal rainfall patterns. This dependency restricted cultivation to a single monsoon-dependent crop cycle and precluded high-value vegetable production. The programme's irrigation component generated a substantial shift in water access, reducing households with no irrigation from 35% to merely 1.3%, whilst those with adequate year-round irrigation increased from 5% to 38.8%.

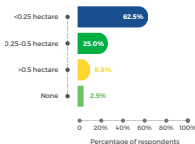
The irrigation support primarily consisted of pump sets (53.8% of respondents) and pipeline infrastructure (45%), with additional interventions including well renovation (6.3%), group irrigation systems (6.3%), dug wells (5%), pond lining (2.5%), and tube wells (2.5%). These varied infrastructure types reflected a context-responsive approach matching technical solutions to site-specific water availability and topographic conditions.

In the control group, only stagnant 9.8% households engaged in farming had adequate access to irrigation.

The implications extended beyond mere access to water. Respondents reported that increased land under irrigation (91.3%) and the ability to grow Rabi crops for the first time (85.0%) represented the most significant impacts. Reduced crop failure due to dry spells (82.5%) and higher productivity and quality (61.3%) further reflected the cascading effects of reliable water availability. This transformation established the foundational precondition for crop diversification and income enhancement.

IMPACT 2. INCREASED CULTIVABLE AREA DUE TO IRRIGATION (N = 80)

CHART 27: INCREASED CULTIVABLE AREA DUE TO IRRIGATION



The provision of irrigation infrastructure generated tangible expansion in cultivable land area. Over two-thirds of respondents (62.5%) brought less than 0.25 hectare of previously uncultivated or marginally utilised land into productive use, whilst 25% expanded cultivation by 0.25 to 0.5 hectare, and 8.8% achieved expansions exceeding 0.5 hectare.

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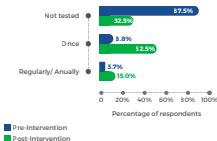
Earlier, we depended only on rain for farming, and income was not sure. After getting irrigation and support for vegetables and goats, farming became more reliable. We now grow vegetables regularly and earn from goat rearing also. Household expenses are managed better now.

- Laal Singh, Ranph Village, Roopvas Tehsil, Bharatpur District, Rajasthan

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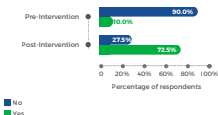
IMPACT 3. ADOPTION OF IMPROVED AGRICULTURAL PRACTICES (N = 80)

CHART 28: SOIL TESTING DONE, PRE AND POST INTERVENTION



Prior to the intervention, 87.5% of respondents had never conducted soil testing, relying instead on traditional cultivation knowledge and generalised fertiliser application. Post-intervention, this proportion declined to 32.5%, with 52.5% conducting soil testing at least once and 15% adopting regular annual testing. Soil testing enabled targeted nutrient management, reducing input waste whilst improving crop response.

CHART 29: IMPROVED SEEDS USAGE, PRE AND POST INTERVENTION

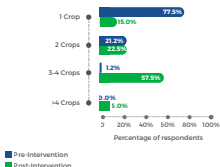


Similarly, improved seed adoption increased from a negligible 10% to 72.5% of respondents. Improved varieties offered advantages, including higher germination rates (reported by 77.5% of respondents), enhanced disease resistance, and superior market quality.

Respondents identified multiple benefits from these practice changes, including reduced pest and disease incidence (81.3%), more efficient fertiliser use (81.3%), higher germination rates (77.5%), and increased overall crop output (62.5%).

IMPACT 4. SUBSTANTIAL CROP DIVERSIFICATION (N = 80)

CHART 30: NUMBER OF CROPS GROWN PRE AND POST INTERVENTION



Prior to the intervention, over three-quarters of respondents (77.5%) cultivated only a single crop variety annually, typically a traditional cereal variety. The programme's integrated support enabled diversification, with 57.5% of households post-intervention cultivating 3 to 4 different crops, whilst 22.5% grew 2 crops.

“

Before this program, we could take only one crop in a year. With the water facility, we started vegetable farming, and income increased. Goats also give support during emergencies. Now we do not fear crop failure like before.

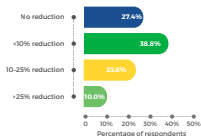
- Ramkrishan Gurjar, Gevar Village, Rajgarh, Alwar District, Rajasthan

”



IMPACT 5: REDUCED CROP LOSS THROUGH IMPROVED PRACTICES (N = 80)

CHART 31: REDUCTION IN CROP LOSS



The largest cohort (38.8%) reported reductions of less than 10%, whilst 23.8% achieved 10% to 25% reductions, and 10% reported reductions exceeding 25%.

IMPACT 6: SUBSTANTIAL INCREASE IN ANNUAL CROP VALUE (N=80)

CHART 32: INCREASE IN ANNUAL CROP VALUE



Based on SROI validation, the average annual income from vegetable cultivation is ₹70,875 per household. The distribution shows 22.6% of households achieving gains exceeding ₹70,000, 32.5% gaining ₹40,000-70,000, and 25% gaining ₹15,000-40,000. Only 7.4% reported no increase (non-adopters or first-season cultivators).

“

This project helped us in many ways together. Water, vegetables, and goats gave us multiple income sources. Food is available at home, and we also earn cash. Migration has reduced, and life feels more secure.

- Rati Ram, Chimravali Sikh, Laxman Garh Block, Alwar District, Rajasthan

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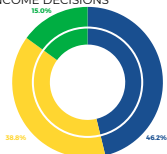
Respondents reported specific changes, including women participating in farm decisions (88.8%), more joint planning (81.3%), sharing practices with neighbour farmers (81.3%), and increased confidence in discussing farming (56.3%).



CONTROL GROUP RESPONDENT IN ALWAR, RAJASTHAN

IMPACT 7. INCREASED WOMEN'S PARTICIPATION IN INCOME DECISIONS (N = 80)

CHART 33: WOMEN'S PARTICIPATION IN INCOME DECISIONS



■ Independent
■ Occasional
■ Shared

Post-intervention, 46.2% of households reported that women participated independently in income-related decisions, whilst 38.8% indicated occasional participation.

“

In my family, people listen to me now because I am also involved in taking care of poultry. Owning a good herd of goats by our family has increased my respect in the community. I feel like I matter.

- Sughni Devi, 32, Smallholder Farmer, Ramsinghpura, Alwar

”



**BENEFICIARY INTERACTION
IN BHARATPUR, RAJASTHAN**

CASE STUDIES

CASE STUDY 1: LIVESTOCK-ENABLED DEBT CLEARANCE

Tanhaji Manwar Davkhar, a 54-year-old tribal farmer from Taleran village in Junnar block of Maharashtra, supports a household of 4-5 members on 1-3 hectares of partially irrigated land. Before the intervention, the family's annual income remained below ₹40,000, barely sufficient for subsistence. This fragile situation was further strained when Davkhar incurred a debt of nearly ₹2 lakh to meet the social obligation of his son's marriage—an amount equivalent to almost five times his yearly earnings. Servicing this debt severely limited the family's ability to invest in farming or meet other household needs.

Under Model 2, the Lupin Foundation intervened with a carefully designed livestock-based livelihood package. Davkhar received five goats along with veterinary training, regular health management support, and assistance in constructing proper housing for the animals. With improved care practices and reduced mortality, the goats multiplied steadily. Over the next two to three years, the family strategically sold a part of the growing flock, generating sufficient income to repay the entire debt. Once freed from the burden of repayment, the household experienced a marked shift in financial security. The income from livestock allowed Davkhar to reinvest in productive assets, support household consumption more comfortably, and make small but meaningful investments in human capital, including better nutrition and education-related expenses.

This case illustrates how livestock, when supported by technical training and health services, can act as a self-multiplying capital asset for poor households. It also underscores the importance of enabling families to plan for predictable social expenditures—such as marriages—through resilient livelihood models that balance income generation, asset growth, and financial stability.

KEY LEARNINGS



The provision of goats acted as a successful strategy by creating a self-multiplying asset base that steadily enhanced household income.



The sale of expanding livestock served as an effective method for clearing large debts without weakening the family's livelihood foundation.



Training and veterinary support proved crucial by improving animal survival and productivity, ensuring sustained returns.



Strengthened and stable income helped the household successfully manage predictable social expenses without falling into additional debt.

CASE STUDY 2: INFRASTRUCTURE-LED INCOME TRANSFORMATION

Butha Vitthal Sable, a 37-year-old farmer from Junnar Block in Maharashtra, worked hard to support his family of four on 3–5 acres of fully rainfed land. With no reliable water source, much of his land remained fallow, and his annual income hovered around ₹40,000—barely enough to meet household needs. During lean months, he relied on wage labour to make ends meet. The uncertainty of rain and the limits it placed on his farming brought constant stress to the family.

Everything began to change when he was included under Model 2 of the programme. A pump set with pipeline infrastructure was installed, giving him something he had never experienced before—assured irrigation throughout the year. With water finally reaching his fields, two acres of previously unused land came alive again. Technical guidance on vegetable cultivation and goat rearing further strengthened his confidence.

For the first time, Sable was able to cultivate green chillies on his revived land. The harvest brought him ₹70,000 from chillies alone, surpassing what he used to earn in an entire year. Meanwhile, the goats he received under the intervention multiplied to 16 animals, giving his family an extra layer of income and security.

With his livelihood stabilising and hope returning to his household, Sable began sharing his experiences with neighbours—showing them what was possible with guidance, water, and determination. His journey not only transformed his own family's future but also inspired others in his community to believe in change.

KEY LEARNINGS



Investing in irrigation infrastructure emerged as an effective strategy for unlocking hidden productive capacity and enabling agricultural intensification.



Designing integrated interventions proved successful in addressing multiple livelihood constraints simultaneously, leading to resilient and synergistic income growth.



Easing capital constraints worked as a key strategy, showing that lack of investment—not lack of potential—often limits rural farmer earnings.



Promoting peer knowledge transfer became a powerful strategy for amplifying programme impact through informal community-level extension.

CASE STUDY 3: STRATEGIC BENEFICIARY SELECTION IN JUNNAR BLOCK

Project Coordinator Mr Sanjay's decade-long engagement with program villages enabled capability-based asset matching rather than uniform eligibility criteria. As documented in implementation interviews:

"He had been associated with these villages for the past 10 years, hence he had a thorough understanding of each and every villager. Before giving cow/buffalo/goat/poultry, there were 3-4 training sessions. The beneficiaries were selected only if they successfully attended these sessions."

This approach served multiple functions: (1) technical preparation through Krishi Vigyan Kendra training, (2) motivation screening via attendance patterns, (3) knowledge baseline establishment before asset transfer. Exposure visits to Junnar and Pune complemented classroom training, enabling peer learning and expectation calibration.

Critical decisions reflected local ecological knowledge. Despite veterinary recommendations for high-yielding Beetal goats, the coordinator prioritised indigenous Gavran breeds: "He himself has 50 goats, so he knew which breed of goat would survive here, so he chose the local (Gavran) goats who could walk on steep mountains, making them suitable for the terrain of these villages."

This adaptive implementation demonstrates how local knowledge and longitudinal community relationships enable context-responsive programming—factors often absent when interventions are implemented by external agencies without sustained field presence.

CASE STUDY 4: MARKET-ORIENTED VEGETABLE ENTERPRISE – ADISAL, RAMSINGHPURA VILLAGE

At 50 years of age, Adisal cultivates 2 bighas of his own land and an additional 1 bigha taken on lease at an annual rent of ₹35,000. Before the intervention, he earned ₹15,000-20,000 per month from various small sources—an income that was enough to manage the household but offered little room for growth or investment. Like many farmers in his village, he relied on conventional practices and faced the usual constraints of limited resources and uncertain markets.

Under Model 2, Adisal received support that opened new possibilities for him: 30 irrigation pipes to improve water distribution, tin sheets to strengthen his livestock shelter, 5 kg of red earthworms to start vermicompost production, and hands-on training in organic farming. These seemingly simple assets became the foundation for a more confident, market-oriented approach to agriculture.

Adisal quickly adopted key practices—using goat waste to produce organic manure, preparing compost in a three-month cycle, and prioritising green chillies as his main commercial crop. Instead of depending on local markets, he began transporting his produce 100-150 km to Jaipur, where organic, high-quality vegetables fetch better prices. This shift reflected not only improved production but also rising confidence in the value of his produce.

The results have been remarkable. His cumulative vegetable sales touched ₹1.99 lakh, and his monthly income jumped from ₹15,000-20,000 to nearly ₹35,000. The improved quality of his produce opened doors for potential organic certification and better price realisation. With reduced input costs through vermicomposting and premium market access, his farming system became both profitable and sustainable.

Perhaps most inspiring is his role as a local champion. "I have motivated nearby farmers to adopt organic farming practices," he shared proudly, demonstrating how one farmer's progress can influence an entire community.

KEY LEARNINGS



Investment in irrigation access enabled consistent, higher-value cultivation and improved market readiness.



Integrated organic practices reduced input costs and enhanced produce quality, making commercial sales more profitable.



Strong market linkages opened opportunities for premium pricing in distant urban markets, significantly boosting income.



Peer-to-peer knowledge sharing broadened the programme's influence, encouraging neighbouring farmers to adopt similar organic methods.

SROI FINDINGS OF MODEL 2

PHASE 1: ESTABLISHING SCOPE AND IDENTIFYING STAKEHOLDERS

SCOPE OF THE SROI ANALYSIS

The scope of this SROI analysis is limited to the Model 2: Irrigation, Vegetable Cultivation and Goat Rearing intervention implemented under the LHWRF Livelihood Project. The analysis covers the provision of irrigation infrastructure (HDPE pipes and drip irrigation systems), agricultural inputs (seeds, vermi beds, bio-pesticides), post-harvest equipment (vegetable crates), **goat rearing support (goat shed materials, 5 Osmanabadi/Sirohi goats per household, and training)**, and associated training and technical support to smallholder farming households. The intervention was implemented across four geographic locations: Bharatpur (43 households), Alwar (33 households), Dhule (146 households), and Pune (59 households), reaching a total of 281 beneficiary households.

STAKEHOLDER IDENTIFICATION

In line with SROI best practice, secondary stakeholders were excluded from monetisation due to a lack of direct, attributable, or measurable economic outcomes that could be conservatively valued. Their role is acknowledged under attribution and contextual analysis in later phases.

Stakeholder Category	Stakeholder Group	Description	Included in SROI
Primary Stakeholders	Beneficiary Farmers	Smallholder farmers (landholders with 0.5-4 bigha holdings) who received irrigation infrastructure, agricultural support, and goat-rearing inputs	Yes
Primary Stakeholders	Farmer Households	Household members who benefit from increased income, food security, asset ownership, and reduced economic vulnerability	Yes
Secondary Stakeholders	Field Staff and Trainers	Project staff who provided training, technical support, and implementation oversight	No
Secondary Stakeholders	Local Agricultural Markets	Market actors and intermediaries engaged in the vegetable and livestock trade	No
Secondary Stakeholders	Village Institutions	Community bodies supporting project implementation and farmer mobilisation	No

PHASE 2: MAPPING OUTCOMES

INPUTS, ACTIVITIES, AND OUTPUTS

Inputs	Activities	Outputs
Project funding: Rs 1,60,67,000 (including beneficiary contribution)	Installation of HDPE pipes for water conveyance	281 HH with functional irrigation infrastructure
HDPE pipes (average 200-300 meters per household)	Installation of drip irrigation systems	Operational drip systems enabling multiple cropping
Drip irrigation equipment (emitters, laterals)	Provision of vegetable seeds	Enhanced the vegetable cultivation area and production
Vegetable seeds (seasonal varieties)	Establishment of vermi composting units	Reduced dependency on chemical fertilisers
Vermi beds and composting materials	Supply of bio-pesticides	Improved crop health and reduced chemical use
Bio-pesticides and organic inputs	Distribution of vegetable crates	Reduced post-harvest losses
Vegetable crates for storage and transport	Training on irrigation and crop planning	Enhanced farming technical capacity
Goat shed materials (per household)	Distribution of 5 Osmanabadi/Sirohi goats	281 households equipped with breeding stock
5 Osmanabadi/Sirohi goats per household	Training on goat husbandry/disease management	Enhanced livestock management knowledge
Training and technical support	Veterinary support and health camps	Improved goat health and reduced mortality

TANGIBLE AND INTANGIBLE OUTCOMES

Stakeholder	Tangible Outcomes	Intangible Outcomes
Beneficiary Farmers (Vegetable & Goat)	Vegetable: Income from sales, reduced crop loss, input/labour savings, consumption, and soil fertility. Goat: Income from sales, asset appreciation, avoided shed cost, mortality reduction, insurance, consumption, liquidity, and reduced moneylender dependence.	Improved confidence, enhanced social status, financial security, food security, and reduced stress from risk.

PHASE 3: EVIDENCING OUTCOMES AND ASSIGNING VALUE

Note: For all households, 1.5 bigha land ownership is assumed for vegetable cultivation outcomes. Goat rearing outcomes are valued based on 5 Osmanabadi/Sirohi goats per household. Beneficiary counts are adjusted based on logical uptake rates and field observations.

INTEGRATED EVIDENCE & VALUATION

Outcome	Evidence & Valuation Logic	HH	Notes
Income from vegetable sales	₹70,875 per HH/year	253	~90% successfully selling
Reduction in crop loss	₹15,195 per HH/year	281	100% benefiting
Irrigation water cost saved	₹4,680 per HH/year	225	~80% previously purchased water
Fertiliser/pesticide cost saved	₹3,450 per HH/year	253	~90% organic adoption
Labour cost saved	₹6,045 per HH/year	281	100% labour saving
Post-harvest loss reduced	₹3,240 per HH/year	225	~80% using crates
Household vegetable consumption	₹12,413 per HH/year	267	~95% consuming
Improved soil fertility	₹2,655 per HH/year	281	100% with vermi beds
Income from Goat/Kid Sales	Sales of surplus male kids ₹28,500/yr	253	~90% successfully selling
Asset Appreciation (Herd Growth)	Natural herd growth. ₹34,000/yr	239	~85% herd growth
Avoided Goat Shed Cost	The project provided materials ₹9,500	281	All HH received

Outcome	Evidence & Valuation Logic	HH	Notes
Mortality Reduction	Reduced deaths. ₹6,800/yr	253	~90% reduced mortality
Insurance Protection	Insurance coverage value. ₹15,000/yr	225	~80% active insurance
Household Consumption	Milk/meat consumption. ₹5,000/yr	211	~75% consuming
Emergency Liquidity	Asset liquidity value. ₹18,000/yr	169	~60% utilising
Reduced Moneylender Dependence	Avoided interest. ₹7,200/yr	140	~50% reduced borrowing



**BENEFICIARY INTERACTION
IN BHARATPUR, RAJASTHAN**

PHASE 4: ESTABLISHING IMPACT

DISPLACEMENT ASSESSMENT

Displacement is assessed to be zero. The intervention creates additional agricultural production capacity on previously underutilised land rather than displacing existing production.

DROP-OFF FOR FIVE-YEAR PROJECTION

10% cumulative drop-off per year applied from Year 2.

IMPACT ADJUSTMENTS

Outcome	DW (%)	Rationale	Attr (%)	Rationale
Income from vegetable sales	10%	Small independent expansion is possible.	20%	Extension/family labour.
Reduction in crop loss	10%	Natural improvement.	10%	Govt pest surveillance.
Irrigation water cost saved	10%	Peer learning efficiency.	10%	Subsidies/training.
Fertiliser/pesticide cost saved	10%	Adoption via other NGOs.	10%	Govt organic schemes.
Labour cost saved	10%	Mechanisation improvements.	10%	Govt mechanisation schemes.
Post-harvest loss reduced	10%	Basic handling improvements.	10%	Marketing infrastructure.
Household vegetable consumption	10%	Alternative kitchen gardens.	10%	Nutrition campaigns.
Improved soil fertility	20%	Composting adoption.	10%	Organic promotion schemes.
Goat/Kid Sales Income	10%	Small independent activity.	20%	Inputs/Vet services.
Asset Appreciation	10%	Some natural growth.	20%	Breed quality/Vet support.
Avoided Goat Shed Cost	0%	Lack of capital.	10%	Govt schemes.
Mortality Reduction	10%	Trial-and-error learning.	20%	Training/Shelter + Vet.
Insurance Protection	0%	Low access.	10%	Insurance company role.
Household Consumption	10%	Market purchase.	10%	Household decisions.
Emergency Liquidity	10%	Other savings	20%	Market conditions.
Reduced Moneylender Dependence	10%	Other credit sources.	20%	Financial inclusion.

NET ATTRIBUTABLE SOCIAL VALUE

Consolidated net attributable comparison for both vegetable cultivation and goat rearing outcomes.

Outcome	Beneficiaries	Unit Value (Rs)	Gross Value (Rs)	Deadweight	Attribution	Displacement	Net Value (Rs)
Income from vegetable sales	253	₹70,875	₹17,931,375	10%	20%	0%	₹12,910,590
Reduction in crop loss	281	₹15,195	₹4,269,795	10%	10%	0%	₹3,458,533
Irrigation water cost saved	225	₹4,680	₹1,053,000	10%	10%	0%	₹852,930
Fertiliser/pesticide cost saved	253	₹3,450	₹872,850	10%	10%	0%	₹707,008
Labour cost saved	281	₹6,045	₹1,698,645	10%	10%	0%	₹1,375,902
Post-harvest loss reduced	225	₹3,240	₹729,000	10%	10%	0%	₹590,490
Household vegetable consumption	267	₹12,413	₹3,314,271	10%	10%	0%	₹2,684,559
Soil fertility improvement	281	₹2,655	₹746,055	20%	10%	0%	₹537,159
Income from goat/kid sales	253	₹28,500	₹7,210,500	10%	20%	0%	₹5,191,560
Asset appreciation (herd growth)	239	₹34,000	₹8,126,000	10%	20%	0%	₹5,850,720
Avoided goat shed cost	281	₹9,500	₹2,669,500	0%	10%	0%	₹2,402,550
Mortality reduction (goats)	253	₹6,800	₹1,720,400	10%	20%	0%	₹1,238,688
Insurance protection (goats)	225	₹15,000	₹3,375,000	0%	10%	0%	₹3,037,500
Household consumption (goat products)	211	₹5,000	₹1,055,000	10%	10%	0%	₹854,550
Emergency liquidity (goat assets)	169	₹18,000	₹3,042,000	10%	20%	0%	₹2,190,240
Reduced moneylender dependence	140	₹7,200	₹1,008,000	10%	20%	0%	₹725,760
TOTAL NET SOCIAL VALUE			₹58,821,391				₹44,608,742

PHASE 5: CALCULATING THE SROI

Metric	Value
Total Net Social Value (One Year)	₹44,608,742
Total Project Investment	₹16,066,667
SROI Ratio	2.78:1

FIVE-YEAR PROJECTED SROI CALCULATION

Year	Active HH	Annual Net Value (Rs)	Discount Factor	Present Value (Rs)
Year 1	281	₹44,608,742	0.9524	₹42,484,516
Year 2	252	₹37,985,572	0.9070	₹34,454,034
Year 3	227	₹34,187,015	0.8638	₹29,532,029
Year 4	204	₹30,768,313	0.8227	₹25,313,168
Year 5	184	₹27,691,482	0.7835	₹21,697,001
TOTAL				₹153,480,749

Metric	Value (Rs)
Total Net Present Value (Five Years)	₹153,480,749
Total Project Investment	₹16,066,667
SROI Ratio	9.55:1

INTERPRETATION OF THE SROI RATIO

The Model 2: Irrigation, Vegetable Cultivation and Goat Rearing intervention generates Rs 2.78 of social value per Rs 1 invested in Year 1, rising to Rs 9.55 per Rs 1 over five years.

SENSITIVITY ANALYSIS

Sensitivity analysis tests robustness.

Scenario	One-Year SROI	Five-Year SROI
Pessimistic	2.37:1	7.44:1
Central (Base Case)	2.78:1	9.55:1
Optimistic	3.86:1	12.87:1

FOCUS GROUP DISCUSSION IN ALWAR, RAJASTHAN



MODEL 3: CATTLE INDUCTION & DIARY DEVELOPMENT

The cattle induction programme under Model 3 was implemented across beneficiaries representing diverse demographic and socio-economic profiles. The intervention targeted households with pre-existing engagement in agricultural and livestock-based livelihoods, enabling structured support for dairy enterprise development.

DEMOGRAPHIC PROFILE



The majority of respondents were male (91.6%).



61.1% belonged to Scheduled Tribes (ST), 17.9% OBC, 10.5% SC, 7.3% General, and 3.2% Minority communities.



53.7% lived in joint families, 41% in male-headed nuclear households, and 4.2% in widow- or women-headed households. Most households had 4–5 members (43.2%) or 6–7 members (34.7%), with 13.7% having 8 or more members.



Household heads were predominantly aged 51–60 years (35.8%) or 41–50 years (28.4%). Educational attainment was low: 27.4% had primary education, 24.2% middle school, 20% no formal schooling, 16.8% secondary, and 11.6% higher secondary or above.



57.9% owned less than 1 hectare, while 35.8% owned 1–3 hectares. Primary pre-intervention income sources included livestock/poultry (38.9%), rainfed farming (25.3%), agricultural labour (12.6%), milk sales (8.4%), irrigated farming (8.4%), non-farm labour (6.3%), and other sources (3.2%).



50.0% earned ₹40,000 annually, while 28.4% earned between ₹40,000 and ₹70,000. Cattle ownership was low: 36.8% owned one animal, 29.5% owned none, 25.3% owned two, and 8.4% owned three or more. Irrigation access was limited for 44.2%, seasonal for 35.8%, and adequate for 20%.

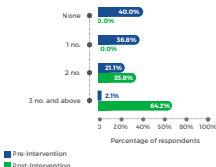


66.3% of beneficiaries had accessed 1–2 government schemes, while 14.7% had no prior access. Regarding programme contributions, 64.2% could provide the full 20% financial contribution, 29.5% could provide a partial contribution, and 6.3% required additional support.

KEY FINDINGS

FINDING 1. CATTLE OWNERSHIP EXPANSION AND HERD STRENGTHENING

CHART 34: NUMBER OF CATTLE OWNED PRE- AND POST- INTERVENTION



Before programme implementation, 40% of respondents owned no cattle, 36.8% owned one animal, 21.1% owned two animals, and 2.1% owned three or more animals. Post-intervention, no households remained without cattle ownership. Ownership distribution shifted to 35.8% owning two animals, and 64.2% owning three or more animals.

Only 41.0% of control households report involvement in cattle or dairy activities.

Field Observation

Beneficiaries who owned one animal prior to the intervention typically added two high-yielding animals under the programme, bringing their total ownership to three. This pattern was observed across intervention sites in both Alwar and Bharatpur districts. Households initially hesitant about livestock management gained confidence after observing tangible income increases within the first six months of cattle induction. This pointed towards demonstration effects within villages, where early adopters' visible success encouraged neighbouring households to engage more seriously with dairy enterprise development.

“

The milk from the buffalo is a daily source of cash. I sell 8 litres every day to the cooperative and get paid every ten days. I put this money directly into my bank account.

- Manvari Devi, 66, Dairy Farmer, Talab, Alwar

”

FINDING 2. GREEN FODDER AVAILABILITY AND CULTIVATION EXPANSION

CHART 35: AVAILABILITY OF GREEN FODDER PRE & POST

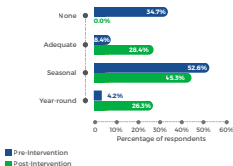


CHART 36: AREA UNDER FODDER CULTIVATION (POST)

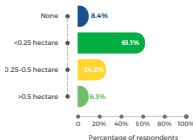


CHART 37: ADOPTION OF IMPROVED/LOCAL GREEN FODDER VARIETIES ATTENDED

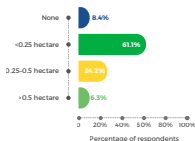
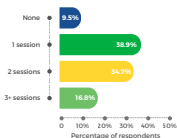


CHART 38: NUMBER OF FODDER TRAINING/TECHNICAL SESSIONS ATTENDED.



Access to Green Fodder

Before the intervention, over one-third of households (34.7%) reported no access to green fodder, while a majority depended on seasonal availability.

Post-intervention, the complete lack of fodder access was eliminated. The distribution shifted towards improved availability, with 28.4% reporting adequate access and 26.3% reporting year-round (though limited) availability, indicating a clear improvement in fodder security.

Area under Fodder Cultivation

Expansion in fodder cultivation was evident after the intervention. Most respondents (61.1%) cultivated green fodder on small plots of less than 0.25 hectares, while 24.2% brought 0.25–0.5 hectares under fodder. A smaller share (6.3%) expanded cultivation beyond 0.5 hectares, and only 8.4% continued without fodder cultivation, reflecting gradual adoption aligned with land availability.

Adoption of Fodder Varieties

A high level of adoption was observed, with 91.6% of respondents reporting the use of improved or local green fodder varieties. This indicates strong acceptance of fodder-related interventions and the relevance of the varieties promoted.

Training Exposure

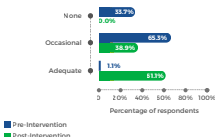
Most respondents participated in fodder-related capacity-building activities. While 38.9% attended one training session and 34.7% attended two sessions, 16.8% attended three or more sessions. Only 9.5% reported no training exposure, suggesting that training outreach was broad and reasonably intensive.

Technical Input Adoption

Fodder training sessions focused on improved and local green fodder varieties suited to the region's climatic conditions. Respondents reported that adoption of these varieties reduced dependency on external fodder purchases, particularly during summer months when fodder scarcity was most acute. This suggested that the programme's technical guidance successfully addressed seasonal fodder gaps, which had previously constrained year-round cattle maintenance.

FINDING 3. VETERINARY ACCESS ENHANCEMENT AND REGULAR SERVICE PROVISION

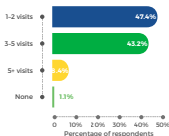
CHART 39: ACCESS TO VETERINARY SERVICES: PRE VS POST



Access to Veterinary Services

Before the intervention, one-third of households (33.7%) had no access to veterinary services, and most others relied only on occasional support. After the intervention, the complete lack of access was eliminated. The distribution improved significantly, with 61.1% of households reporting adequate veterinary access and 38.9% reporting occasional access.

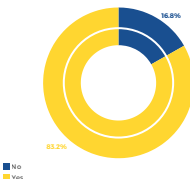
CHART 40: FREQUENCY OF VETERINARY VISITS SUPPORTED BY THE PROJECT



Frequency of Veterinary Visits

Service delivery intensity increased substantially. Nearly half of the respondents (47.4%) received 1-2 veterinary visits, 43.2% received 3-5 visits, and 8.4% received more than 5 visits. Only 1.1% reported receiving no visit, indicating strong outreach coverage.

CHART 41: CATTLE INSURANCE COMPLETED



Cattle Insurance Uptake

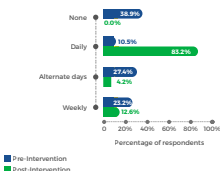
Insurance adoption was high, with 83.2% of respondents completing cattle insurance—reflecting increased awareness, risk mitigation practices, and strengthened engagement with livestock services.

Institutional Convergence Strategy

Programme staff in Junnar block of Pune reported that government veterinarians were invited to attend sessions organised by the Lupin Foundation and were convinced to provide timely support when required. This convergence strategy established service delivery pathways before livestock distribution, reducing response time during health emergencies and normalising government-NGO collaboration. Responses further suggested that this pre-emptive engagement with government veterinary services created institutional relationships enabling rapid technical support when beneficiaries required assistance.

FINDING 4. MILK MARKETING REGULARISATION AND PRICE REALISATION IMPROVEMENT

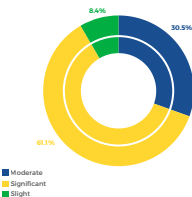
CHART 42: FREQUENCY OF MILK SALES, PRE VS POST



Milk-Selling Practices

Before the intervention, milk marketing was limited, with 38.9% of households not selling milk at all and only 10.5% selling daily. After the intervention, all households began selling milk, and 83.2% shifted to daily sales—indicating a major improvement in production levels and market engagement.

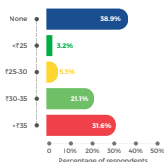
CHART 43: INCREASE IN REGULARITY OF DAIRY INCOME



Income Regularity

Households reported clear improvements in income stability: 61.1% experienced significant increases in regularity, 30.5% saw moderate improvements, and 8.4% reported slight gains. Notably, no respondent indicated a decline, reflecting strong positive economic effects.

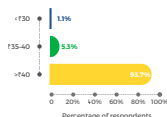
CHART 44: PRE-MILK SELLING PRICE PER LITRE



Milk Price Realisation

The intervention also improved price outcomes. Pre-intervention, a sizable share earned below ₹35 per litre, with 31.6% receiving under ₹25. Post-intervention, price realisation improved sharply—93.7% of households earned more than ₹40 per litre, and only 1.1% received below ₹30, signalling better quality, market linkage, and bargaining capacity.

CHART 45: POST-MILK SELLING PRICE PER LITRE



Market Linkage Support

Support for linking beneficiaries to milk collection centres varied in intensity. Of all respondents, 29.5% received full linkage completion support, 37.9% received guidance only, 23.2% received documentation and administrative help. This distribution suggested that while formal institutional linkages were prioritised, a subset of respondents (9.5%) relied on informal marketing channels. The predominance of above-₹40 pricing (93.7%) indicated that even households without formal linkages benefited from improved price realisation.

“

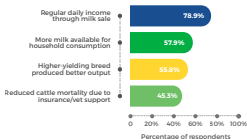
Having a calf is like creating a new asset. In two years, it will be a full-grown buffalo worth over ₹60,000. This is wealth that will help me in my old age.

- Hargovind Ji, 41, Dairy Farmer, Khan Surjapura, Bharatpur

”

FINDING 5. NUTRITIONAL SECURITY AND HOUSEHOLD CONSUMPTION IMPROVEMENT

CHART 46: FREQUENCY OF MILK SALES, PRE VS POST



Improved Income Stability

The strongest benefit reported was regular daily income from milk sales, with 78.9% of respondents acknowledging this improvement. This reflects how cattle induction created a dependable and continuous revenue stream.

Enhanced Household Nutrition

A significant share (57.9%) noted increased milk availability for home consumption, indicating better nutritional intake and reduced dependence on external purchases.

Higher Productivity

About 55.8% of respondents observed better output due to higher-yielding breeds, demonstrating clear productivity gains from the introduced cattle.

Reduced Livestock Mortality

Nearly half (45.3%) reported lower cattle mortality, attributed to insurance and consistent veterinary support—highlighting improved livestock health and reduced economic risk.

Overall, the benefits spanned income, nutrition, productivity, and risk reduction, showcasing the comprehensive impact of cattle induction on rural livelihoods.

“

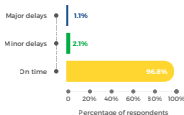
There is a stability in my life now. Crops can fail, but the buffalo gives milk regardless. This reliability gives me the confidence to plan for the future.

- Murlidhar Tukaram Rengade, 56, Dairy Farmer, Godre, Pune

”

FINDING 6. TIMELY PROGRAMME DELIVERY AND IMPLEMENTATION QUALITY PERCEPTION

CHART 47: TIMELINESS OF PROGRAM SUPPORT



Timeliness of cattle induction and handover was perceived positively by the overwhelming majority (96.8%) of respondents.

Implementation Strategy

The project coordinator's decade-long association with programme villages in Junnar Block enabled context-driven implementation. His thorough understanding of each villager's household capability, livelihood patterns, and resource management capacity informed asset allocation decisions. This extended local engagement facilitated capability-based matching of beneficiaries to intervention components, reducing delays arising from beneficiary unpreparedness or logistical mismatches.

KEY IMPACT

IMPACT 1. MILK YIELD ENHANCEMENT AND PRODUCTION INTENSIFICATION

CHART 48: MILK YIELD PER DAY (ALL ANIMALS) PRE & POST

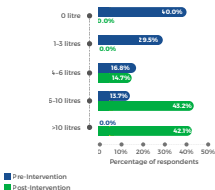
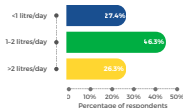


CHART 49: IMPROVEMENT IN MILK YIELD AFTER INDUCTION



Milk Production Levels

Pre-Intervention

Milk productivity was very low before the intervention.

- 40% of households produced no milk at all,
- 29.5% produced only 1-3 litres,
- 16.8% produced 4-6 litres, and
- 13.7% produced 6-10 litres.

No household produced more than 10 litres daily. This distribution highlights limited livestock productivity and major constraints in breed quality, feed, and veterinary care.

Post-Intervention

Post-intervention results show a dramatic shift.

- Zero-production households were completely eliminated,
- 14.7% produced 4-6 litres,
- 43.2% produced 6-10 litres, and
- 42.1% produced more than 10 litres per day.

This indicates a great improvement in cattle productivity and household-level dairy output.

Change in Milk Production

- **Pre-intervention: ~2.53 L/day**
- **Post-intervention: ~9.24 L/day**
- **Absolute increase: +6.71 L/day**
- **Percentage increase: ~265%**

This distribution demonstrates a widespread and meaningful rise in per-animal productivity, with nearly three-fourths of respondents experiencing at least 1 litre/day improvement per animal.

The intervention led to a substantial transformation in milk production. Households moved from low or zero output to high daily yields, supported by improved breeds, better fodder availability, and reliable veterinary services. The sharp rise in average production—from 2.53 to 9.24 litres per day—shows a profound enhancement in dairy-based livelihoods and income potential.

Programme Team Insights

Programme staff in the Rajgarh block of Alwar district reported that beneficiaries were trained to identify healthy, high-yielding animals before purchase. This participatory selection process ensured that inducted animals met quality standards. As noted in field interviews, the practice of issuing cheques directly to sellers rather than cash transfers to beneficiaries enhanced transparency and reduced the risk of fund diversion. This procedural safeguard contributed to the acquisition of superior-quality livestock, which subsequently translated into higher milk yields.

“

My grandchildren get pure milk to drink every morning. Earlier, we could not afford milk. Seeing them grow strong and healthy is the best return I could ask for.

- Kunjawati, 35, Dairy Farmer, Roopvaas, Bharatpur

”

“

After getting good breed cows and proper guidance, my milk production and income increased steadily. With regular earnings from dairy, I could buy more cows and ensure better education for my son, who is now studying veterinary science. Earlier income was uncertain, but now our future feels secure and planned.

-Rajendra Bhau Sangade, Kotamwadi, Pune District

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IMPACT 2. MONTHLY DAIRY INCOME ESCALATION

CHART 50: PRE – MONTHLY INCOME FROM DAIRY

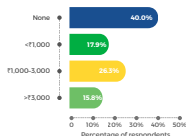
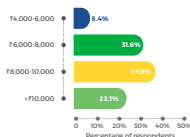


CHART 51: POST – MONTHLY INCOME FROM DAIRY



A comparative analysis of pre- and post-intervention dairy income reveals a profound structural shift in household economic resilience. Prior to the project, dairy farming served primarily as a marginal or supplementary activity, with 84.2% of respondents earning ₹3,000 or less per month, including 17.9% who generated no dairy income at all. Following the intervention, these lower-income brackets were entirely eliminated. The new economic baseline shifted upward significantly, with 31.6% of participants now earning between ₹4,000 and ₹6,000 monthly. Most notably, the intervention successfully transformed dairy into a highly lucrative primary livelihood, as the majority of respondents (37.9%) now fall into the ₹6,000–₹8,000 bracket, and over 22% generate premium incomes exceeding ₹10,000 per month.

Income transformation from dairy

- Pre-Intervention
- Monthly Average: ₹1,168.50
- Annual Average: ₹14,022
- Post-Intervention
- Monthly Average: ₹8,474.00
- Annual Average: ₹101,688

“

The dairy enterprise generated a regular and reliable income, significantly improving our family's financial condition. Encouraged by the steady milk yields and structured support from the project, I was able to transition entirely away from precarious daily wage work. Over time, the consistent milk sales have provided a strong layer of financial security for our women-headed household. At present, the household earns approximately ₹7,000 per month from dairy activities.

—Ms. Machala Thekedarni, Khan surjapura Village, Bharatpur District

”

“

The poultry enterprise generated regular income, significantly improving the household's financial condition. Encouraged by the success of poultry rearing, I further expanded my livelihood by investing in goat rearing activities. Over time, the goat herd increased, and income from goat sales provided an additional layer of financial security. At present, the household earns approximately ₹6,000 per month.

—Mr. Israel, Satvadi Village, Pahadi Block, Bharatpur District

”

Congruence Between Milk Yield and Dairy Income Improvements

A strong alignment was observed between the rise in milk yield and the increase in dairy income following the intervention. Average milk production increased from 2.53 litres/day to 9.24 litres/day—a 265% improvement. During the same period, average monthly dairy income rose from ₹1,248 to ₹8,500, marking a 581% increase. The sharper rise in income relative to yield reflects not only higher production but also improved price realisation, with over 93% of households earning above ₹40/litre post-intervention compared to predominantly low prices earlier. Additionally, daily milk sellers increased from 10.5% to 83.2%, and previously zero-producing households became active producers. Together, these factors demonstrate that the programme generated both production gains and market gains, resulting in a compounded positive impact on household dairy earnings.

Average Monthly Dairy Income

- Intervention group: ₹8,500/month
- Control group: ₹3,938/month

The intervention group earned, on average, ₹4,562 more per month than the control group—representing nearly a 115.8% higher income level. This gap directly reflects the gains achieved through the programme's support in the intervention group: improved milk yield, better fodder availability, reliable veterinary care, higher price realisation, and regular daily milk sales.

In contrast, the control group's lower average income indicates persistent constraints in productivity, market access, and service support, reinforcing the programme's effectiveness in addressing both production and market barriers.

Implementation Context

Before the programme, many families in Bharatpur district borrowed money from moneylenders to purchase animals and had to repay through milk, often at exploitative terms. After the intervention, beneficiaries began selling milk independently, resulting in improved income and greater financial autonomy. This pointed towards the programme's role in disrupting informal credit dependencies and enabling direct market participation.

IMPACT 3. CATTLE MANAGEMENT KNOWLEDGE ADVANCEMENT AND PRACTICE ADOPTION

CHART 53: KNOWLEDGE OF CATTLE MANAGEMENT PRACTICES, PRE VS POST

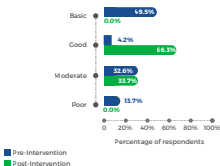
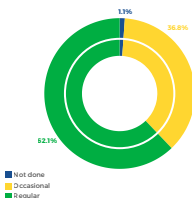


CHART 54: ADOPTION OF IMPROVED CATTLE MANAGEMENT PRACTICES



CHART 55: VACCINATION & DEWORMING STATUS (POST)



Knowledge Improvement

Before the intervention, most respondents had only basic or moderate knowledge of cattle management. Post-intervention, the lower knowledge categories were completely eliminated. A strong shift was observed, with 66.3% demonstrating good knowledge and 33.7% moderate knowledge, indicating substantial capacity enhancement.

Adoption of Improved Practices

Knowledge gains are translated into behavioural change. A majority of respondents adopted better cattle management practices—42.1% adopted 1-2 practices, while 34.7% adopted 3-4 practices—reflecting practical application of training inputs.

Vaccination and Deworming Compliance

Health-related practices improved significantly. 62.1% of respondents maintained regular vaccination schedules, demonstrating strengthened awareness and adoption of preventive animal healthcare.

Capacity Building Approach

Mandatory training attendance was instituted as a selection criterion. Before livestock induction, beneficiaries were required to successfully attend 3–4 training sessions covering feeding, health management, and housing. Krishi Vigyan Kendra (KVK) experts delivered species-specific training, ensuring that beneficiaries possessed minimum technical competency before asset handover. This approach served dual functions: technical preparation and motivation screening, as consistent attendance signalled genuine interest and commitment.

IMPACT 4. FODDER PURCHASE COST REDUCTION AND INPUT EXPENSE OPTIMISATION

CHART 56: REDUCTION IN MONTHLY FODDER PURCHASE COSTS

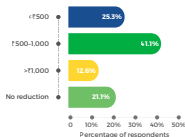
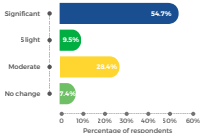


CHART 57: IMPROVEMENT IN CATTLE HEALTH DUE TO FODDER AVAILABILITY



Reduction in Fodder Purchase Costs

Households reported clear savings in monthly fodder expenses after adopting on-farm green fodder cultivation.

Estimated average monthly reduction: ~₹529 per household

This indicates a meaningful decline in fodder expenditure due to improved on-farm availability.

Improvement in Cattle Health

Better access to green fodder translates into observable health gains for cattle.

- **54.7%** of respondents reported **significant health improvements**,
- **28.4%** reported **moderate improvements**.

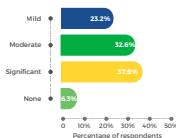
The wide adoption of on-farm green fodder contributed directly to improved nutrition, better animal condition, and reduced vulnerability to illness.

Multiple Benefits of Fodder Development

94.7% of respondents attributed better cattle nutrition leading to higher milk yield, 75.8% cited lower expenditure on external fodder, 72.6% noted reduced fodder shortage in summer months, and 64.2% reported the ability to maintain more cattle. These multiple-answer responses reflected the cascading benefits of fodder cultivation, extending beyond immediate cost savings to encompass production enhancement and herd expansion capacity.

IMPACT 5. REDUCTION IN CATTLE MORTALITY AND MORBIDITY THROUGH HEALTH MANAGEMENT

CHART 58: REDUCTION IN CATTLE ILLNESS/MORTALITY



Cattle owners reported a noticeable reduction in cattle illness and mortality following improved access to veterinary services and livestock management training. According to respondents, 37.9% experienced significant reductions, 32.6% observed moderate reductions, and 23.2% reported mild improvements.

Cattle owners attributed these changes to practical shifts in their day-to-day practices. Many noted that veterinary help became available on time, allowing them to treat animals at the first signs of illness rather than waiting until conditions worsened. Several farmers shared that earlier they either delayed treatment or depended on local, untrained remedies, which often led to animal deaths—something they felt had reduced after the intervention.

They also reported that regular vaccination and deworming, which they had earlier neglected or followed inconsistently, became routine after training. Farmers felt this made their cattle "stronger" and less prone to repeated sickness. Improved understanding of feeding, clean sheds, and proper care during seasonal changes was frequently mentioned as helping animals recover faster and stay healthier.

Many Cattle owners highlighted that they could now recognise early symptoms, such as loss of appetite or unusual behaviour, and take action before the illness spreads to other animals. Others noted that guidance on keeping sick animals separate and maintaining cleanliness helped reduce infections within the herd.

Overall, the cattle owners perceived that the combination of better knowledge, timely veterinary support, and access to appropriate medicines reduced both treatment delays and avoidable losses, leading to improved survival and productivity of their cattle.

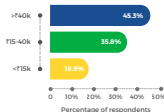
Perceived benefits of training and veterinary support substantiated the mechanisms driving mortality reduction. 95.8% of respondents attributed benefits to timely treatment, reducing illness and death, 93.7% cited improved hygiene and shed management, 87.4% noted increased milk yield due to improved care, 71.6% mentioned better feeding practices.

Monitoring and Risk Mitigation

Beneficiaries were instructed to maintain simple daily records of milk production and animal health observations. Field staff visited villages 3–4 times each month to verify data and provide technical guidance. This structured monitoring approach enabled early identification of health issues and timely veterinary intervention. Responses further suggested that insurance coverage for inducted animals remained valid for three years, protecting households from major financial risks associated with catastrophic animal losses.

IMPACT 6. HOUSEHOLD INCOME ENHANCEMENT AND POVERTY ALLEVIATION

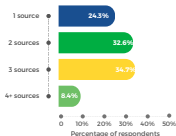
CHART 59: INCREASE IN REGULARITY OF DAIRY INCOME



Household income showed a marked increase after the cattle induction programme. Among the respondents, 45.3% reported earning an additional ₹15,000–40,000, while an equal proportion—45.3%—reported income gains of more than ₹40,000. This reflects a significant boost in household earnings attributable to the intervention.

IMPACT 7. LIVELIHOOD DIVERSIFICATION AND INCOME SOURCE MULTIPLICITY

CHART 60: INCREASE IN THE NUMBER OF INCOME SOURCES



Post-intervention, the number of income sources increased substantially. 34.7% of respondents reported an increase of 3 income sources, while 32.6% reported an increase of 2 income sources.

In contrast, the control group demonstrated greater livelihood diversification, with 29% relying on rainfed agriculture, 21% on daily wage labour, and 17% on irrigated agriculture as their primary income sources.

“

Increased and stable income enabled the family to invest in education and long-term aspirations. The household now enjoys better nutrition through regular milk consumption, improved financial security, and the confidence to further scale up dairy operations. With improved earnings, the family is able to meet expenses related to children's education, daily household needs, and healthcare in a timely manner

- Ms. Pitto, Khan Surjapur Village, Bharatpur District

”



SROI FINDINGS OF MODEL 3

PHASE 1: ESTABLISHING SCOPE AND IDENTIFYING STAKEHOLDERS

SCOPE OF THE SROI ANALYSIS

The scope of this SROI analysis is limited to the Model 3: Dairy Development intervention. The analysis covers the provision of milch animals, insurance, milk storage equipment, fodder support, and training to beneficiary households across Bharatpur, Alwar, Pune, and Dhule districts, reaching a total of 253 households. The SROI assessment focuses on outcomes generated through the dairy enterprise support, including income generation from milk sales, cost savings, asset creation, household consumption benefits, and livelihood stability.

STAKEHOLDER IDENTIFICATION

Stakeholders were identified based on their direct or indirect experience of change resulting from the intervention. Only stakeholders for whom material and measurable outcomes were observed are included in the SROI analysis.

Stakeholder Category	Stakeholder Group	Description	Included in SROI
Primary Stakeholders	Beneficiary Households	253 rural households who received milch animals, insurance, equipment, fodder, and training	Yes
Secondary Stakeholders	Implementing Agency	Project implementation teams are responsible for execution and monitoring	No
Secondary Stakeholders	Local Veterinary Services	Government and private veterinary service providers	No
Secondary Stakeholders	Milk Cooperatives	Local dairy cooperatives facilitating milk procurement	No

STAKEHOLDERS EXCLUDED FROM VALUATION

In line with SROI best practice, the following were excluded from monetisation due to a lack of direct, attributable, or measurable economic outcomes: government veterinary and agricultural extension systems, local healthcare providers, milk processing units, and broader community members not directly linked to beneficiary households. Their role is acknowledged under attribution and contextual analysis in later phases.

PHASE 2: MAPPING OUTCOMES

INPUTS, ACTIVITIES, AND OUTPUTS

Inputs	Activities	Outputs
CSR funding (Rs. 1,19,09,000)	Procurement and distribution of buffalo/cow to households	milch animals provided to beneficiary households
Milch animals (Murrah buffalo)	Provision of animal insurance coverage	Insurance coverage for all animals
Animal insurance policies	Distribution of milk cans and storage equipment	Milk storage capacity established per household
Milk cans and equipment	Green fodder support provision	Reduced fodder procurement burden
Green fodder supplies	Training on animal husbandry and dairy management	Enhanced knowledge and skills among beneficiaries
Training and capacity building	Linkage with milk cooperatives	Market access established for milk sale

TANGIBLE AND INTANGIBLE OUTCOMES

Stakeholder	Tangible Outcomes	Intangible Outcomes
Beneficiary Households	Increased income from milk sales; income from dung/manure; reduced fodder costs; reduced milk wastage; avoided financial loss through insurance; asset appreciation; household milk consumption value; regular cash flow; reduced wage labour dependence	Enhanced dignity and social status; increased confidence in livelihood; improved household nutrition; sense of financial security.

Only tangible outcomes experienced by beneficiary households are carried forward for evidencing and valuation in Phase 3. Intangible outcomes are acknowledged as important but discussed narratively only.

OUTCOMES CONSIDERED BUT EXCLUDED FROM VALUATION

Certain outcomes emerged during stakeholder interactions but were excluded from monetisation due to their intangible nature or lack of measurable economic indicators: improved social status within the community, enhanced confidence and self-esteem, improved household nutrition quality, sense of financial security, and community-level demonstration effects. These outcomes are acknowledged as important but are discussed narratively only.

PHASE 3: EVIDENCING OUTCOMES AND ASSIGNING VALUE

INPUTS, ACTIVITIES, AND OUTPUTS

Phase 3 establishes evidence of change and assigns monetary values to selected outcomes identified in Phase 2. This phase translates observed changes into gross social value using a combination of stakeholder-reported income and cost information, market prices, and conservative financial proxies where direct values were unavailable.

In line with SROI principles, valuation in this phase reflects gross benefits only, without adjusting for deadweight, attribution, or displacement. Impact adjustments are addressed separately in Phase 4.

Outcome	Description	Unit Value (₹/HH/year)	Coverage
Income from Milk Sales	Average production of 8.5 litres/day sold to cooperatives and local markets	1,02,000	All 253 households
Income from Dung and Manure	Sale and productive use of dung as organic manure/biogas	6,500	All 253 households
Savings from Green Fodder Support	Reduced expenditure on purchased fodder during the initial months	9,800	All 253 households
Reduced Milk Wastage (Milk Cans)	Savings from lower spoilage during storage and transport	3,200	All 253 households
Avoided Loss due to Animal Insurance	Insurance payout protecting against mortality risk	18,000	20% households (=51 HHs)
Value of Milk Consumed	Market value of milk retained for household consumption	12,500	All 253 households
Reduced Dependence on Wage Labour	Economic value of the shift from irregular wage labour to stable dairy income	22,000	Applicable households with a livelihood shift

PHASE 4: ESTABLISHING IMPACT

PURPOSE OF IMPACT ADJUSTMENT

Phase 4 adjusts the gross social value estimated in Phase 3 to identify the net additional and attributable value generated by the Dairy Development intervention. This is done by applying deductions for deadweight, attribution, and displacement, in line with standard SROI methodology.

APPROACH TO DEDUCTIONS

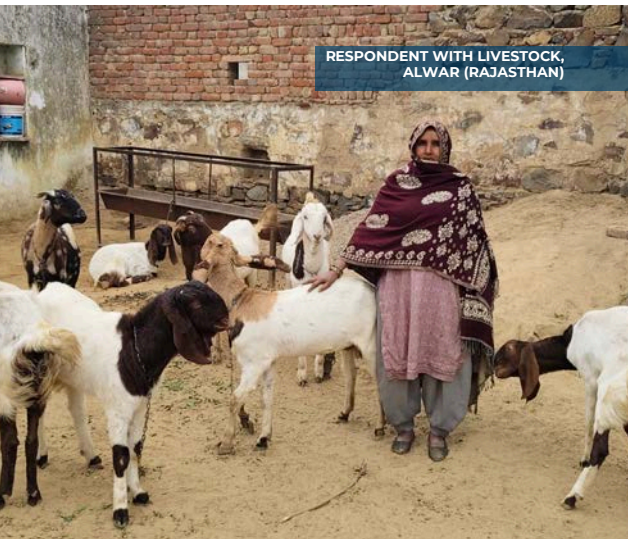
Impact adjustments were applied outcome-wise, recognising that different outcomes are influenced by external factors to varying degrees. Deduction rates were informed by baseline livelihood conditions, presence of government schemes and market systems, nature of outcomes, and stakeholder consultations. All deduction rates are applied in multiples of 10 per cent, with a maximum combined deduction of 20 per cent for any single factor, reflecting the strong project contribution and limited alternative access in the target communities.

Displacement was assessed across all outcomes and found to be negligible, as the intervention created additional benefits without replacing existing income sources or displacing other economic activities.

OUTCOME-WISE IMPACT ADJUSTMENTS

Outcome	Deadweight (%)	Deadweight Rationale	Attribution (%)	Attribution Rationale
Income from Milk Sales	10	Some households may have acquired dairy animals through their own savings, loans, or government schemes, even without the project.	10	Market systems and dairy cooperative infrastructure supported milk marketing and price realisation.
Income from Dung and Manure	10	Utilisation of dung for fuel or manure is a pre-existing practice in rural households.	10	Household initiative in processing, composting, and selling manure contributes to realised value.
Savings from Green Fodder Support	10	A small proportion of fodder needs might have been met through common lands or crop residues.	10	Household fodder management practices influence the efficiency of fodder use and savings.
Reduction in Milk Wastage	10	Some households may already have basic storage or handling practices, reducing spoilage.	10	Care in milk handling, hygiene, and timely sale by households affects wastage levels.
Avoided Financial Loss through Insurance	10	A few households may have relied on precautionary savings or informal risk-sharing mechanisms.	10	Veterinary services and animal health support systems contribute to reduced mortality and claim avoidance.

Outcome	Deadweight (%)	Deadweight Rationale	Attribution (%)	Attribution Rationale
Value of Milk Consumed by Household	10	Households may have accessed milk earlier through purchase or informal sources.	10	Household decisions on allocation between sale and consumption influence realised nutrition benefits.
Reduced Dependence on Wage Labour	20	Some livelihood diversification and income improvement would have occurred naturally over time.	20	Local labour market conditions, alternative employment opportunities, and household effort contribute to reduced wage dependence.



**RESPONDENT WITH LIVESTOCK,
ALWAR (RAJASTHAN)**

NET ATTRIBUTABLE SOCIAL VALUE

After applying outcome-wise deductions for deadweight and attribution, the remaining value represents the net social value attributable to the Dairy Development intervention. This net value reflects benefits that are additional, conservative, and directly linked to the provision of milch animals, insurance, equipment, fodder, and training.

PHASE 5: CALCULATING THE SROI

YEAR 1 SROI CALCULATION

Monetisable Outcome	Beneficiaries	Unit Value (Rs.)	Gross Value (Rs.)	Deadweight	Attribution	Displacement	Total Deduction	Net Value (Rs.)
Annual income from milk sales	253	1,02,000	2,58,06,000	10%	10%	0%	20%	2,06,44,800
Income from dung and manure	253	6,500	16,44,500	10%	10%	0%	20%	13,15,600
Savings from green fodder support	253	9,800	24,79,400	10%	10%	0%	20%	19,83,520
Reduction in milk wastage	253	3,200	8,09,600	10%	10%	0%	20%	6,47,680
Avoided loss through insurance (20% of HH)	51	18,000	9,18,000	10%	10%	0%	20%	7,34,400
Value of milk consumed by the household	253	12,500	31,62,500	10%	10%	0%	20%	25,30,000

Monetisable Outcome	Beneficiaries	Unit Value (Rs.)	Gross Value (Rs.)	Deadweight	Attribution	Displacement	Total Deduction	Net Value (Rs.)
Reduced dependence on wage labour	253	22,000	55,66,000	20%	20%	0%	40%	33,39,600
TOTAL			4,03,86,000					3,11,95,600

YEAR 1 SROI RATIO

Total Social Value (Year 1)	Total Investment	SROI Ratio (Year 1)
Rs. 3,11,95,600	Rs. 1,19,09,000	2.62:1



BENEFICIARY INTERACTION

FIVE-YEAR PROJECTED SROI CALCULATION

The five-year projection incorporates the following conservative assumptions: a social discount rate of 8 per cent per annum is applied to calculate present values; annual drop-off of 10 per cent is applied to account for natural attrition, animal replacement cycles, and changing household circumstances; the insurance outcome is applied only in Year 1, as it represents protection against initial loss rather than a recurring annual benefit; asset appreciation is not projected beyond Year 1 as it represents a one-time value creation.

FIVE-YEAR PROJECTED SOCIAL VALUE (PRESENT VALUES AT 8% DISCOUNT RATE WITH 10% ANNUAL DROP-OFF)

Outcome	Year 1 Net Value	Year 2 PV	Year 3 PV	Year 4 PV	Year 5 PV
Annual income from milk sales	2,06,44,800	1,72,01,037	1,43,34,197	1,19,45,164	99,54,303
Income from dung and manure	13,15,600	10,96,333	9,13,611	7,61,343	6,34,452
Savings from green fodder support	19,83,520	16,52,933	13,77,444	11,47,870	9,56,558
Reduction in milk wastage	6,47,680	5,39,733	4,49,778	3,74,815	3,12,346
Avoided loss through insurance	7,34,400	-	-	-	-
Value of milk consumed by the household	25,30,000	21,08,333	17,56,944	14,64,120	12,20,100
Reduced dependence on wage labour	33,39,600	27,83,000	23,19,167	19,32,639	16,10,533
Annual Total	3,11,95,600	2,53,81,370	2,11,51,142	1,76,25,952	1,46,88,293

CUMULATIVE FIVE-YEAR SROI RATIO

Total Present Value (5 Years)	Total Investment	Cumulative SROI Ratio (5 Years)
Rs. 11,00,42,357	Rs. 1,19,09,000	9.24:1

SENSITIVITY ANALYSIS

Sensitivity analysis tests the robustness of the SROI ratio under different assumptions. Three scenarios are presented: a conservative scenario with higher deductions and lower values, a central scenario representing the base case analysis, and an optimistic scenario with lower deductions reflecting strong project attribution.

Sensitivity Analysis Scenarios

Parameter	Conservative	Central (Base Case)	Optimistic
Deadweight (most outcomes)	20%	10%	5%
Attribution (most outcomes)	20%	10%	5%
Discount Rate	10%	8%	6%
Annual Drop-off	15%	10%	5%
Year 1 Net Social Value	Rs. 2,42,31,600	Rs. 3,11,95,600	Rs. 3,62,96,700
Year 1 SROI Ratio	2.04:1	2.62:1	3.05:1
5-Year Cumulative PV	Rs. 7,58,73,280	Rs. 11,00,42,357	Rs. 14,85,61,429
5-Year Cumulative SROI Ratio	6.37:1	9.24:1	12.48:1

The sensitivity analysis demonstrates that the SROI ratio remains positive and substantial across all scenarios. Even under the most conservative assumptions, the intervention generates a Year 1 return of Rs. 2.04 for every rupee invested, rising to Rs. 6.37 over five years. This confirms the robustness of the social value creation and the cost-effectiveness of the Dairy Development intervention.

INTERPRETATION OF THE SROI RATIO

The SROI analysis shows that the Dairy Development intervention generates ₹2.62 for every ₹1 invested in Year 1, increasing to ₹9.24 over five years, after conservative adjustments for deadweight, attribution, drop-off, and discounting. The value is driven primarily by sustained income from milk sales and household economic stabilisation, with long-term projections capturing cumulative benefits beyond the assessment year. Several qualitative gains were excluded from monetisation to avoid over-claiming, implying that actual social value is likely higher. Overall, even under conservative assumptions, the results confirm dairy asset provision as a cost-effective and transformative livelihood investment.

CASE STUDIES

CASE STUDY 1: DAIRY-LED LIVELIHOOD TRANSFORMATION AND EDUCATIONAL INVESTMENT

Rajendra Bhau Sangade, a 41-50-year-old Scheduled Tribe household head from Kotamwadi, Pune, lived on less than one hectare with 4-5 family members, relying on a single local cow and seasonal agriculture for a meagre income of ₹70,000-1,00,000 annually. Milk yield was low, veterinary access was limited, and income was irregular.

Under the Lupin Foundation's Model 3 intervention, he received two high-yielding Holstein Jersey crossbreed cows, insurance, vaccination, veterinary support, technical guidance on feeding and management, and fodder cultivation support. Linkages to milk collection systems and advisory support for government schemes further strengthened his livelihood.

Post-intervention, Rajendra expanded his herd to five cows, doubling milk yield to 6-10 litres per day initially, with monthly dairy income rising to over ₹6,000 and annual household income reaching ₹1,50,000-₹2,00,000. Regular green fodder reduced feed costs, improved cattle health, and ensured steady milk sales at ₹40+/litre. Annual savings grew from under ₹2,000 to ₹10,000-20,000, enabling investment in his son's veterinary education, demonstrating intergenerational impact and enhanced socio-economic resilience.

KEY LEARNINGS



Introducing high-yielding breeds, along with hands-on technical training, leads to sustained improvements in milk productivity and overall livestock performance.



Access to regular veterinary services and livestock insurance acts as a strong safety net, reducing losses and stabilising household incomes.



Cultivating fodder throughout the year significantly lowers input costs while improving cattle nutrition and health, thereby enhancing milk output.



Daily and predictable milk sales create a steady cash flow, enabling families to plan better, save consistently, and invest in children's education and essential household assets.



Higher and more stable incomes motivate farmers to expand their herds, indicating a gradual but clear shift toward long-term livelihood strengthening and asset building.

CASE STUDY 2: FEMALE-HEADED HOUSEHOLD DAIRY ENTERPRISE AND MIGRATION REDUCTION

Ms. Pitto, a 34-year-old from Khan Surjapur, Bharatpur, lives with her family of six children on two bighas of land. Prior to the intervention, the household owned a single buffalo, had no stable livestock income, and depended on her husband's masonry work, with frequent financial stress and migration to hazardous mining work.

Through the Lupin Foundation's Model 3 intervention, she received two buffaloes with calves, technical training, vaccination support, fodder cultivation guidance, and basic infrastructure like cattle shed and milk cans. She now produces 10 litres of milk daily and 5 kg of ghee per month, earning ₹8,000-10,000 monthly. Stable income allowed her to stop migration, improve household nutrition, and ensure regular school attendance for her children.

KEY LEARNINGS



Female-headed households are able to achieve dairy income gains comparable to other households when provided with the same level of assets, training, and institutional support.



Engaging in value-added dairy activities, such as ghee preparation, helps diversify income sources and unlocks higher returns through premium pricing.



Structured and continuous training strengthens both technical dairy management and basic financial planning skills, leading to better productivity and income use.



Improved livelihood stability at the village level reduces dependence on hazardous or distress migration, contributing to better health, safety, and household well-being.



Regular and predictable income allows families to meet education-related expenses on time, reinforcing long-term gains through improved intergenerational mobility.

CASE STUDY 3: DAIRY INCOME AS SEED CAPITAL FOR LIVELIHOOD DIVERSIFICATION

Niji, a 55-year-old resident of Sorai village in Alwar, lives with her six family members on 1.5 bighas of land. Before the intervention, the household did not own any milch animals and depended on irregular migrant labour, earning only ₹5,000–10,000 per month.

With support from the Lupin Foundation, Niji received two buffaloes along with essential infrastructure such as cattle sheds, floor mats, and milk cans, as well as hands-on training in animal care, feeding, and management. The buffaloes now provide enough milk for the family's consumption and generate a steady surplus for sale. This reliable income stream has enabled the family to diversify their livelihood by opening an e-Mitra service centre and a small cosmetics shop. As a result, their monthly household income has increased to ₹25,000–30,000, strengthening financial stability, reducing dependency on loans, and supporting timely expenditure on children's education, healthcare, and daily household needs.

KEY LEARNINGS



Asset support combined with technical training creates immediate and sustained income opportunities, even for households previously dependent on irregular labour.



Livestock-based income improves cash flow, enabling families to diversify into non-farm enterprises such as small shops and service centres.



Reliable monthly earnings reduce reliance on debt, improving financial resilience and the ability to meet essential expenses on time.



Women's participation in livestock management can drive household-level economic mobility, even in low-landholding or migrant labour-dependent families.



Integrated support—animals, infrastructure, and knowledge—creates a strong foundation for long-term livelihood upgrading and multi-source income generation.

MODEL 4: SKILL DEVELOPMENT & NON-FARM ENTERPRISE PROMOTION

Model 4 targeted economically vulnerable households with limited agricultural land by strengthening non-farm livelihoods through skill development, artisan upgradation, and enterprise promotion. The intervention reached 51 households across project locations, providing technical training, toolkit support, and business handholding to establish sustainable income sources independent of land-based activities.

DEMOGRAPHIC PROFILE



Among 30 respondents, 67% were from the General category, 23% Scheduled Tribes, and 7% OBC. Most households (73%) were joint families with multiple earning members; 27% were male-headed nuclear households. Family sizes were predominantly 4–5 members (57%), with 23% having 6–7 members, 10% with 8 or more, and 10% with 1–3 members.



Household heads were mainly 30–40 years old (50%) and 41–50 years old (30%). Education levels were moderate: 33% completed secondary school, 30% middle school, 23% primary, and 10% had no formal education.



Landlessness was common: 57% had no land, 37% owned <1 hectare. Primary income sources were artisan work (60%), small business (27%), and daily wage labour (13%).



The majority (73%) earned below ₹50,000 annually; 10% earned ₹50,000–80,000, 10% ₹80,000–1 lakh, and 7% ₹1–1.5 lakh. Youth participation was high: 83% of households had one youth (18–35 years), 13% had two.

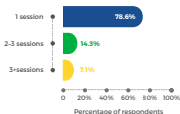


All artisans had undergone through a 30 day training.

KEY FINDINGS

FINDING 1: NUMBER OF ENTERPRISE TRAINING/HANDHOLDING SESSIONS ATTENDED

CHART 61: NUMBER OF ENTERPRISE TRAINING/HANDHOLDING SESSIONS



Enterprise training engagement varied, with 79% attending one session, 14% participating in 2-3 sessions, and 7% completing more than three sessions. Despite limited training intensity, 61% reported significant improvement in business management skills, 32% experienced moderate improvement, and 7% noted slight improvement. The training approach focused on practical business planning, financial management, and market linkages rather than extensive theoretical instruction.

In the control group, there was minimal engagement in small businesses (7%) and artisan work (5%).



Earlier, I worked as a labourer, and my income was uncertain. After skill training, I started my own work. Tools helped me work faster and better. Now income is regular, and family life has improved.

- Dayachand, Gangora Village, Pahadi, Bharatpur, Rajasthan



Training was easy to understand and fully practical. After getting the tools, my work quality improved. Now I get more work and earn more than before. Savings have also started.

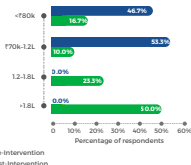
- Rameshchand, Abhayapur Village, Pahadi, Bharatpur, Rajasthan



In Bharatpur district, one household established an e-Mitra service centre while another opened a cosmetics shop, demonstrating how skill-based income enabled broader entrepreneurial initiatives. This suggested that the programme catalysed a wider shift towards self-employment and business orientation.

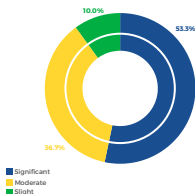
FINDING 2: ANNUAL HOUSEHOLD INCOME TRANSFORMATION

CHART 62: ANNUAL HOUSEHOLD INCOME-PRE- AND POST-INTERVENTION



■ Pre-Intervention
■ Post-Intervention

CHART 64: FAMILY'S ABILITY TO MANAGE EXPENSES AFTER MODEL 4



Baseline Household Income Profile (Before the Programme)

- 46.7% of households earned below ₹80,000 annually
- 53% earned between ₹70,000 and ₹1.2 lakh
- No households earned above ₹1.2 lakh

Estimated average annual household income (pre-intervention): ≈ ₹85,000–₹90,000

This reflects a predominantly low-income profile, with most households clustered below subsistence-level earnings.

Post-Intervention Income Distribution

- 50% of households reported annual incomes above ₹1.8 lakh
- 23% earned between ₹1.2–1.8 lakh
- Remaining households moved out of the lowest income brackets

Estimated average annual household income (post-intervention): Rs. 1,61,010/-

This represents a near doubling of average household income following the intervention.

To promote entrepreneurship, LHWRF provided beneficiaries with additional equipment for their existing businesses. This upgrade increased their productivity and, consequently, their income. Empowered by this support, a few beneficiaries even launched secondary ventures. For instance, Kisan Aba Ghode from Davkharwadi expanded his shop's operations to include shipping Ayurvedic medicines. Despite these new ventures, the core businesses supported by LHWRF remained the primary source of income for all beneficiaries.

Drivers of Income Variation

Income gains varied based on livelihood diversification:

- 53% added one new income source
- 33% added two income sources
- 10% added three income sources
- 3% added four or more income sources

In case of artisans, income was increased in only single sources (same as previous) but they are now getting more income due to support of advance tools and inverter which increased their working hours

Improvement in Household Expense Management

- 53% reported significant improvement
- 37% reported moderate improvement
- 10% reported a slight improvement

This indicates that income growth translated into better financial planning, timely payment of expenses, and improved household well-being, rather than remaining as nominal income gains alone.

Overall Insight

The intervention resulted in a structural upward shift in income levels, with households moving into higher income brackets, diversifying livelihoods, and demonstrating improved financial stability and resilience.

Programme staff noted that several beneficiary families undertook house repairs, purchased motorcycles for work-related mobility, and increased educational investments for children.

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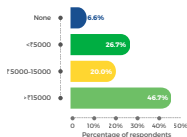
Since I started my own fabrication workshop, I earn around ₹12,000 every month. I have saved enough to buy a second welding machine and hire a helper.

- Devdath, 45, Artisan/Stone Carver,
Abhayapur, Bharatpur

”

FINDING 3: SAVINGS ACCUMULATION

CHART 65: ANNUAL SAVINGS GENERATED THROUGH NEW SKILLS/ENTERPRISE



Baseline Savings Capacity (Before the Programme)

- 63.3% saved only ₹500-2,000 per month
- 20% reported no savings at all

This indicates highly constrained financial buffers and limited ability to manage unexpected expenses.

Drivers: Improvement in Monthly Cash Flow

- 27% experienced a monthly cash flow increase of ₹1,000-3,000
- 17% saw an increase below ₹1,000
- 10% reported an increase above ₹3,000
- 47% reported no change in cash flow

Those with higher cash flow gains were largely the households that adopted new skills or added additional income sources.

Annual Savings Generated from Skills & Enterprise Activities

- 46.7% accumulated annual savings above ₹15,000
- 20% accumulated between ₹5,000–₹15,000

This demonstrates that new or strengthened livelihood activities translated into sustained and meaningful long-term savings, enhancing financial resilience.

Overall Inference

The programme enabled households to move from irregular or minimal savings to more stable and higher monthly and annual savings. Improved cash flow from skill-based and enterprise income played a central role in building stronger financial cushions and greater economic security.



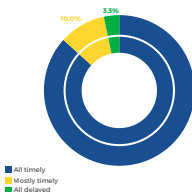
Before this program, we never thought of running a business. Training gave confidence and direction. Today, we are self-employed and do not depend on others. Life feels more stable now.

- Vishnu Sharma, Abhayapur Village, Pahadi, Bharatpur, Rajasthan



FINDING 4: PROGRAMME PROCESS QUALITY AND TIMELINESS

CHART 66: OVERALL PROGRAM TIMELINESS



Programme implementation quality was assessed through the timeliness of interventions. The survey revealed that 86.7% reported all activities as timely, and 10% indicated most activities as timely. This high timeliness perception reflected structured planning and regular engagement by programme staff with beneficiary households.

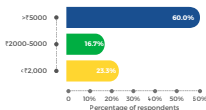


LIVESTOCK RAISED BY BENEFICIARY

KEY IMPACT

IMPACT 1. MONTHLY INCOME INCREASE FROM SKILL APPLICATION

CHART 67: MONTHLY INCOME INCREASE DUE TO SKILLING



The survey revealed that 60% reported a monthly income increase exceeding ₹5,000, 23% experienced an income gain below ₹2,000, and 17% achieved an income improvement in the ₹2,000–5,000 range.

“

I am no longer a servant to anyone; I am a 'Malik' (owner) of my own work. This feeling of independence is worth more to me than money.

- Lekhraj Bhardwaj, 40, Sculptor, Gangora, Bharatpur

”

“

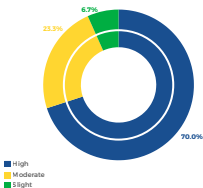
Earlier, my earnings depended on whether I got electrical work or not. Now, with my own shop near the Ashram School, I earn regularly and can stay in my village with my family. I feel more secure and confident about the future.

- Kisan Aba Ghode, Davkharvadi, Kotamwadi, Junnar

”

IMPACT 2. ENHANCED LIVELIHOOD RESILIENCE

CHART 68: INCREASE IN LIVELIHOOD RESILIENCE



■ High
■ Moderate
■ Slight

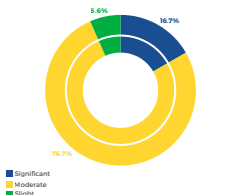


FORMER SARPANCH OF THE VILLAGE

The pathways through which Model 4 strengthened resilience included more reliable monthly income for 80.0%, reduced dependence on wage labour for 80.0%, improved savings and reduced debt for 76.7%, and enhanced employability of youth for 63.3%.

IMPACT 3. REDUCTION IN FINANCIAL VULNERABILITY

CHART 69: REDUCTION IN FINANCIAL VULNERABILITY



Financial vulnerability reduction was reported across the majority of beneficiary households. Survey data indicated that 76.7% experienced a moderate reduction in financial vulnerability, and 16.7% achieved a significant reduction.

In the control group, only 18% of households perceived their livelihoods as stable, while 46% felt they were improving. A significant proportion reported insecurity, with 13% somewhat insecure and 23% very insecure, indicating overall low livelihood stability compared to the intervention group.

“

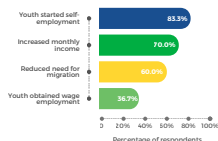
I used to worry about my future constantly. Now I have a skill that no one can take away.

- Kamal Kumar, 32, Artisan/Entrepreneur, Gangora, Bharatpur

”

IMPACT 4. SKILL-BASED LIVELIHOOD OUTCOMES

CHART 70: OBSERVED BENEFITS OF SKILLING INTERVENTION



The visible outcomes of skill development were assessed through multiple indicators. The survey revealed that 83.3% started self-employment, 70% experienced increased monthly income, 60% reduced need for migration, and 37% obtained wage employment.

“

Earlier, I could do only small welding jobs and had to depend on daily labour for income. After getting the drilling machine, I can do more work in my shop. Now customers come regularly, and my earnings have become more stable.

- Chhagan Gawari, Hadsar, Junnar

”

IMPACT 5. ARTISAN UPGRADEATION BENEFIT PATHWAYS

CHART 71: OBSERVED BENEFITS OF SKIL UPGRADATION



Artisan skill upgradation generated benefits through multiple pathways. Among the 29 households engaged in artisan activities, 93.1% reported improved product quality, 69% experienced reduced production time, 65.5% achieved higher sales and better prices, and 44.8% gained access to wider markets. The prominence of product quality improvement indicated that technical training successfully enhanced craftsmanship standards.

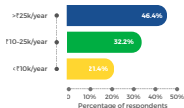
Programme staff noted that some artisans began supplying products to distant urban markets, including Jaipur and Delhi, where demand for quality craftsmanship commanded premium prices.



BENEFICIARIES WITH BUFFALOES

IMPACT 6. ENTERPRISE SUPPORT OUTCOMES

CHART 72: OBSERVED BENEFITS OF ENTERPRISE SUPPORT



Among the 28 households that established enterprises. The annual income increase from enterprise activities showed that 46.4% gained above ₹25,000, 32.2% increased income by ₹10,000–25,000, and 21.4% achieved gains below ₹10,000.

In the control group, most households earned very low non-farm incomes, with 30% earning less than ₹5,000 per month, 14% earning ₹5,000–10,000, and only 1% exceeding ₹10,000.

The support improved household livelihoods, with 82.1% reporting higher daily or weekly income and 75% experiencing greater financial stability. 64.3% reduced their dependence on wage labour, while 25% engaged in home-based income activities, reflecting enhanced economic security and diversified income sources.

IMPACT 7. SKILL CERTIFICATION AND MARKET RECOGNITION

CHART 73: SKILL UPGRADATION COMPLETED. POST INTERVENTION

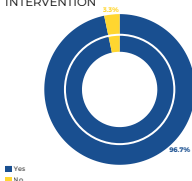
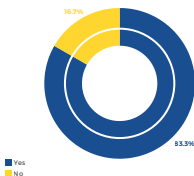


CHART 75: CERTIFICATION RECEIVED



Certification and formal skill recognition emerged as important impact dimensions. Among those engaged in artisan upgradation, 97% completed skill upgradation successfully and among those, 83.3% received certification.

The certification provided formal recognition of technical competencies, which enhanced beneficiaries' market positioning and credibility. Programme staff noted that several beneficiaries were subsequently linked with Pradhan Mantri Vishwakarma Yojana, which provided additional support and government recognition as skilled artisans.

SROI FINDINGS OF MODEL 4

PHASE 1: SCOPE AND STAKEHOLDERS

Primary stakeholder: Beneficiary households (51 HH) - included in SROI valuation. Secondary stakeholders: Field staff, trainers, enterprise mentors, implementing agency - excluded from valuation, acknowledged in attribution analysis. Assessment period: FY 2023-24 retrospective with five-year projection. Geographic scope: Bharatpur (40 HH), Pune (5 HH), Dhule (6 HH). Total investment: ₹13,69,000 (₹0.81 lakhs skill training + ₹12.88 lakhs enterprise development).

PHASE 2: OUTCOME MAPPING

Inputs: Skill training (Bharatpur only), enterprise equipment/tools, working capital, raw materials, technical guidance, and market linkage support. Activities: Vocational training in enterprise selection, business planning, financial management, production techniques, quality control, marketing, distribution of equipment and working capital; ongoing mentorship. Outputs: 51 HH equipped with skills, equipment, working capital, and business knowledge to operate sustainable microenterprises.

TANGIBLE AND INTANGIBLE OUTCOMES

Category	Outcomes	Treatment
Tangible Outcomes (Monetised)	(1) Incremental income from enterprise operations, (2) Value of enterprise assets created, (3) Reduced casual wage labour dependency, (4) Household consumption substitution, (5) Reduced borrowing and interest costs, (6) Income stability and reduced seasonal variability, (7) Value of skill training received free of cost	Fully monetised and included in SROI calculation using beneficiary income data, market prices, wage rates, and conservative proxies
Intangible Outcomes (Narrative)	(1) Enhanced entrepreneurial confidence, (2) Improved social status within the community, (3) Increased household decision-making capacity (4) Strengthened local market networks, (5) Women's empowerment through business ownership, (6) Skill development and enhanced employability	Acknowledged as important but excluded from quantitative valuation to maintain conservatism and avoid over-claiming

Note: Only tangible outcomes are monetised. Intangible outcomes add qualitative value beyond the quantified SROI ratios.

PHASE 3: EVIDENCING OUTCOMES AND VALUATION

The table below presents the evidence base, valuation logic, and gross value for each monetised outcome. All values reflect conservative assumptions based on income assessment data, beneficiary reports, market prices, and programme monitoring records.

Outcome	Evidence & Valuation Logic	Gross Value	HH
Incremental Annual Income	Net enterprise earnings after operational costs. Based on Pune assessment data: average ₹47,696/HH/year from 2 enterprise activities (₹38,148 each). Represents actual income increment over baseline. Evidence: beneficiary income records, field monitoring data.	₹47,696/yr	51
Enterprise Assets Created	Equipment, tools, infrastructure, and working capital enabling sustained operations. Average ₹26,843/HH based on investment patterns. Assets retain value beyond Year 1 and continue generating returns. One-time Year 1 recognition. Evidence: programme investment records.	₹26,843	51
Reduced Wage Labour Dependency	Time cost savings from reduced need to seek casual daily wage work. Conservative valuation: 10 work-seeking days/HH/year @ ₹300/day. Does not double-count income differential (already in Outcome 1). Evidence: baseline livelihood patterns, beneficiary time use.	₹3,000/yr	51
Household Consumption Substitution	Self-produced goods replace market purchases for applicable enterprises (food processing, tailoring). Conservative ₹2,000/HH/year applied to 60% of beneficiaries. Limited direct evidence; intentionally modest valuation. Evidence: beneficiary discussions, enterprise type analysis.	₹2,000/yr	31
Reduced Borrowing Costs	Stable income reduces short-term consumption borrowing. Conservative: 40% of HH avoid ₹5,000 borrowing @ 36% p.a. interest = ₹1,800/HH interest saved. Rural informal lending rates typically 24-60% p.a. Evidence: beneficiary borrowing patterns, local credit market conditions.	₹1,800/yr	20

Outcome	Evidence & Valuation Logic	Gross Value	HH
Income Stability	Year-round income reduces seasonal vulnerability. Valued through avoided distress coping costs (asset sales, high-cost emergency borrowing). Conservative proxy ₹2,500/HH/year. Avoids double-counting with income increment. Evidence: beneficiary discussions on reduced crisis borrowing.	₹2,500/yr	51
Skill Training Received	Vocational training in enterprise management is provided free to Bharatpur beneficiaries. Market proxy ₹5,000/participant for equivalent private training (conservative vs ₹5,000-8,000 market rate). One-time Year 1 benefit. Evidence: private training institute fees, course duration/content comparison.	₹5,000	40



CONTROL GROUP RESPONDENTS, ALWAR (RAJASTHAN)

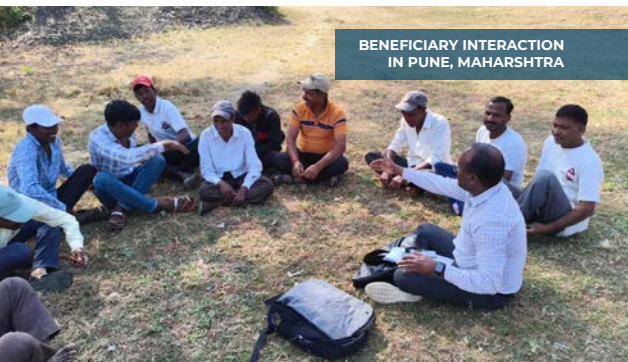
PHASE 4: ESTABLISHING IMPACT

Impact adjustments deduct deadweight (what would have occurred anyway), attribution (contribution by others), and displacement (negative effects on others). Adjustments are outcome-specific based on field evidence, beneficiary interactions, and knowledge of parallel interventions. Displacement = 0% across all outcomes (microenterprises create new economic activity rather than displacing existing businesses). Drop-off = 20%/year for recurring income outcomes (for 5-year projection), 100% after Year 1 for one-time assets/training.

Outcome	DW	Attr	Deadweight Rationale	Attribution Rationale
Incremental Income	15%	25%	Some households would undertake income-generating activities through government schemes, microfinance, and self-initiative. However, without structured training, equipment, and working capital, success rates are significantly lower. Field evidence shows self-initiated enterprises often fail in Year 1 or generate minimal surplus.	Govt skill missions (parallel training), microfinance institutions (working capital), family labour, existing market infrastructure, local entrepreneurial ecosystem, broader economic conditions, and consumer demand. The programme provided a critical integrated support package.
Assets Created	10%	20%	Some beneficiaries would acquire basic equipment through savings/loans without intervention, but scale, quality, and appropriateness would be suboptimal without technical guidance and bulk procurement advantages.	Equipment suppliers, government subsidy schemes for enterprise development, and family financial contributions. Programme contribution: appropriate technology selection, bulk procurement, integrated support package.
Reduced Wage Dependency	20%	30%	Natural household economic transitions occur through skill accumulation, experience, and capital savings. Some households would gradually reduce casual labour dependency through other pathways over time.	Govt employment guarantee (MGNREGS), skill development missions, broader economic development, improved local employment opportunities. The programme accelerated transition through the enterprise pathway.
Consumption Substitution	25%	20%	Household production for self-consumption (vegetable gardens, home cooking) occurs naturally in rural economies as baseline practice independent of intervention.	Market access improvements, supply chain development, and pricing dynamics are influenced by broader economic factors beyond programme control. Household consumption preferences also influence outcomes.

Outcome	DW	Attr	Deadweight Rationale	Attribution Rationale
Reduced Borrowing	20%	35%	Household financial management improves gradually through experience, changing circumstances, and natural income growth, leading to some reduction in distress borrowing independent of intervention.	Financial inclusion initiatives, microfinance competition, reducing rates, government interest subvention schemes, and improved formal banking access. The programme reduced borrowing needs through a stable income.
Income Stability	15%	30%	Livelihood diversification occurs gradually through natural economic evolution, household lifecycle changes, and provides baseline income stability improvements independent of the programme.	Govt safety net programmes improved agricultural practices, climate resilience initiatives, and broader economic stability. The programme contributed through non-farm income diversification.
Skill Training	30%	20%	Govt skill development missions (PMKVY, DDU-GKY) provide subsidised/free training to rural entrepreneurs. Some beneficiaries would access these parallel channels, though specific enterprise focus and integrated model may differ. Inherent entrepreneurial aptitude leads to informal skill acquisition.	Govt training infrastructure, curriculum development by sector skill councils, training materials from public institutions, and broader entrepreneurship promotion. The programme is designed to target enterprise-focused training with market linkages.

BENEFICIARY INTERACTION IN PUNE, MAHARSHTRA



PHASE 5: CALCULATING THE SROI

The table below presents the evidence base, valuation logic, and gross value for each monetised outcome. All values reflect conservative assumptions based on income assessment data, beneficiary reports, market prices, and programme monitoring records.

One-Year SROI

Outcome	HH	Gross/HH	DW	Attr	Net/HH	Total Net
Incremental Income	51	₹47,696	15%	25%	₹30,379	₹15,49,374
Assets Created	51	₹26,843	10%	20%	₹18,925	₹9,65,160
Reduced Wage Dependency	51	₹3,000	20%	30%	₹1,680	₹85,680
Consumption Substitution	31	₹2,000	25%	20%	₹1,200	₹37,200
Reduced Borrowing	20	₹1,800	20%	35%	₹936	₹18,720
Income Stability	51	₹2,500	15%	30%	₹1,488	₹75,863
Skill Training	40	₹5,000	30%	20%	₹2,800	₹1,12,000

Total Gross Value (Year 1): ₹43,79,916 | Total Net Value (Year 1): ₹24,43,997 | Investment: ₹13,69,000

ONE-YEAR SROI: 1.78:1

FIVE-YEAR PROJECTED SROI

Incorporates: (1) 20% annual drop-off for recurring income outcomes (enterprise discontinuation, market saturation), (2) 6% social discount rate (Social Value UK recommendation for developing economies), (3) One-time assets/training excluded from Years 2-5.

One-Year SROI

Year	Active HH	Annual Net Value	Discount Factor	Present Value
Year 1	51	₹24,43,997	0.9434	₹23,05,655
Year 2	51	₹12,53,517	0.8900	₹11,15,631
Year 3	51	₹10,02,814	0.8396	₹8,41,962
Year 4	51	₹8,02,251	0.7921	₹6,35,463
Year 5	51	₹6,41,801	0.7473	₹4,79,639
				Total NPV: ₹53,78,350

Total NPV (5 Years): ₹53,78,350

Investment: ₹13,69,000

FIVE-YEAR SROI: 3.93:1

Sensitivity Analysis

Scenario	Adjustments	SROI Ratio
Optimistic	DW -5%, Attr -10%, Drop 15%	5.22:1
Base Case	DW +0%, Attr +0%, Drop 20%	3.93:1
Pessimistic	DW +5%, Attr +10%, Drop 25%	2.91:1

Sensitivity analysis confirms robust findings (2.91:1 to 5.22:1), demonstrating a strong value proposition across assumption variations. Even a pessimistic scenario delivers a positive SROI.

INTERPRETATION OF RESULTS

The one-year SROI of 1.78:1 and the five-year SROI of 3.93:1 indicate both immediate and sustained social value creation, primarily driven by incremental household income, and supported by enterprise asset formation, human capital development, and enhanced livelihood stability.

Relative to asset-transfer models, the returns are moderate due to market dependence, enterprise gestation periods, and higher business risk; however, the intervention offers structural advantages in the form of year-round income generation, transferability of skills, scalability, and livelihood diversification.

The application of conservative attribution, drop-off, and exclusion of intangible outcomes, together with sensitivity analysis, confirms the robustness of the estimates and validates enterprise development as a viable and resilient livelihood pathway for resource-poor households.

CASE STUDIES

CASE STUDY 1: TRANSITION FROM WAGE LABOUR TO ENTERPRISE ESTABLISHMENT

KAMAL KUMAR, GANGORA VILLAGE, PAHADI BLOCK, BHARATPUR DISTRICT

Kamal Kumar, 39, from Gangora village, lived in a seven-member household and owned no agricultural land. Pre-intervention, he earned ₹10,000–15,000/month from sculpture and craft work, limited by outdated tools, insufficient skills, and a lack of structured support.

Under Model 4, he attended multiple skill-building trainings (3–15 days) and received an artisan toolkit (₹40,000, ₹7,000 co-contribution) and an inverter for uninterrupted work. The intervention improved technical efficiency, reduced production time, and enabled him to scale operations.

Post-intervention, Kamal established his own artisan enterprise, earning ₹35,000–40,000/month with savings up to ₹20,000, transforming his household's financial security. He was also linked with the Pradhan Mantri Vishwakarma Yojana, gaining recognition and additional support for his craft.

KEY LEARNINGS



Skill training combined with appropriate tools enables immediate application and productivity gains.



Longer, hands-on training sessions foster deeper skill internalisation.



Addressing infrastructure constraints (e.g., power backup) prevents downtime and ensures continuity.



Government scheme linkages post-training enhances sustainability and livelihood recognition.

CASE STUDY 2: COLLABORATIVE ENTERPRISE MODEL

RAKESH, GANGORA VILLAGE, PAHADI BLOCK, BHARATPUR DISTRICT

Rakesh, 38, previously worked as a daily wage labourer with unpredictable earnings and no independent livelihood. Supporting a family with three children, financial security was a constant concern.

Through a seven-day Lupin Foundation skill training, he gained formal certification, technical expertise, and a subsidised toolkit (grinder, hammer, cutter, 7" and 9" machines) along with an inverter. Equipped with skills and tools, Rakesh partnered with two fellow trainees to rent a workspace and establish a joint production unit, later expanding by hiring three additional workers. Raw materials were sourced from Makrana for sculpture production and sold in external markets.

Post-intervention, Rakesh earns ₹35,000/month, pays ₹10,000-15,000/month as wages, and maintains savings, marking a complete transition from wage labourer to enterprise owner. He also linked with the Pradhan Mantri Vishwakarma Yojana, gaining additional tools and formal recognition.

KEY LEARNINGS



Collaborative enterprises enable resource pooling, risk sharing, and sustainable outcomes.



Peer networks formed during training facilitate joint venture formation.



Transition from wage labourer to employer reflects enhanced livelihood agency and empowerment.



Government scheme linkages post-training reinforces sustainability and enterprise growth.

CASE STUDY 3: FROM INFORMAL ELECTRIC WORK TO LOCAL MICRO-ENTERPRISE

Kisan Aba Ghode, aged 29, belongs to the Scheduled Tribe community and resides in a four-member household in Kotamwadi, Junnar. The family owns 1 acre of unirrigated land, which did not provide sustainable agricultural income. Prior to the intervention, Kisan worked as an informal electric wireman in nearby villages, earning approximately ₹40,000 annually through irregular assignments of ₹500-1,000 each. His income was unstable due to a lack of capital, the absence of a fixed workplace, and dependence on sporadic demand for electrical repairs. Frequent travel for work added economic uncertainty and household strain.

Under Model 4, Kisan received enterprise promotion support to establish a small retail shop near the local Ashram School, filling a clear market gap for stationery and snacks. No formal skill training was required; the support focused on start-up infrastructure and working capital. The intervention provided a refrigerator, shop setup, initial stock, and labour for establishment, with total assistance of approximately ₹76,000. Kisan contributed ₹30,000 from his own resources and provided labour and space for operating the shop.

The shop is now fully operational, generating a stable monthly income of ~₹5,000. The predictable sales from the Ashram School ensured regular cash flow, replacing the earlier pattern of uncertain daily wages. Kisan is now self-employed as a shop owner and no longer relies on irregular electrical work in the surrounding villages.

The intervention enhanced livelihood security, reduced work-related mobility, and improved household stability. By establishing a locally anchored micro-enterprise, Kisan achieved economic self-reliance and continuity of income, enabling him to remain with his family and plan for future business expansion.

KEY LEARNINGS



Locally anchored micro-enterprises provide predictable income and reduce livelihood-related mobility.



Start-up support, including infrastructure and working capital, enables rapid enterprise establishment.



Even without formal skills, targeted asset and capital support can transform subsistence livelihoods into stable self-employment.



Anchoring enterprises near consistent customer bases ensures continuity and sustainability.

CASE STUDY 4: TRANSFORMING A WELDING LIVELIHOOD IN HADSAR KOTMAWADI

Chhagan Gawari, a male household head from the Scheduled Tribe community, is under 30 years old and lives in a small family of 1-3 members in Hadsar Kotamwadi village, Pune district. He has completed primary education. The household owns less than one hectare of land, insufficient to provide a viable agricultural income. Prior to the intervention, Chhagan's livelihood depended on daily wage labour, supplemented by small-scale welding work from a modest roadside shop. Limited tools and capital restricted him to basic welding tasks, resulting in irregular work and an annual household income below ₹50,000. The lack of advanced equipment constrained his productivity and kept earnings low and uncertain.

Under Model 4, the Lupin Foundation provided enterprise promotion support to strengthen Chhagan's welding-based livelihood. He received a drilling machine to complement his existing tools, enabling him to undertake precision fabrication and repair jobs. This intervention expanded his service portfolio, enhanced operational efficiency, and opened higher-value work opportunities.

With the new equipment, Chhagan can now execute a broader range of metal fabrication and repair tasks locally. The enhanced tool base reduced his reliance on daily wage labour and increased both the volume and regularity of orders at his workshop. Monthly earnings have become more stable, reflecting better utilisation of his technical skills.

The intervention facilitated Chhagan's transition from casual wage labour to self-employment as a micro-entrepreneur. Access to appropriate tools improved productivity, enabled skill-based income generation within the village, and reduced the need for uncertain external work. The resulting livelihood stability enhanced household economic security and laid the foundation for future enterprise growth.

KEY LEARNINGS



Provision of targeted tools can immediately expand service capabilities and income potential.



Strengthening existing skill-based livelihoods reduces dependence on casual labour.



Micro-entrepreneurship within the village enhances household economic security.



Appropriate equipment interventions lay the foundation for enterprise scaling and diversification.

MODEL 5: FARM-ALLIED ENTERPRISE PROMOTION

DEMOGRAPHIC PROFILE



Of 40 households, 72.5% were male-headed and 27.5% female- or widow-headed, reflecting targeted outreach to particularly vulnerable households. Most were joint families (57.5%), 27.5% male-headed nuclear, and 15% women-/widow-headed.



Household heads were predominantly 30–50 years (37.5% aged 30–40, 42.5% aged 41–50). Family sizes were moderate: 47.5% had 4–5 members, 32.5% had 6–7, and 15% had 1–3 members.



Educational attainment was low: 47.5% had no formal schooling, 32.5% primary schooling, 10% middle school. Socially, 42.5% were Scheduled Tribes and 37.5% belonged to Minority communities.



Landlessness was predominant: 70% had no land, 25% owned <1 hectare, and only 5% had 1–3 hectares. Primary pre-intervention income sources were largely livestock/poultry (70%), followed by rainfed farming (12.5%), non-farm labour (12.5%), and agricultural labour (5%).



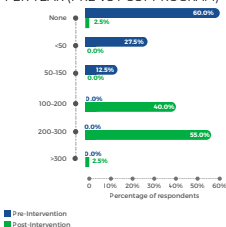
Most households (70%) earned less than ₹40,000 annually (≈₹3,500/month), with 15% earning ₹40,000–70,000, highlighting severe economic vulnerability.



KEY FINDINGS

FINDING 1: SCALE-UP IN BACKYARD POULTRY PRODUCTION INTENSITY (N = 40)

CHART 75: NUMBER OF BIRDS RAISED PER YEAR (PRE VS POST PROGRAM)



Prior to the programme, 60.0% of respondents raised no poultry birds whatsoever, while 27.5% maintained fewer than 50 birds annually. Only 12.5% managed between 50 and 150 birds per cycle. Following programme support. Post-intervention, 97.5% respondents scaled up to managing between 100 and 300 birds per cycle. Specifically, 40% raised between 100 and 200 birds, while 55% managed between 200 and 300 birds annually.

Among the control group, only 24% owned any poultry, with 70.8% of these maintaining fewer than 20 birds and none operating at the production scales observed among programme respondents.

FINDING 2: INCREASE IN ANNUAL POULTRY INCOME (N = 39)

CHART 76: ANNUAL POULTRY INCOME (PRE-PROGRAM)

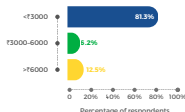
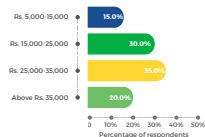


CHART 77: ANNUAL POULTRY INCOME (POST-PROGRAM)



The pre-program data indicates that poultry contributed very limited income to households. A large majority of respondents (81.3%) reported earning below ₹3,000 annually, while only 12.5% earned ₹3,000–₹6,000, and a small proportion (6.2%) earned above ₹6,000. This suggests that poultry rearing was largely subsistence-oriented and low-scale, generating minimal financial returns for most households prior to the intervention.

In contrast, the post-program distribution shows a substantial upward shift in income levels from poultry. None of the respondents remain in the extremely low-income brackets seen earlier. Instead, incomes are concentrated in higher ranges: 35% earn ₹25,000–₹35,000 annually, 30% earn ₹15,000–₹25,000, 20% earn above ₹35,000, and 15% earn ₹5,000–₹15,000. This indicates that the programme significantly expanded the scale and commercial viability of poultry rearing, transforming it from a marginal activity into a meaningful supplementary income source for rural households.

“

Earlier, we depended only on daily labour, and the income was very low. After getting goats and poultry, we started earning from home. Slowly, income increased, and daily needs became easier to manage.

- Aasukh, Daulatpura Village, Laxmangarh, Alwar District, Rajasthan

”

“

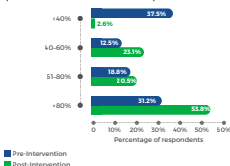
The chickens give us eggs daily, which we use to buy our groceries. The goats grow every month, building our wealth. Last year I sold three goats and bought a second-hand bike.

- Ravina Ji, 48, Poultry/Goat Rearer, Daulatpura, Alwar

”

FINDING 3: IMPROVEMENT IN CHICK SURVIVAL RATES (N = 39)

CHART 78: SURVIVAL RATE OF CHICKS (PRE VS POST PROGRAM)



Among the 16 households engaged in poultry pre-programme, 37.5% experienced survival rates below 40%, 12.5% achieved rates between 40 and 60%, 18.75% attained 61 to 80% survival, and 31.2% exceeded 80%.

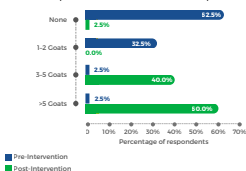
Post-programme, among 39 active poultry-rearing households, the distribution shifted markedly. 23.1% achieved 40 to 60%, 20.5% reached 61 to 80%, and 53.8% exceeded 80% survival rates.

Average Survival rate before the intervention: 59%

Average Survival rate after the intervention: 74%.

FINDING 4: EXPANSION OF GOAT HERD SIZE (N = 40)

CHART 79: NUMBER OF GOATS OWNED (PRE VS POST PROGRAM)

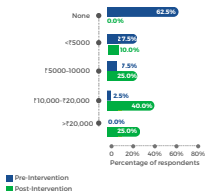


Pre-intervention, 62.5% of households owned no goats, 32.5% maintained one to two goats, and only 5% possessed between three and five animals.

Post-intervention, no household of respondents remained without goats. The distribution was restructured entirely, with 40% owning three to five goats and 60% maintaining herds exceeding five animals.

FINDING 5: INCREASE IN ANNUAL INCOME FROM GOAT REARING (N = 40)

CHART 80: ANNUAL INCOME FROM GOAT REARING (PRE VS POST PROGRAM)



Pre-intervention, 62.5% of respondents generated no income from goats, 27.5% earned less than ₹5,000, and 7.5% generated between ₹5,000 and ₹10,000. Following programme support, the distribution transformed entirely. No respondent household remained at zero income, 25% earned between ₹5,000 and ₹10,000, and 65% exceeded ₹10,000 per annum from goat sales and related activities.

Pre-intervention average income: Rs.1,600/-
Post intervention average income: Rs. 14,400/-.

In the control group, 73% owned no goats, and among the 27% with goats, 59.3% maintained only one to two animals.

“

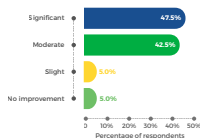
Goat and poultry rearing helped us earn regularly. We used this income to improve our house and support children's education. Now we do not need to borrow money for small expenses.

- Idhu, Sorai Village, Laxmangarh, Alwar District, Rajasthan

”

FINDING 6: IMPROVEMENT IN LIVESTOCK ENTERPRISE MANAGEMENT CAPACITY (N = 40)

CHART 81: IMPROVEMENT IN LIVESTOCK ENTERPRISE MANAGEMENT



Following programme participation, 47.5% of respondents reported significant improvements in their management abilities, 42.5% indicated moderate improvements, 5% noted slight improvements, and 5% reported no observable improvement.

Trainer interviews provided additional context, noting that respondents demonstrated improved understanding of balanced feeding, timely vaccination schedules, and proactive health monitoring. Field staff observed that households increasingly identified disease symptoms early and sought veterinary assistance promptly rather than waiting until mortality occurred. This behavioural shift reflected internalisation of preventive health management principles emphasised during training sessions. The 5% reporting no improvement aligned with field observations of a small subset of respondents who faced persistent challenges related to inadequate housing infrastructure or family circumstances that limited their ability to apply recommended practices consistently.

FINDING 7: REDUCTION IN GOAT MORTALITY THROUGH TRAINING AND VETERINARY SUPPORT (N = 40)

CHART 82: NUMBER OF POULTRY AND GOAT TRAINING SESSIONS ATTENDED

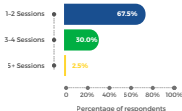
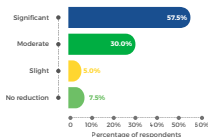


CHART 83: REDUCTION IN GOAT MORTALITY DUE TO TRAINING AND VETERINARY SUPPORT



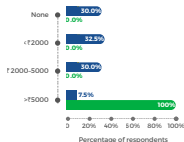
Among respondents, 67.5% attended one to two training sessions, 30% participated in three to four sessions, and 2.5% attended five or more training events during the programme period. Among respondents, 57.5% characterised mortality reduction as significant, and 30% as moderate.

Among the control group, only 22% had ever received any skill training from any source (government, private, or NGO), with 78% reporting no training exposure.

Programme team interviews highlighted that establishing linkages with government veterinary services and ensuring timely access to para-veterinary workers played a critical role in mortality reduction. Respondents reported that regular advisory visits enabled early detection of health issues and facilitated prompt intervention before conditions deteriorated. The 7.5% reporting no mortality reduction aligned with field observations of households in geographically remote locations where veterinary access remained constrained despite programme efforts, or cases where housing infrastructure was not adequately maintained, exposing animals to environmental stressors and predation risks.

FINDING 8: INCREASED HOUSEHOLD SAVINGS CAPACITY (N = 40)

CHART 84: ANNUAL HOUSEHOLD SAVINGS (PRE VS POST PROGRAM)



■ Pre-Intervention
■ Post-Intervention

Within the intervention group, household savings improved sharply over the programme period. At baseline, 30% of households reported no savings, and most others saved only small amounts, resulting in an estimated average annual savings of about ₹1,940 per household.

Post-intervention, savings behaviour shifted decisively: no household reported zero savings, and all households saved more than ₹5,000 annually, raising the estimated average savings to around ₹7,500 per household. This represents a nearly fourfold increase in average savings and reflects stronger income surplus, improved cash flow, and better financial planning.

When compared with the control group, the contrast is pronounced. The control group continues to exhibit weak savings capacity, with 47% of households reporting no savings and an estimated average annual savings of approximately ₹3,850. While some control households save modest amounts, overall savings remain constrained and uneven.

The intervention led to a substantial and sustained improvement in household savings, far exceeding both the baseline levels and the outcomes observed in the control group. Intervention households not only transitioned out of zero-savings status but also accumulated nearly double the average savings of control households, underscoring the programme's effectiveness in translating income gains into financial resilience rather than short-term consumption.

“

As a widow, I felt very vulnerable. Now, with my goats and chickens, I don't have to depend on my relatives for money. I can stand on my own two feet.

- Aasukh, 39, Livestock Owner, Daultapur, Alwar

”

CHART 85: TOTAL HOUSEHOLD INCOME FROM ALL SOURCES (PRE-PROGRAM)

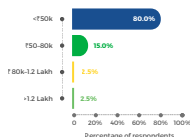
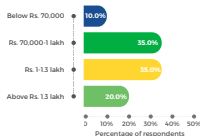


CHART 86: TOTAL HOUSEHOLD INCOME FROM ALL SOURCES (POST-PROGRAM)



Prior to the programme, household incomes were heavily concentrated at the lower end, with 80% earning less than ₹50,000 annually and another 15% falling between ₹50,000 and ₹80,000. After the intervention, this distribution shifted markedly upward: only 15% of households remained below ₹70,000, while 45% earned ₹70,000-1 lakh, 32.5% earned ₹1 lakh-₹1.5 lakh, and 7.5% exceeded ₹1.5 lakh annually. These changes are reflected in the estimated average incomes, which rose from approximately ₹34,250 in the pre-intervention period to about ₹99,500 post-intervention—nearly a threefold increase. This demonstrates a substantial improvement in household economic status and a clear upward mobility across income brackets.

“

This program gave us animals, training, and confidence. Today we earn from goats, poultry, and dairy also. Migration for work has reduced. Our life has become more stable.

- Rajkumari, Panduri Village, Roopvas Tehsil, Bharatpur District, Rajasthan

”

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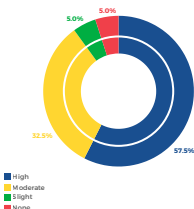
When bad times come, like a drought or illness, I know I will survive because I have my livestock. This resilience is what the project has really given us.

- Omprakash Ji, 34, Goat Rearer, Panduri, Bharatpur

”

FINDING 10: IMPROVEMENT IN LIVELIHOOD RESILIENCE (N = 40)

CHART 87: INCREASE IN LIVELIHOOD RESILIENCE

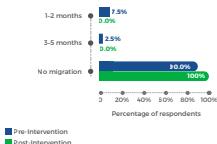


The above chart presents beneficiary perceptions of increased livelihood resilience. Among respondents, 57.5% characterised resilience improvements as high, and 32.5% as moderate.

KEY IMPACT

IMPACT 1: REDUCTION IN MIGRATION FOR WAGE LABOUR (N = 40)

CHART 88: HOUSEHOLD MIGRATION STATUS (PRE VS POST PROGRAM)



Prior to programme intervention, 10% of households engaged in seasonal labour migration, with 7.5% migrating for one to two months and 2.5% for three to five months annually. Following programme participation, migration ceased entirely, with all households reporting no migration. This complete elimination of labour migration represented a significant quality-of-life improvement for affected households.

“

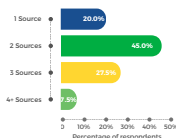
We don't talk about leaving the village anymore. We have enough work and food right here. My family is together, and we are building our life in our own home.

- Chahat, 55, Poultry Rearer, Sorai, Alwar

”

IMPACT 2: DIVERSIFICATION OF HOUSEHOLD INCOME SOURCES (N = 40)

CHART 89: INCREASE IN NUMBER OF HOUSEHOLD INCOME SOURCES



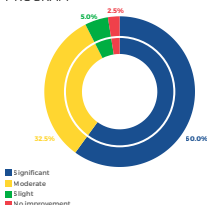
Among respondents, 20% maintained one income source, 45% had two sources, 27.5% operated three sources, and 7.5% had four or more income streams. This distribution indicates that households diversified beyond single-source income dependence, with nearly half maintaining dual income streams. Income diversification reduced household vulnerability to shocks affecting any single livelihood activity and enabled families to smooth consumption across seasonal variations in different income sources.

Among the control group, 46% earned less than ₹50,000 annually, 43% generated between ₹50,000 and ₹1 lakh, and only 11% exceeded ₹1 lakh.

Respondent households observed improvements in household economic status. 97.5% reported more stable income, 82.5% reported increased savings, 65% noted reduced dependence on daily wage labour, and 35% experienced reduced debt burdens.

IMPACT 3: ENHANCED CAPACITY TO MANAGE HOUSEHOLD EXPENSES (N = 40)

CHART 90: HOUSEHOLD ABILITY TO MANAGE EXPENSES AFTER THE PROGRAM



The above chart demonstrates beneficiary perceptions of their improved ability to manage household expenses. Among respondents, 60% reported significant improvements, and 32.5% indicated moderate.

Field interactions revealed that improved expense management manifested in multiple ways: timely payment of children's school fees, the ability to purchase household necessities without credit, the capacity to address health expenses without depleting savings, and confidence in meeting social obligations such as festival expenditures. Several respondents reported that the regularity of poultry income, in particular, facilitated day-to-day expense management, while goat sale proceeds addressed larger, less frequent costs. This functional differentiation between income sources reflected sophisticated household financial strategies that optimised the use of different livestock enterprises for distinct expenditure categories.

“

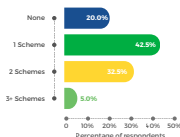
I have started saving ₹500 every month in my SHG group because of the regular income from poultry. I never thought I would be able to save anything.

- Kailas Motwal Pawara, 48, Livestock Owner, Shirur, Dhule

”

IMPACT 4: IMPROVED ACCESS TO GOVERNMENT LIVESTOCK SCHEMES (N = 40)

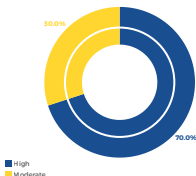
CHART 91: SCHEMES ACCESSED AFTER THE PROGRAM



Post-programme households reporting no scheme access declined to 20%, while 42.5% accessed one scheme, 32.5% accessed two schemes, and 5% accessed three or more schemes.

IMPACT 5: HIGH PERCEPTION OF LIVELIHOOD STABILITY (N = 40)

CHART 92: LIVELIHOOD STABILITY AFTER MODEL 5



The chart shows beneficiary perceptions of livelihood stability following Model 5 implementation. Among respondents, 70% characterised their livelihood stability as high, while 30% rated it as moderate.

Among the control group, only 18% perceived their livelihoods as stable, 46% characterised them as improving but not yet stable, 13% reported some insecurity, and 23% described their situation as very insecure.

“

Before this program, our family depended only on daily labour, and the income was never enough. After getting goats and poultry, we started earning from our own home. Slowly, our condition improved, and we could repair the house and take better care of the family. Now we do not worry every day about work and money, and we feel confident about the future.

- Suhan, Satvadi Village, Pahadi Tehsil, Bharatpur District, Rajasthan

”



SROI FINDINGS MODEL 5A: BACKYARD POULTRY

PHASE 1: SCOPE AND STAKEHOLDERS

Geographic scope: 109 beneficiary households across project locations. Assessment period: FY 2023-24. Primary stakeholder: Beneficiary households (included in SROI). Secondary stakeholders: Field staff, veterinary personnel, suppliers (excluded from valuation, acknowledged in attribution).

PHASE 2: OUTCOME MAPPING

Inputs: Cages, 300 chicks/HH (3 batches), feeders/drinkers, initial feed, training. Activities: Distribution, training in disease management, feeding, and marketing. Outputs: 109 HH equipped with infrastructure and knowledge. Outcomes: 11 tangible (monetised) + intangible (confidence, empowerment - narrative only). Tangible Outcomes (Monetised): (1) Bird sales income, (2) Egg sales income, (3) Avoided cage cost, (4) Avoided chick cost, (5) Mortality reduction, (6) Feed wastage reduction, (7) Household egg consumption, (8) Household meat consumption, (9) Time efficiency, (10) Supplementary income, (11) Reduced borrowing.

PHASE 3: EVIDENCING OUTCOMES AND VALUATION

The table below presents the evidence base, valuation logic, and gross value for each monetised outcome. All values reflect conservative assumptions and market-based proxies.

Outcome	Evidence & Valuation Logic	Gross Value	HH
Bird Sales Income	~200 birds sold/year @ ₹147 avg (₹135-200 range). Evidence: field data, sales records.	₹29,400/yr	109
Egg Sales Income	~840 eggs sold/year @ ₹5/egg. Evidence: beneficiary reports, market prices.	₹4,200/yr	109
Avoided Cage Cost	Project provided cages (₹6,500 market value). Beneficiaries could not afford to live independently. One-time Year 1.	₹6,500	109
Avoided Chick Cost	Project provided 300 chicks @ ₹25/chick market rate. Beneficiaries could not afford quality chicks. One-time Year 1.	₹7,500	109
Mortality Reduction	Training/equipment reduced losses. ₹3,800/cycle × 3. Applied to 75% HH (81) as 25% maintain low mortality naturally.	₹11,400/yr	81
Feed Savings	Proper feeders/drinkers reduced spillage ₹1,900/cycle × 3. Evidence: beneficiary reports.	₹5,700/yr	109
HH Egg Consumption	~520 eggs consumed/yr @ ₹5/egg (avoided market purchase). Evidence: beneficiary reports.	₹2,600/yr	109
HH Meat Consumption	~17 birds consumed/yr @ ₹200/bird (avoided market purchase). Evidence: beneficiary reports.	₹3,400/yr	109
Time Efficiency	Income per hour vs casual labour. Poultry is integrated with household work. Evidence: time-use, wage data.	₹7,500/yr	109

Outcome	Evidence & Valuation Logic	Gross Value	HH
Supplementary Income	Regular cash flow improved economic security. Distinct from direct sales. Evidence: beneficiary interviews.	₹18,000/yr	109
Reduced Borrowing	Poultry income reduced informal credit at 24-36% p.a. Avoided interest/principal. Evidence: borrowing patterns.	₹6,200/yr	109

PHASE 4: ESTABLISHING IMPACT

Impact adjustments deduct deadweight (what would have occurred anyway), attribution (contribution by others), and displacement (negative effects on others). Adjustments are outcome-specific and conservatively applied. Displacement = 0% (no market displacement). Drop-off = 10%/year (for 5-year projection).

Outcome	DW	Attr	Deadweight Rationale	Attribution Rationale
Bird/Egg Sales	10%	20%	Minimal independent poultry attempts are possible without capital/knowledge.	Project primary. Markets/HH efforts/govt schemes contribute 20%.
Avoided Cage	0%	10%	Beneficiaries could not afford cages independently.	Project provided. Minimal govt infrastructure schemes (10%).
Avoided Chicks	0%	10%	Beneficiaries could not afford 300 quality chicks (₹7,500 upfront).	Project provided. Occasional small govt chick distribution (10%).
Mortality Reduction	10%	20%	Minimal natural improvement. Applied to 81 HH (75%), as 25% maintain low mortality naturally.	Project training/equipment primary. HH diligence/govt vet/chick quality share 20%.
Feed Savings	10%	10%	Some learning over time is possible.	Equipment-driven primarily. HH practices/feed quality share 10%.
HH Consumption	10%	10%	Minimal baseline consumption is possible through indigenous birds.	Project-enabled primarily. HH dietary choices/market access share 10%.
Time Efficiency	10%	20%	Some alternative income generation is possible.	Project design primary. Labour market/HH labour/wage rates share 20%.
Supplementary Income	10%	20%	Limited baseline income sources for landless/marginal households.	Project-enabled. Economic conditions/HH management/govt schemes share 20%.
Reduced Borrowing	10%	20%	Limited baseline access to formal credit.	Poultry income is primary. SHCs/microfinance/financial inclusion share 20%.

Note: DW = Deadweight. Attr = Attribution. Total deduction = $1 - ((1-DW) \times (1-Attr))$. All rates in 10% multiples, max 20%. Conservative approach ensures credible attribution.

PHASE 5: CALCULATING THE SROI

One-Year SROI (FY 2023-24)

Outcome	HH	Gross /HH	DW	Attr	Net/HH	Total Net
Bird Sales	109	₹29,400	10%	20%	₹21,168	₹23,07,312
Egg Sales	109	₹4,200	10%	20%	₹3,024	₹3,29,616
Avoided Cage	109	₹6,500	0%	10%	₹5,850	₹6,37,650
Avoided Chicks	109	₹7,500	0%	10%	₹6,750	₹7,35,750
Mortality Reduction	81	₹11,400	10%	20%	₹8,208	₹6,64,848
Feed Savings	109	₹5,700	10%	10%	₹4,617	₹5,03,253
HH Eggs	109	₹2,600	10%	10%	₹2,106	₹2,29,554
HH Meat	109	₹3,400	10%	10%	₹2,754	₹3,00,186
Time Efficiency	109	₹7,500	10%	20%	₹5,400	₹5,88,600
Supplementary	109	₹18,000	10%	20%	₹12,960	₹14,12,640
↓ Borrowing	109	₹6,200	10%	20%	₹4,464	₹4,86,576

Total Gross Value (Year 1): ₹1,08,42,400 Total Net Value (Year 1): ₹81,95,985 Investment: ₹36,96,000

ONE-YEAR SROI: 2.22:1

Sensitivity Analysis

Scenario	Adjustments	SROI Ratio
Optimistic	DW -5%, Attr -10%, Drop 5%	2.71:1
Base Case	DW +0%, Attr +0%, Drop 10%	2.22:1
Pessimistic	DW +5%, Attr +10%, Drop 15%	1.39:1

Sensitivity analysis confirms positive SROI across all scenarios (1.39:1 to 2.71:1), demonstrating value creation despite higher per-household investment intensity.

Five-Year Projected SROI

Incorporates: (1) 10% annual drop-off (beneficiary attrition), (2) 3.5% social discount rate (HM Treasury), (3) Cage/chick costs excluded from Years 2-5 (one-time).

Year	Active HH	Annual Net Value	Discount Factor	Present Value
Year 1	109	₹ 81,95,985	0.9662	₹ 79,18,826
Year 2	98	₹ 61,27,290	0.9335	₹ 57,19,891
Year 3	88	₹ 55,04,904	0.9019	₹ 49,65,108
Year 4	79	₹ 49,47,219	0.8714	₹ 43,11,216
Year 5	71	₹ 44,46,027	0.8420	₹ 37,43,435
			Total NPV:	₹ 2,66,58,476

Total NPV (5 Years): ₹2,66,58,476 Investment: ₹36,96,000

FIVE-YEAR SROI: 7.21:1**Sensitivity Analysis**

Scenario	Adjustments	SROI Ratio
Optimistic	DW -5%, Attr -10%, Drop 5%	9.33:1
Base Case	DW +0%, Attr +0%, Drop 10%	7.21:1
Pessimistic	DW +5%, Attr +10%, Drop 15%	5.44:1

Sensitivity analysis confirms positive SROI across all scenarios (5.44:1 to 9.33:1), demonstrating value creation despite higher per-household investment intensity.

INTERPRETATION OF RESULTS

The one-year SROI of 2.22:1 and five-year SROI of 7.21:1 indicate positive and sustained social returns from this higher-intensity intervention, despite a comparatively larger per-household investment.

Value creation is driven primarily by income from poultry operations, supported by asset provision and preventive benefits such as reduced mortality, feed savings, and lower reliance on borrowing, while intangible gains remain unquantified.

Conservative attribution, partial application of benefits, and drop-off assumptions, together with sensitivity analysis, confirm the robustness of results and the economic justification of the investment.

SROI FINDINGS MODEL 5B: GOAT REARING

PHASE 1: SCOPE AND STAKEHOLDERS

Geographic scope: Dhule District, Maharashtra. Assessment period: FY 2023-24. Primary stakeholder: Beneficiary households (44 HH) - included in SROI valuation. Secondary stakeholders: Field staff, veterinary personnel, goat suppliers, implementing agency - excluded from valuation, acknowledged in attribution analysis.

PHASE 2: OUTCOME MAPPING

Inputs: Goat sheds, 4+1 Sirohi goats/HH, mangers, insurance, training, veterinary support. Activities: Distribution, training in husbandry/disease management/breeding/marketing, and health camps. Outputs: 44 HH equipped with infrastructure, breeding stock, insurance, and knowledge.

TANGIBLE AND INTANGIBLE OUTCOMES

Note: Only tangible outcomes are monetised. Intangible outcomes add qualitative value beyond the quantified SROI ratios.

Tangible Outcomes (Monetised)	Intangible Outcomes (Not Monetised)
(1) Income from goat/kid sales	(1) Increased confidence and self-efficacy
(2) Asset appreciation through herd growth	(2) Enhanced social status in the community
(3) Avoided goat shed cost	(3) Improved animal husbandry knowledge
(4) Mortality reduction (75% HH)	(4) Women empowerment
(5) Insurance protection	(5) Nutritional security awareness
(6) Household consumption value	(6) Community network strengthening
(7) Emergency liquidity	
(8) Reduced moneylender dependence	

PHASE 3: EVIDENCING OUTCOMES AND VALUATION

The table below presents the evidence base, valuation logic, and gross value for each monetised outcome. All values reflect conservative assumptions based on field observations, beneficiary reports, market prices, and the Lupin SROI checklist.

Note: The mortality reduction benefit is applied to only 75% of households (33 HH), as not all households face a high mortality risk. This conservative approach ensures credible impact estimation.

Outcome	Evidence & Valuation Logic	Value/HH/Yr	HH
Goat/Kid Sales Income	Annual income from the sale of goats/kids at local markets. Average 2-3 goat sales/year at ₹7,000-12,000/goat. Evidence: beneficiary sales records, market prices.	₹28,500	44
Asset Appreciation (Herd Growth)	Natural herd growth through reproduction. 4 female goats produce kids, increasing the herd from 5 to 7-8 goats by Year 1. Evidence: herd size data, market values.	₹34,000	44
Avoided Goat Shed Cost	Project provided goat sheds (₹9,500 market cost). Beneficiaries could not afford proper housing independently. One-time Year 1 asset. Evidence: construction costs.	₹9,500	44
Mortality Reduction	Training in disease management, proper feeding, and deworming reduced goat deaths. Applied to 75% HH only (not all face high mortality). Evidence: mortality comparisons.	₹6,800	33 (75%)
Insurance Protection	Insurance coverage for breeding stock protects against mortality from disease, accidents, and calamities. Evidence: policy value, risk assessment.	₹15,000	44
Household Consumption	Goat milk is consumed for household nutrition. Occasional meat consumption during festivals. Evidence: beneficiary reports.	₹5,000	44
Emergency Liquidity	Goats are readily liquidatable assets (sell within 1-2 days). Provides cash access for emergencies. Evidence: beneficiary interviews	₹18,000	44
Reduced Moneylender Dependence	Goat income and asset liquidity reduced informal borrowing at high interest rates. Evidence: borrowing pattern data.	₹7,200	44

PHASE 4: ESTABLISHING IMPACT

Impact adjustments deduct deadweight (what would have occurred anyway), attribution (contribution by others), and displacement (negative effects on others). Adjustments are outcome-specific based on field evidence, stakeholder interactions, and knowledge of external systems. All rates are in 10% multiples (max 20%) for transparency. Displacement = 0% across all outcomes. Drop-off = 10%/year.

Note: DW = Deadweight. Attr = Attribution. Mortality reduction applied to 75% HH only (33 of 44) as not all households face high mortality risk.

Outcome	DW	Attr	HH	Deadweight Rationale
Goat/Kid Sales Income	10%	20%	44	Beneficiaries lacked capital for quality Sirohi goats, proper housing, and technical knowledge.
Asset Appreciation	10%	20%	44	Without quality breeding stock, veterinary support, kidding rates would be lower.
Avoided Shed Cost	0%	10%	44	Beneficiaries would not have constructed proper sheds due to a lack of capital.
Mortality Reduction	10%	20%	33 (75%)	Not all HH face high mortality; only 75% benefit from reduced losses.
Insurance Protection	0%	10%	44	Beneficiaries would not have purchased livestock insurance independently.
Household Consumption	10%	10%	44	Most households could not afford regular goat milk/meat purchases.
Emergency Liquidity	10%	20%	44	Most beneficiaries had limited liquid assets prior to intervention.
Reduced Moneylender Dependence	10%	20%	44	Most beneficiaries relied heavily on informal credit.

PHASE 5: CALCULATING THE SROI

One-Year SROI (FY 2023-24)

Outcome	HH	Gross/HH	DW	Attr	Net/HH	Total Net
Goat/Kid Sales	44	₹28,500	10%	20%	₹20,520	₹902,880
Asset Appreciation	44	₹34,000	10%	20%	₹24,480	₹1,077,120
Avoided Shed	44	₹9,500	0%	10%	₹8,550	₹376,200
Mortality	33	₹6,800	10%	20%	₹4,896	₹161,568
Insurance	44	₹15,000	0%	10%	₹13,500	₹594,000
HH Consumption	44	₹5,000	10%	10%	₹4,050	₹178,200
Emergency Liquidity	44	₹18,000	10%	20%	₹12,960	₹570,240
Money lender	44	₹7,200	10%	20%	₹5,184	₹228,096

Total Gross Value (Year 1): ₹53,81,200 Total Net Value (Year 1): ₹40,88,304 Investment: ₹40,66,000

ONE-YEAR SROI: 1.00:1

Sensitivity Analysis

Scenario	Adjustments	SROI Ratio
Optimistic	DW -5%, Attr -10%, Drop 5%	1.75:1
Base Case	DW +0%, Attr +0%, Drop 10%	1.00:1
Pessimistic	DW +5%, Attr +10%, Drop 15%	0.81:1

Five-Year Projected SROI

Incorporates: (1) 10% annual drop-off (beneficiary attrition), (2) 3.5% social discount rate (HM Treasury Green Book), (3) Shed cost excluded from Years 2-5 (one-time asset), (4) Mortality reduction applied to 75% of active HH each year.

Year	Active HH	Annual Net Value	Discount Factor	Present Value
Year 1	44	₹4,088,304	0.9829	₹4,018,584
Year 2	39	₹3,289,050	0.9497	₹3,123,633
Year 3	35	₹2,951,586	0.9176	₹2,708,349
Year 4	31	₹2,614,122	0.8866	₹2,317,579
Year 5	27	₹2,276,658	0.8566	₹1,950,142
			Total NPV:	₹14,118,286

Total NPV (5 Years): ₹14,118,286 Investment: ₹40,66,000

FIVE-YEAR SROI: 3.47:1

Sensitivity Analysis

Scenario	Adjustments	SROI Ratio
Optimistic	DW -5%, Attr -10%, Drop 5%	6.12:1
Base Case	DW +0%, Attr +0%, Drop 10%	3.47:1
Pessimistic	DW +5%, Attr +10%, Drop 15%	2.44:1

Sensitivity analysis confirms robust findings (2.44:1 to 6.12:1), demonstrating a strong value proposition across all assumptions. Even a pessimistic scenario delivers outstanding SROI.

INTERPRETATION OF RESULTS

The 1-yr SROI dips below 1 under pessimistic scenarios, this is not a failure of the model but a structural feature: Year 1 carries the full shed cost (₹9,500/HH, one-time) and asset appreciation (₹34,000/HH) which is the single largest value driver but is inherently sensitive to proxy assumptions. Under every scenario, the 5-yr SROI remains well above 1:1, confirming sustained positive social return. The Stressed scenario (5-yr 2.44:1) also remains positive despite extreme compound downward pressure. Value drivers: (1) Asset appreciation (herd growth) is the largest contributor as each female produces 1-2 kids annually, (2) Income generation from goat/kid sales provides regular cash flow, (3) Insurance protection provides critical risk mitigation, (4) Emergency liquidity enables households to access cash without distress borrowing.

Conservative features: (1) Mortality reduction applied to 75% HH only (33 of 44) as not all households face high mortality risk, (2) Intangible outcomes excluded from quantification, (3) Attribution recognises government systems, markets, household efforts (20% for most outcomes), (4) 10% drop-off accounts for enterprise discontinuation. Findings validated by sensitivity analysis showing positive SROI even under highly pessimistic assumptions (2.44:1).

AGGREGATE SROI

Summary Table

Model	Description	HHs	Net Value (Yr 1)	NPV (5-Yr)	Investment	1-Yr SROI	5-Yr SROI
Model 1	Irrigation +vegetable + Poultry Unit	62	₹85,32,603	₹2,24,97,893	₹36,36,782	2.35:1	6.19:1
Model 2	Irrigation + Vegetable + Goat Rearing	281	₹4,46,08,742	₹15,34,80,749	₹1,60,66,667	2.78:1	9.55:1
Model 3	Dairy Development	253	₹3,11,95,600	₹11,00,42,357	₹1,19,09,000	2.62:1	9.24:1
Model 4	Enterprise Development	51	₹24,43,997	₹53,78,350	₹13,69,000	1.79:1	3.93:1
Model 5A	Backyard Poultry	109	₹81,95,985	₹2,66,58,476	₹36,96,000	2.22:1	7.21:1
Model 5B	Goat Rearing	44	₹40,88,304	₹1,41,18,286	₹40,66,000	1.00:1	3.47:1
TOTAL		800	₹9,90,65,231	₹33,21,76,111	₹4,07,43,449		

Note: HHs: Households, NPV: Net Present Value, SROI: Social Return on Investment

Metric	Value
Aggregate One-Year SROI	2.43
Aggregate Five-Year SROI	8.15

Interpretation

The aggregated SROI results indicate that for every ₹1 invested across the six livelihood models, ₹2.43 of net social value is generated in Year 1. When projected over a five-year period with discounting, the net present social value increases to ₹8.15 per rupee invested. These findings highlight strong immediate and sustained value creation across the portfolio of livelihood interventions

04. LIMITATIONS OF SROI ANALYSIS



Reliance on beneficiary-reported and monitoring data may involve recall bias and estimation uncertainty, despite triangulation.



Attribution of outcomes to the intervention is subject to judgment due to the influence of external factors (markets, climate, household decisions); conservative attribution has been applied.



Five-year projections are based on assumptions on continuation, drop-off, and discounting; actual outcomes may vary.



Financial proxies use prevailing market prices, which are subject to temporal and spatial fluctuations.



Several intangible and systemic outcomes (e.g., confidence, dignity, social status, women's empowerment, demonstration and multiplier effects) are not monetised, leading to conservative SROI estimates.



Adjustments for deadweight and attribution are evidence-informed but not experimentally verified due to the absence of control groups or baseline-endline design.



Findings are context-specific to the assessed sample and locations and may not be directly generalisable to other geographies or dairy enterprise models.

Despite these limitations, the analysis provides a robust and transparent assessment of social value creation, grounded in field evidence and conservative methodological choices. The findings offer credible quantitative evidence of exceptional programme effectiveness while acknowledging the inherent uncertainties in social impact measurement.

CASE STUDIES

CASE STUDY 1: ASSET ACCUMULATION THROUGH LIVESTOCK ENTERPRISES

BENEFICIARY PROFILE

Name: Mr. Israel | Village: Satvadi, Block: Pahadi, District: Bharatpur

Household Size: Seven members | Social Category: Marginalised community

Landholding: Landless household

PRE-PROGRAMME SITUATION

Mr. Israel's family depended primarily on daily wage labour and small informal activities for livelihood. Income remained irregular and insufficient, making it difficult to meet essential household needs, including children's education, household repairs, and savings. The household faced economic insecurity and lacked a stable income source.

PROGRAMME INTERVENTION

Under Model 5 - Farm-Allied Enterprise Promotion, Mr. Israel received comprehensive support, including 300 one-day-old chicks, a proper poultry cage, regular feed support, and poultry shed construction assistance. Technical guidance and handholding support were provided continuously to help manage poultry activities effectively. The initial poultry enterprise generated regular income, after which Mr. Israel expanded into goat rearing by purchasing goats, developing a shed, and adopting improved management practices.

OUTCOMES ACHIEVED

Combined poultry and goat-rearing activities generated approximately ₹6,000 per month in stable income. Mr. Israel participated in three to four training programmes and exposure visits that provided practical learning on livestock management, animal health care, feeding practices, and business planning. Income stabilisation enabled him to establish three retail shops, all currently operational. He undertook house repairs, improving family living conditions. Most significantly, his children now attend school regularly, with education expenses managed without financial stress.

LEARNINGS



Comprehensive input support (chicks, cages, feed, shed) removed entry barriers for landless households.



Sequential enterprise development (poultry followed by goats) enabled graduated livelihood diversification.



Regular income from livestock enabled investment in non-farm enterprises, creating multiplier effects.



Training and exposure visits-built management capacity necessary for sustained enterprise operation



Asset accumulation (shops, house improvements) demonstrated economic mobility beyond subsistence stabilisation.

CASE STUDY 2: LIVELIHOOD TRANSFORMATION THROUGH INTEGRATED LIVESTOCK SUPPORT

BENEFICIARY PROFILE

Name: Mr. Deewan | Village: Pandri, Tehsil: Roopvas, District: Bharatpur

Age: 36 years | Social Category: Scheduled Caste (SC)

Household Size: Six members | Landholding: One bigha

PRE-PROGRAMME SITUATION

Mr. Deewan's household survived on approximately ₹5,000 monthly income, with daily expenses managed with difficulty. Investments in housing improvements, children's education, and long-term financial stability remained unattainable. The family lacked any productive livestock assets and depended entirely on marginal agriculture and casual labour.

PROGRAMME INTERVENTION

Under Model 5, Mr. Deewan received one buck and four she-goats. Through regular care and management support, the herd expanded to 35 goats over the programme period. He also received 50 poultry birds, providing a steady supplementary income source. Technical guidance on animal health, feeding, and housing enabled effective management of both enterprises simultaneously.

OUTCOMES ACHIEVED

Combined income from goat rearing and poultry increased monthly household earnings from ₹5,000 to ₹10,000-₹15,000, representing a 100 to 200% income gain. Goat sale proceeds were invested in constructing boundary walls around the house and purchasing a motorcycle, improving household security and mobility. The improved financial position enabled regular support for children's education without borrowing or distress asset sales. Most significantly, the household achieved financial stability and control over its economic future, moving beyond subsistence-level survival.

LEARNINGS



Small initial livestock investments could scale substantially through natural reproduction and proper management.



Integration of goats (lumpy income) and poultry (regular income) created complementary financial flows.



Livestock income was strategically allocated to durable assets (boundary walls, motorcycle) that generated further economic benefits.



Economic stabilisation enabled household investment in human capital (education) and physical infrastructure.



Marginal landholders could successfully manage intensive livestock activities alongside agriculture.

05. OECD-DAC EVALUATION FRAMEWORK



Relevance



Coherence



Effectiveness



Efficiency



Impact



Sustainability



RELEVANCE

The DBJUP programme demonstrates high relevance through a multi-pronged response to livelihood vulnerabilities of Scheduled Tribe and marginalised households in rainfed, resource-constrained regions. Findings highlighted water scarcity, limited livelihood diversification, and a lack of productive assets as core constraints. Interventions were appropriately aligned: irrigation support under Models 1 and 2 addressed water stress; Model 3 supported landless and marginal farmers through cattle induction; and Model 4 enabled skill development for unemployed youth and artisans. Qualitative evidence confirms context-specific design, including crop dependence on monsoon and the use of ecologically suitable Gavan goats in hilly Junnar. The programme is well aligned with SDGs 1, 2, 5 and 8, converges with key government schemes, such as PM Vishwakarma Yojana, National Livestock Mission, Pradhan Mantri Krishi Sinchayee Yojana, Paramparagat Krishi Vikas Yojana, National Rural Livelihood Mission, and Deen Dayal Antyodaya Yojana.



COHERENCE

Programme coherence is evident in strong internal integration across models and effective convergence with government systems. The portfolio is complementary, with irrigation-led productivity (Models 1 and 2), livestock-based income diversification (Models 3 and 5), and non-farm skilling for landless households (Model 4), ensuring inclusive livelihood pathways. Technical coherence is reinforced through KVK-led capacity building and common monitoring indicators. Externally, coordination with Gram Panchayats, line departments, and convergence with PMKSY, livestock insurance, and PMKVY strengthen alignment with public systems.

**EFFECTIVENESS**

Programme effectiveness is reflected in significant gains in income, asset creation, livelihood diversification, and vulnerability reduction, validated through intervention-control comparisons. Model-wise outcomes show consistent positive impacts: irrigation under Model 1 enabled multi-cropping and average vegetable income of ₹47,250 per bigha; Model 2 supported debt reduction and income enhancement through integrated irrigation and goat rearing; Model 3 generated average milk yields of 8.5 litres per day, annual income of ₹1.02 lakh, and asset appreciation of Murrah buffaloes; Model 4 increased artisan earnings to ₹35,000–40,000 per month; and Model 5 provided supplementary income from goats and poultry. Qualitative evidence confirms improved income stability, enhanced women's decision-making, and reduced distress migration. Key constraints include weaker continuity in poultry and the need to track the long-term sustainability of outcomes.

**EFFICIENCY**

Programme efficiency is exhibited through cost-effective resource use, strategic model-wise allocation, and favourable returns. With a total expenditure of ₹5.03 crore for 800 households, the per-household investment was ₹62,875 and administrative costs were contained at 15.9%. Higher unit costs for asset-intensive models were balanced by lower-cost small livestock and a 20% beneficiary contribution, strengthening ownership and cost sharing. Cost-benefit and SROI estimates indicate near first-year cost recovery for irrigation and horticulture, and income flows and asset appreciation from dairy and goat rearing exceeding initial investments. Process efficiencies were achieved through local breed sourcing, beneficiary-led procurement, KVK-based training, experienced field teams, and digital monitoring.

**IMPACT**

The assessment indicates that the programme contributed to higher-order outcomes in economic security, resilience, and social empowerment, which is supported by survey results, qualitative evidence, and control group comparison. Beyond income enhancement, households reported debt reduction, asset accumulation, and greater financial autonomy. Social impacts include improved women's decision-making through livestock ownership, stronger SHG functioning, and enhanced social capital, with demonstration effects promoting wider adoption of improved practices.



SUSTAINABILITY

The sustainability assessment indicates a strong foundation for continuation of benefits, though outcomes will vary across models and dimensions. Financial sustainability is robust for livestock interventions, where asset growth, market linkages, and beneficiary cost-sharing support recurring income and self-financed continuation. Technical sustainability is moderate, with high training uptake and practice adoption, but uneven poultry continuity and the need for extended handholding, alongside dependence on government veterinary and extension services. Institutional sustainability is supported by SHGs, producer groups, and departmental convergence, while sustained Gram Panchayat leadership will be critical for collective action. Environmental sustainability is promising through the use of indigenous breeds, organic practices, and efficient irrigation, though systematic long-term monitoring of water, soil, and fodder resources is required.



Relevance



Coherence



Effectiveness



Efficiency



Impact



Sustainability

06. SWOT ANALYSIS

Strengths

- Integrated multi-model livelihood architecture addressing irrigation, livestock, enterprises, and skills within a unified programme framework.
- Consistent income enhancement across models, with evidence of substantial gains in horticulture, dairy, and artisan-based livelihoods.
- Asset-based design generating self-replicating capital through livestock multiplication, strengthening long-term household resilience.
- Strong field implementation capacity with deep contextual knowledge, enabling appropriate beneficiary targeting and technology choices.
- Effective convergence with government institutions (KVK, Animal Husbandry, and district administration) supporting technical training and service access.
- High beneficiary ownership is reflected in cost-sharing compliance and sustained participation in capacity-building processes.
- Established market linkages ensuring continuity of income flows beyond project support.
- Robust monitoring and evaluation systems enabling credible attribution of outcomes and evidence-based learning.

Weakness

- Limited program duration (2 years) is insufficient for complete practice consolidation and autonomous operation capacity development.
- Pune district manager acknowledges "outcomes could have been doubled with one additional year of monitoring".
- Community institution animation requirements: "internal villagers might not facilitate as external would", suggesting continued external dependency.

O *Opportunities*

- Geographic replication in comparable tribal and semi-arid regions with similar livelihood and vulnerability profiles.
- Formalised convergence with line departments through MoUs to institutionalise technical, financial, and extension support.
- Value chain strengthening through aggregation, processing, and collective marketing to move beneficiaries up the income ladder.
- Formation of producer collectives/FPOs to enhance bargaining power, reduce input costs, and access larger markets.
- Leveraging government flagship schemes for irrigation, watershed development, skilling, and artisan support to deepen impact and sustainability.

T *Threats*

- Vegetable price crashes, livestock market fluctuations, and reduced income predictability and beneficiary confidence.
- Disease outbreaks: livestock epidemics (Lumpy Skin Disease, Foot-and-Mouth) threatening herd health and income security.
- Water scarcity deepening: groundwater depletion, competing water demands threatening irrigation sustainability in semi-arid regions.
- Input cost inflation: feed prices, fertiliser costs, veterinary service charges, increasing operational expenses, and reducing net income.
- Wildlife conflict: documented leopard attacks on livestock in Junnar require enhanced protection infrastructure and insurance mechanisms.
- Middleman exploitation: market intermediaries extracting margins from vegetable sales, livestock transactions, and reducing farmer realisation.



07. RECOMMENDATIONS

Programme Strategy and Design



The project can be strengthened by extending its duration to a minimum of three years with phased withdrawal of support to enable practice consolidation and reduce technical dependence.



The project can provide structured post-program technical handholding for 18-24 months with gradually reduced field engagement.



Implementation teams can define model-wise graduation criteria based on technical competency, asset growth, and market linkage readiness.



The project can institute systematic environmental monitoring of water, soil, and fodder resources to assess long-term ecological sustainability.

Model-Specific Optimisation



Model 1 and Model 2 irrigation components can integrate solar pumps through convergence with PM-KUSUM to reduce energy costs and enhance climate resilience.



The project can assess poultry continuation barriers through focused household diagnostics to refine technical and financial design.



Local indigenous poultry and livestock input supply chains can be strengthened to ensure the timely availability of quality breeds and feed.



Model 3 dairy interventions can incorporate value-added training and collective processing to enhance income stability.



Model 4 can be scaled through structured convergence with artisan cooperatives and the Pradhan Mantri Vishwakarma Yojana.



Implementation teams can document crop-wise and enterprise-wise cost-return profiles to guide evidence-based livelihood planning.



Breed- and agro-ecology-specific livestock management protocols can be developed to improve productivity and reduce mortality.



Integrated pest and nutrient management practices can be strengthened to lower input costs and improve soil health.

Gender Equity and Social Inclusion



The project can be strengthened by ensuring increased women's ownership of productive assets, particularly livestock and home-based enterprises, with formal documentation and insurance coverage.



Women-led SHG and federation structures can be strengthened for collective input procurement, savings, credit, and marketing.



Gender-responsive training schedules and delivery modalities can be designed and aligned with women's work burdens.



Women-focused enterprise pathways under non-farm and value-added components can be promoted to enhance income control and decision-making.



Gender-disaggregated indicators on asset ownership, income, and intra-household decision-making can be systematically tracked.



Youth-oriented livelihood and skill tracks can be introduced to address distress migration and strengthen local economic opportunities.

Market Linkages and Government Convergence



Producer collectivisation and FPO formation for vegetables, dairy, and livestock can be facilitated to improve scale efficiencies and bargaining power.



Formal convergence with Agriculture, Animal Husbandry, Rural Development, and allied departments can be established through MoUs for sustained technical and scheme support.



Structured convergence facilitation systems covering scheme eligibility screening, application support, follow-up, and grievance redressal can be institutionalised.



Assured market linkages with cooperatives, aggregators, and organised value chains can be strengthened to improve price realisation and reduce intermediary dependence.



Community-level input supply and service networks for seeds, feed, veterinary care, and irrigation services can be developed through bulk procurement and local entrepreneurship.



Convergence performance tracking mechanisms can be instituted to monitor access, timeliness, and bottlenecks for improved accountability.

Institutional and Community Capacity Strengthening



Peer educator and para-extension worker systems can be formalised through advanced training, field demonstrations, and certification.



Village-level livelihood committees linked with SHGs and Gram Panchayats can be constituted to strengthen local governance and continuity.



SHG and producer group capacities in financial management, record-keeping, and institutional linkages can be strengthened.



Community-based livestock health and extension workers can be piloted to provide basic preventive and first-response services locally.



Community-managed fodder and seed banks can be established to reduce seasonal input stress and enhance climate resilience.



Gram Panchayat engagement in livelihood planning and resource convergence can be deepened through structured Gram Sabha processes.

Sustainability and Scaling Pathway



Climate adaptation measures, including water harvesting, drought-resilient crops, and fodder conservation, can be mainstreamed across all livelihood models.



Digital and longitudinal tracking systems can be developed to monitor income, asset growth, and vulnerability reduction over time.



Community-level revolving funds can be created to address emergency needs and reduce distress asset liquidation.



Collective enterprises and common service platforms can be institutionalised to sustain market access beyond project support.



The project can be scaled to similar agro-ecological and socio-economic locations.

8

CONCLUSION —

The Desh Bandhu Jan Utkarsh Pariyojana has proven effective in enhancing livelihood security and economic resilience among tribal and marginalised farming communities in Maharashtra and Rajasthan. Its integrated, multi-model approach combining irrigation, livestock, enterprise development and skills has facilitated income diversification, asset accumulation, debt reduction and reduced distress migration, while promoting women's participation in productive asset ownership and decision-making.

The project has shown strong contextual relevance, operational coherence and cost-effectiveness, with early returns indicating substantial value for investment. Sustained impact will depend on extended technical support, strengthened government convergence, consolidation of community institutions and systematic monitoring of environmental sustainability. Overall, the initiative confirms that carefully designed, context-sensitive, multi-dimensional livelihood interventions implemented with active beneficiary engagement and robust institutional linkages can achieve durable poverty reduction and promote the economic autonomy and dignity of marginalised households.





IMPACT ASSESSMENT REPORT

LIVES NCD PROGRAMME
(DESH BANDHU JAN AAROGYA PARIYOJANA)

IMPLEMENTATION YEAR: 2023-24

ASSESSMENT YEAR: FY 2025-26



SOULACE CONSULTING PVT. LTD.

IMPLEMENTED BY

Lupin Human Welfare & Research
Foundation (LHWRF)

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A

BBREVIATIONS

LUPIN

ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
BP	Blood Pressure
CBC	Complete Blood Count
CHO	Community Health Officer
CHC	Community Health Centre
CSR	Corporate Social Responsibility
DAC	Development Assistance Committee
ECG	Electrocardiogram
FGD	Focus Group Discussion
HSS	Health System Strengthening
HWC	Health and Wellness Centre
IHCI	India Hypertension Control Initiative
LASI	Longitudinal Ageing Study in India
LHWRF	Lupin Human Welfare & Research Foundation
MMV	Mobile Medical Van
MO	Medical Officer
NCD	Noncommunicable Disease
NHM	National Health Mission

NPCDCS

National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke

OECD

Organisation for Economic Co-operation and Development

PHC

Primary Health Centre

PM-JAY

Pradhan Mantri Jan Arogya Yojana

PRI

Panchayati Raj Institution

SBCC

Social Behaviour Change Communication

SDG

Sustainable Development Goal

EXECUTIVE SUMMARY

PROJECT BACKGROUND

The LIVES NCD Programme, also known as the Desh Bandhu Jan Aarogya Pariyojana, was implemented by Lupin Human Welfare & Research Foundation during FY 2023-24 in Alwar district, Rajasthan, and Palghar district, Maharashtra, to strengthen the early detection, prevention, and management of noncommunicable diseases. The programme adopted an integrated three-component model comprising Social Behaviour Change Communication, Community Screening and Mobile Health Van Services, and Health System Strengthening to address critical gaps in awareness, access to diagnostics, treatment linkage, and continuity of care among underserved rural and peri-urban populations.

The impact assessment was conducted during FY 2025-26 using a descriptive, comparative design that covered both intervention and control groups. A total of 680 intervention beneficiaries were surveyed across both districts, along with a control group of 179 respondents from Alwar district and 121 respondents from Palghar district. The assessment examined programme performance across behavioural, clinical, service delivery, and system-level outcomes, with a specific focus on early detection, treatment initiation, follow-up practices, financial protection, service quality, and health system readiness. The evaluation provides evidence on programme effectiveness, attribution of outcomes, and learning for sustainability and scale-up of community-to-facility NCD care models.

PROJECT DETAILS



Implementation year

FY 2023-24



Assessment year

FY 2025-26



Total Beneficiaries

26,790



Location (Districts)

- Alwar District, Rajasthan
- Palghar District, Maharashtra



Location (Blocks Covered)

- Alwar: Reni, Kherli, Laxmangarh, Rajgarh (4 Blocks)
- Palghar: Palghar, Dahanu (2 Blocks)



Total Budget

₹7,32,33,569 (Alwar: INR 3,88,64,159;
Palghar: INR 3,43,69,410)



Implementing Partner

Lupin Human Welfare & Research Foundation (LHWRF)



Assessment Sample

- Intervention Group: **680 beneficiaries**
- Control Group: **300 beneficiaries**

PROJECT ACTIVITIES



Conducted community-based screening of adults aged 30 years and above for early identification of NCD risk.



Deployed Mobile Medical Vans for diagnostic services and specialist consultation at PHCs and CHCs.



Organised diagnostic and specialist camps for confirmation and clinical management of NCD conditions.



Provided free doctor consultations, essential medicines, and lifestyle counselling to diagnosed beneficiaries.



Implemented Social Behaviour Change Communication activities through wall paintings, street plays, and installation of open gyms.



Strengthened public health facilities and NCD corners through infrastructure, equipment, and staffing support.



Conducted training and capacity building of healthcare staff for NCD screening, diagnosis, and follow-up.



Established referral linkage and follow-up mechanisms to ensure continuity of NCD care.

ALIGNMENT WITH SUSTAINABLE DEVELOPMENT GOALS



ALIGNMENT WITH GOVERNMENT INITIATIVES

- National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS)
- Ayushman Bharat – Health and Wellness Centres (HWCs)
- National Health Mission (NHM)
- India Hypertension Control Initiative (IHCI)
- National NCD Portal and Population-Based Screening Programme
- Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (PM-JAY)

KEY FINDINGS AND IMPACT

COMPONENT 1: SOCIAL BEHAVIOUR CHANGE COMMUNICATION (SBCC)

KEY FINDINGS

**97.1%**

were aware of wall painting messages, 95.2% witnessed street plays, and 95.2% were aware of the open gym facility.

**82.4%**

learned the importance of early screening after SBCC exposure.

**81.4%**

discussed health issues with family members, and 79.5% shared SBCC messages within their social networks.

**97.5%**

reported a clear understanding of the wall paintings.

**97.0%**

of street plays related to real-life NCD risks, and 93.5% reported motivation toward preventive action

**95.8%**

reported improved access through the open gym, and 93.8% acknowledged reinforcement from multiple SBCC activities.

KEY IMPACTS

**96.2%**

reported confidence in managing their personal health after SBCC exposure.

**96.2%**

expressed responsibility to promote healthy habits in the community.

**81.4%**

started regular exercise or walking following SBCC activities.

**72.4%**

got BP or sugar levels checked after SBCC exposure.

**71.4%**

reported a very positive impact on their lifestyle after participating in SBCC.

**61.9%**

reported regular physical activity (daily or 3–4 times per week).



**BENEFICIARY INTERACTION AT
PALGHAR DURING FIELD VISIT**

COMPONENT 2: COMMUNITY-BASED SCREENING AND MOBILE MEDICAL VAN SERVICES

KEY FINDINGS

**100.0%**

of respondents visited the mobile health van following community screening.

**98.3%**

of respondents received household screening visits through community mobilisation.

**97.7%**

were advised to start or continue medicines after diagnosis.

**95.0%**

underwent blood pressure testing, and 93.7% blood sugar testing during home visits.

**95.3%**

received blood pressure testing, and 90.7% blood sugar testing at the mobile health van.

**90.0%**

of respondents were formally referred to the mobile health van after screening.

**91.7%**

reported the mobile health van location as very easy to access.

**89.0%**

reported a clear understanding of their health condition after counselling.

**87.7%**

received a clear explanation for referral before visiting the mobile health van.

**86.0%**

rated registration and flow as very good, and 84.3% rated staff behaviour as very good.

**99.3%**

of respondents expressed willingness to recommend the programme to others.

KEY IMPACTS

**98.0%**

of beneficiaries started or continued medicines following programme exposure.

**97.3%**

of beneficiaries reported being very satisfied with programme services.

**67.3%**

identified early detection of health risks as the most important benefit received from the programme.

**62.0%**

increased physical activity or used the open gym after programme participation.



The "test-to-treatment" cycle was drastically shortened by MMV-supported sample collection and digital reporting, preventing patient drop-outs common with delayed results.

COMPONENT 3: HEALTH SYSTEM STRENGTHENING

KEY FINDINGS

**80.0%**

of respondents rated the government facility as "better than private," successfully positioning PHCs and CHCs as the primary point of care for NCDs.



The provision of digital tools (glucometers, tablets) enabled faster assessments and increased capacity to handle patient load.



Beneficiaries reported high satisfaction with the integrated service model, in which BP checks, diagnostics, and consultations occur during a single visit, eliminating the need for multiple trips.

KEY IMPACTS

**99.4%**

of patients reported physical comfort during examinations, attributing it to professional equipment like examination tables.

**98.8%**

were satisfied with seating availability, reducing fatigue for elderly patients.

**98.2%**

praised the cleanliness and privacy of the facilities, fostering a sense of safety and dignity.

**96.5%**

of respondents avoided 1–6 annual trips to distant district headquarters or private labs.



This decentralisation saved beneficiaries significant travel costs and daily wages, removing financial hurdles to testing.



Despite some connectivity challenges, the digitisation of patient records improved data accuracy and continuity of care, enabling staff to monitor treatment adherence and patient history better.

SOCIAL RETURN ON INVESTMENT (SROI)

KEY IMPACTS (VALUE FOR MONEY)

**1.77:1**

is the Year 1 SROI ratio, indicating that for every INR 1 invested, INR 1.77 of social value was generated within the implementation year itself.

**5.31:1**

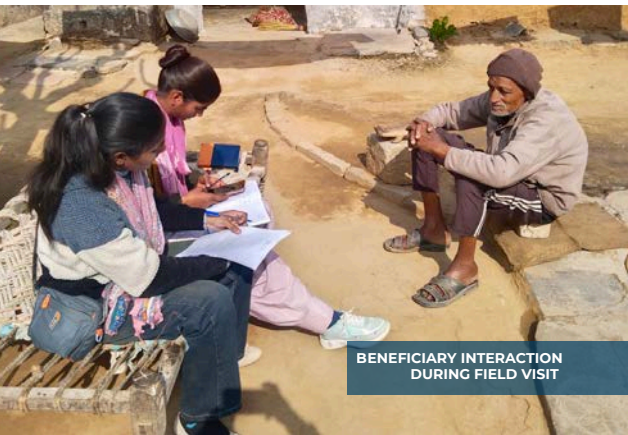
is the five-year cumulative SROI ratio, reflecting the compounding value of early detection, disease prevention, and avoided future hospitalisations.

**INR 16.49 Crore**

was the total Gross Value generated in Year 1 against an investment of INR 7.32 Crore.

**INR 9.29 Crore**

was the estimated value of avoided hospitalisation costs for high-risk patients identified early by the programme.



**BENEFICIARY INTERACTION
DURING FIELD VISIT**

CHAPTER 1

INTRODUCTION



Data collection with the Beneficiaries at the Bordi Camp, Palghar

BACKGROUND AND NEED OF THE PROJECT

Noncommunicable diseases (NCDs), including cardiovascular disease, diabetes, chronic respiratory disease and cancers, represent the leading cause of morbidity and mortality in India and constitute a major public health challenge, particularly among older adults and underserved populations. The rising prevalence of NCDs, coupled with delayed diagnosis and treatment, contributes to avoidable disability, increasing household out-of-pocket expenditure and growing pressure on secondary and tertiary healthcare services¹.

Rural and peri-urban districts face additional systemic barriers, including limited diagnostic capacity at the local level, long travel distances to specialised facilities, irregular availability of essential medicines, and weak continuity of care.

National policy guidance emphasises the importance of decentralising screening and basic diagnostics, and of strengthening NCD clinics at primary and community health facilities, to enable early detection and long-term management of chronic conditions².

The LIVES programme, implemented by Lupin Human Welfare and Research Foundation in Alwar district of Rajasthan and Palghar district of Maharashtra during FY 2023-24, has been designed to address these service gaps through an integrated model of community outreach, mobile diagnostics, behaviour change communication, and facility strengthening.

The programme combines household screening by community mobilisers, deployment of Mobile Medical Vans for on-site diagnostics and specialist camps, establishment of NCD corners at PHC and CHC level, and behaviour change interventions through wall paintings, street plays and open gyms to promote prevention and follow-up³. Early programme experience demonstrates high outreach, diagnostic utilisation and community acceptance, consistent with evidence from community and mobile screening initiatives in comparable Indian settings.

In the context of the national NCD burden, the policy priority for decentralised care, and the structural constraints faced by rural populations, the LIVES approach is well positioned to reduce diagnostic delays, strengthen treatment linkage, and limit catastrophic household health expenditure. By integrating early detection through community and mobile platforms with strengthened facility readiness and sustained behaviour change communication, the programme establishes a continuous pathway from awareness to long-term care that directly addresses the principal access, quality and continuity gaps observed in districts such as Alwar and Palghar.

Programme Coverage and System Footprint

INDICATOR	ALWAR DISTRICT	PALGHAR DISTRICT	TOTAL
Blocks Covered	4	2	6
Villages Covered	160	120	280
Mobile Medical Vans	1	1	2
Public Facilities Strengthened	9	9	18
Staff Deployed	84	59	143

Sources:

- WHO — *Noncommunicable diseases (global fact sheet)*.

- Government of India — *NP-NCD / NPCDCS operational guidance on community screening and NCD clinics*.
- Lupin Human Welfare & Research Foundation — *LIVES programme summary/press release (programme scope, MMVs, FY2023–24 Alwar & Palghar)*.

OBJECTIVES OF THE PROJECT



To improve access to quality NCD screening, diagnostic and treatment services for adults in selected blocks of Alwar and Palghar districts.



To support early detection and effective management of Noncommunicable Diseases through community-based screening and mobile diagnostic platforms.



To promote preventive health behaviour and lifestyle modification through structured Social Behaviour Change Communication interventions.



To strengthen public health facilities and NCD service delivery systems through infrastructure support, equipment provision and service readiness.



To build the capacity of healthcare staff for improved screening, diagnosis, counselling and long-term management of NCDs.



To reduce disease complications and long-term NCD burden through timely intervention, continuous monitoring and sustained follow-up care.

CHAPTER 2

RESEARCH METHODOLOGY



SoulAce & Lupin team members in Palghar during field visit

RESEARCH METHODOLOGY

This chapter outlines the research methodology adopted for the impact assessment of the LIVES Program. The assessment examined programme outcomes across three intervention components: Social Behaviour Change Communication, Community Screening and Mobile Health Van Services, and Health System Strengthening.

The study covered two respondent groups: an intervention group comprising beneficiaries who received programme services in both districts, and a control group drawn from comparable populations in Alwar district not exposed to the programme. This design enabled systematic assessment of programme outcomes and attribution of observed changes to the intervention.

OBJECTIVES OF THE STUDY

The impact assessment was undertaken with the following core objectives:



To assess the effectiveness of the programme in improving early detection of noncommunicable diseases through community screening and mobile diagnostic services.



To evaluate changes in health behaviour, treatment initiation, and follow-up practices among programme beneficiaries.



To assess the contribution of SBCC interventions in improving awareness, preventive orientation, and lifestyle modification.



To examine improvements in access, quality, and efficiency of NCD service delivery at community and facility levels.



To assess the role of the programme in strengthening public health systems through infrastructure, equipment, and service readiness.



To generate evidence-based recommendations for strengthening the sustainability and scalability of community-to-facility NCD care models.

RESEARCH DESIGN

The study adopted a descriptive-comparative research design using a mixed-methods approach. Quantitative surveys were conducted among intervention and control beneficiaries to measure programme outcomes related to detection, behaviour change, service utilisation, and patient experience. Qualitative methods were applied to capture in-depth perspectives on service delivery, counselling quality, behavioural change processes, and health system strengthening.

The inclusion of both intervention and control groups enabled systematic comparison of outcomes and strengthened attribution of observed effects to programme interventions.

APPLICATION OF QUANTITATIVE TECHNIQUES

Quantitative techniques were applied to assess programme performance across screening coverage, disease detection, treatment initiation, behaviour change, service experience, and financial protection outcomes. Structured questionnaires were administered to intervention beneficiaries in both districts and to control beneficiaries in Alwar district. Data analysis focused on percentage distributions, thematic grouping of indicators, and comparative interpretation between intervention and control groups to assess differential programme effects and outcome patterns.

APPLICATION OF QUALITATIVE TECHNIQUES

Qualitative techniques were applied to complement quantitative findings and to capture contextual, experiential, and system-level insights. In-depth interviews, focus group discussions, case studies, and beneficiary testimonials were conducted with beneficiaries, healthcare providers, programme staff, and community stakeholders. Qualitative inquiry explored counselling quality, care pathways, behaviour change processes, service readiness, continuity of care, and community trust, thereby providing explanatory depth to quantitative outcomes.

ENSURING TRIANGULATION

Triangulation was achieved through systematic integration of quantitative and qualitative evidence and by comparing beneficiary responses with the perspectives of service providers and programme teams. Findings across components, districts, respondent categories, and data collection methods were cross-validated to ensure consistency, reduce bias, and strengthen the assessment's credibility. This approach enabled robust interpretation of outcomes and improved confidence in programme attribution.

STANDARDISED FRAMEWORK FOR EVALUATION

The assessment applied the OECD-DAC evaluation framework to guide analysis across relevance, effectiveness, impact, coherence, efficiency, and sustainability dimensions. The framework provided a structured basis for interpreting programme outcomes, assessing performance across components, and generating policy-relevant conclusions and recommendations.



DESIGN SNAPSHOT



Name of the project

LIVES NCD Programme (Desh Bandhu Jan Aarogya Pariyojana)



Implementing organisation

Lupin Human Welfare & Research Foundation (LHWRF)



Research design

Descriptive and Comparative Research Design



Sampling technique

Purposive Sampling



Sample size

680 intervention beneficiaries and 300 control beneficiaries from Alwar, Rajasthan and Palghar, Maharashtra



Quantitative Methods

Structured beneficiary surveys



Qualitative Methods

In-depth interviews, FGDs, case studies, testimonials

KEY STAKEHOLDERS COVERED



AUXILIARY NURSE
MIDWIVES (ANMS)



COMMUNITY HEALTH
OFFICERS (CHOS)



MEDICAL OFFICERS



DATA OPERATORS



PROGRAMME TEAM
MEMBERS



MMV TEAM MEMBERS



PRI MEMBERS



PRI MEMBERS



VILLAGE LEADERS AND
OPINION LEADERS



ASHA WORKERS

SAMPLING FRAMEWORK

A purposive sampling strategy was adopted to select beneficiaries and stakeholders across districts and components.

Sampling Framework:

STATE	DISTRICT	COMPONENT	SAMPLE GROUP	SAMPLE SIZE
Rajasthan	Alwar	Component 1 – SBCC	Intervention	104
Rajasthan	Alwar	Component 2 – Screening & MMV	Intervention	124
Rajasthan	Alwar	Component 3 – HSS	Intervention	103
Rajasthan	Alwar	All Components	Control	150
Maharashtra	Palghar	Component 1 – SBCC	Intervention	106
Maharashtra	Palghar	Component 2 – Screening & MMV	Intervention	176
Maharashtra	Palghar	Component 3 – HSS	Intervention	67
Maharashtra	Palghar	All Components	Control	150
Total				980



**INTERACTION WITH
BENEFICIARIES DURING
FIELD VISIT, PALGHAR**

UPHOLDING RESEARCH ETHICS



INFORMED CONSENT

Prior informed consent was obtained from all participants before data collection.



VOLUNTARY PARTICIPATION

Participation was entirely voluntary, with the right to withdraw at any stage without consequence.



CONFIDENTIALITY

Personal identifiers were removed, and respondent anonymity was maintained in all datasets and reports.



PRIVACY

Interviews and discussions were conducted in settings that ensured participants' privacy and comfort.



NON-MALEFICENCE

No physical, psychological, or social harm was caused to any respondent during the study.



DATA SECURITY

All data were stored securely and used solely for research and reporting purposes.



TRANSPARENCY

Findings are presented objectively without misrepresentation or selective reporting.



**INTERACTION WITH
CONTROL GROUP AT
PALGHAR**

The background of the page features a light green surface with three small clay figures in white, red, and yellow, each with a circular head and a triangular body. To the left, there are some green grass-like plants. A dark circular object, possibly a lens or a container, is visible in the lower-left corner. The overall aesthetic is clean and natural.

03. KEY FINDINGS AND IMPACT

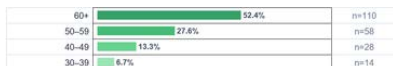
This chapter presents the key findings and impact of the LIVES NCD Programme across its three intervention components: Social Behaviour Change Communication, Community Screening and Mobile Health Van Services, and Health System Strengthening. Drawing on quantitative and qualitative evidence, the analysis assesses outcomes related to behaviour change, early detection, service utilisation, patient experience, financial protection, and health system readiness. Findings are presented component-wise to reflect the progression from awareness and prevention to diagnosis, treatment, and continuity of care, and to examine differential outcomes between intervention and control groups.

COMPONENT 1: SOCIAL AND BEHAVIOUR CHANGE COMMUNICATION (SBCC) – EXPOSURE AND EARLY BEHAVIOURAL OUTCOMES

This component assesses the effectiveness of SBCC interventions in initiating awareness, shaping health perceptions, and triggering early preventive behaviour related to NCD risks. It examines the pathway from community reach and message exposure to behaviour initiation, habit formation, spillover effects, channel effectiveness, and empowerment outcomes. The analysis draws on participant responses and selective comparison with a control group to evaluate how SBCC activities contributed to individual behaviour change, community diffusion, and overall lifestyle improvement.

DEMOGRAPHIC PROFILE OF RESPONDENTS

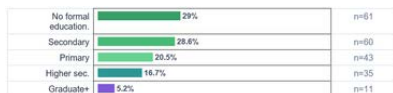
→ AGE GROUP DISTRIBUTION



→ GENDER DISTRIBUTION



→ EDUCATION LEVEL





OCCUPATION

Homemaker	24.8%	n=52
Self-employed	24.3%	n=51
Unemployed	17.6%	n=37
Daily wage	11.4%	n=24
Retired	11%	n=23
Salaried	11%	n=23



MONTHLY HOUSEHOLD INCOME

INCOME BRACKET	PERCENTAGE	
Less than Rs. 5,000	12.9%	27
Rs. 5,001 - Rs. 10,000	9.5%	20
Rs. 10,001 - Rs. 15,000	27.1%	57
Rs. 15,001 - Rs. 25,000	21.0%	44
Rs. 25,001 - Rs. 40,000	2.9%	6
More than Rs. 40,000	0.5%	1
Prefer not to say	26.2%	55

The Community LUPIN component surveyed 300 beneficiaries accessing mobile health van services. The age distribution indicated a high concentration of older adults, with 61.3% aged 60 and above and an additional 25.3% aged 50-59. This demographic concentration aligned with epidemiological findings from the Longitudinal Ageing Study in India (LASI), which established a steep increase in NCD prevalence (particularly hypertension and cardiovascular diseases) among older adults. Consequently, the mobile screening intervention successfully targeted the primary at-risk demographic for chronic conditions.

The cohort comprised 52.3% males and 47.7% females, representing a relatively balanced gender parity for community-based health outreach. Income data revealed that 48.0% of beneficiaries earned between INR 300 and INR 500 per day, while 42.0% reported daily earnings below INR 300. In total, 90.0% of the surveyed population had a daily income of INR 500 or less. This income profile clearly situated the vast majority of beneficiaries within low-income brackets. Extensive health economics research indicates that populations within this economic stratum are highly vulnerable to catastrophic health expenditure (CHE) when seeking chronic disease diagnosis and treatment in the private sector. The provision of free, point-of-care screening via mobile health vans therefore functioned as a critical intervention to bypass initial financial and geographical barriers to early NCD detection.

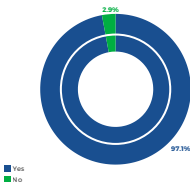
REACH AND EXPOSURE TO SBCC CHANNELS AND BEHAVIOUR-ENABLING FACILITIES

This theme presents the extent of community reach achieved through key SBCC channels and associated facilities. It highlights early exposure levels that form the foundation for awareness generation and behaviour initiation.

KEY FINDINGS

REACH AND VISIBILITY OF WALL PAINTING-BASED SBCC ACTIVITIES

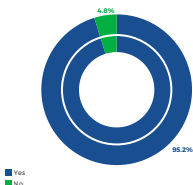
CHART 1: AWARENESS OF HEALTH AND LIFESTYLE WALL PAINTINGS UNDER LIVES



Awareness of wall-painting-based SBCC activities is exceptionally high, with 97.1% of respondents reporting having seen health and lifestyle messages displayed in public spaces. This widespread visual recall indicates that the messages have successfully penetrated community environments and, at a minimum, registered at a subconscious level. Such constant, passive exposure enhances message retention, normalises conversations about communicable diseases, and increases community members' readiness to adopt preventive behaviours.

COMMUNITY REACH THROUGH STREET PLAY-BASED SBCC ACTIVITIES

CHART 2: EXPOSURE TO STREET PLAYS UNDER LIVES



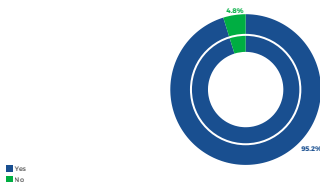
A high recall rate of 95.2% for street-play-based SBCC activities reflects not only extensive exposure but also the way these performances connected with people in their everyday lives. Many respondents shared that the plays felt "close to real situations" and made health issues easier to understand. Their accounts suggest that seeing familiar characters and scenarios helped the messages stay with them, strengthening awareness of health risks and encouraging a more thoughtful, preventive outlook in their daily routines.



INTERACTION WITH THE PATIENTS WHO VISITED CAMPS AT PALGHAR

AWARENESS OF BEHAVIOUR-ENABLING INFRASTRUCTURE UNDER SBCC

CHART 3: AWARENESS OF OPEN GYM INSTALLED UNDER LIVES



With **95.2% of respondents** reporting awareness of the open gym facility set up under the programme, it is clear that the infrastructure has strong visibility within the community. Many respondents mentioned that they "see it while passing by" or have noticed others regularly using the equipment, indicating that the facility has become a familiar part of their surroundings. This widespread awareness suggests that the SBCC messages promoting physical activity are well-supported by a tangible, easily accessible space—helping community members connect health advice with real opportunities to stay active.

AWARENESS AND KNOWLEDGE IMPROVEMENT FOLLOWING SBCC EXPOSURE

This theme examines improvements in health knowledge and perceptions following exposure to SBCC. It highlights early cognitive shifts that support preventive behaviour. The high awareness levels can be attributed to regular follow-ups and sustained exposure to programme-led awareness activities since FY 2024–25, given that this is an ongoing intervention.

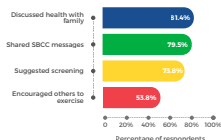
LEARNING OUTCOMES AFTER SBCC EXPOSURE

LEARNING OUTCOME	% OF RESPONDENTS	WHAT BENEFICIARIES SHARED	INTERPRETATION
Awareness of the importance of early screening	82.4%	"We came to know that checking early can prevent bigger problems later. Earlier, we used to ignore symptoms; now we understand we should get screened."	Indicates a strong cognitive shift toward recognising screening as a preventive action rather than just a treatment step.
Improved understanding of NCD risk factors	72.9%	"Now we know things like oily food, no exercise, and stress can cause BP and sugar. Before this, we didn't connect our habits to disease."	Shows that people are beginning to link daily lifestyle choices with long-term health risks.
Better knowledge of prevention methods	60.5%	"We learned that simple habits—walking, reducing salt—can help avoid disease. After the sessions, we started thinking about changing our food and routines."	Reflects movement from awareness toward actionable understanding of prevention.
Basic understanding of NCDs	58.6%	"We didn't know what NCDs meant earlier; now we understand they are long-term diseases. Now we can identify what BP, sugar, and heart problems come under."	Suggests foundational knowledge-building that strengthens the base for deeper behaviour change.

COMMUNITY SPILLOVER

COMMUNITY-LEVEL SHARING AND PROMOTION OF PREVENTIVE BEHAVIOURS

CHART 4: COMMUNITY SPILLOVER ACTIONS FOLLOWING SBCC EXPOSURE



1. Discussing Health Issues with Family (81.4%)

Most respondents said they now talk about health more openly at home—for example, reminding spouses or elders to reduce salt intake, check BP, or avoid late-night eating.

2. Sharing SBCC Messages with Others (79.5%)

Many reported passing on key messages to neighbours and friends, often describing scenes from the street plays or explaining posters they had seen.

3. Suggesting Health Screening (73.8%)

Respondents said they encouraged relatives or co-workers to get BP or blood sugar tests, especially after learning that early detection can prevent complications.

4. Encouraging Physical Activity (53.8%)

Over half motivated others to adopt small daily habits—such as taking evening walks, reducing sitting time, or doing simple exercises.

“

After attending the programme activities, I started talking to my family about health and encouraged them to get their tests done and walk regularly. Now we discuss these issues openly at home.

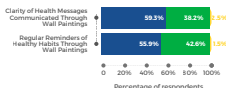
- Bharti Prakash, Palghar, Maharashtra

”

CHANNEL EFFECTIVENESS

EFFECTIVENESS OF WALL PAINTINGS IN MESSAGE DELIVERY AND REINFORCEMENT

CHART 5: MESSAGE CLARITY AND REMINDER EFFECT OF WALL PAINTINGS



■ Strongly Agree
■ Agree
■ Neutral

1. Clarity of Health Messages (97.5%)

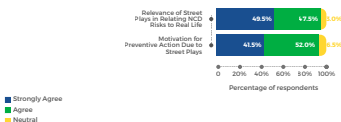
Most respondents agreed that the wall paintings conveyed health messages clearly, showing that this medium is highly effective and trusted for communicating preventive information.

2. Regular Reminders for Healthy Habits (98.5%)

Nearly all respondents said the wall paintings acted as constant reminders—helping reinforce healthy behaviours because the messages stay visible in daily community spaces.

EFFECTIVENESS OF STREET PLAYS IN ENGAGEMENT AND BEHAVIOUR MOTIVATION

CHART 6: RELEVANCE AND MOTIVATIONAL EFFECT OF STREET PLAYS



Among those who watched the street plays, 97% reported that they were able to relate the content to real-life non-communicable disease (NCD) risks, and 93.5% stated that the plays motivated them to adopt preventive actions such as screening and dietary modification.

INTERVIEW WITH MS RIDDHI SANKHE, MEDICAL OFFICER

Dr Riddhi Sankhe, posted at the PHC since March 2024 and serving a population of nearly 46,800, oversees NCD screening, diagnosis, treatment, medicine dispensing, record maintenance, and follow-up coordination. She noted that before the LIVES programme, screening coverage and awareness were limited, follow-up was irregular, and access to medicines and diagnostics was inadequate, despite a high burden of hypertension and diabetes.

With LHWRF support, the facility received essential diagnostic equipment and digital tools, improving measurement accuracy, patient flow, staff efficiency, and service quality. Diagnostic access strengthened through MMV-supported sample collection, lab partnerships, faster reporting, and digital communication. NCD screening increased significantly due to better equipment, CHO training, ASHA mobilisation, and regular screening camps, enabling earlier identification of elderly and high-risk patients.

She highlighted improved staff competencies, stronger data systems for follow-up planning, and effective MMV integration that reduced facility load, expanded outreach to remote areas, and improved continuity of care. Community awareness and health-seeking behaviour improved through SBCC activities, while facility workflows became more systematised and aligned with NPCDCS and HWC goals. Ms Riddhi identified remaining gaps in medicine supply, diagnostics, staffing, and connectivity. She recommended maintaining regular drug availability, expanding diagnostics, providing refresher training, strengthening MMV linkages, and improving data systems to sustain and scale NCD services across PHCs.

KEY IMPACTS

BEHAVIOUR INITIATION AND EARLY HABIT FORMATION

This theme examines early adoption of preventive behaviours and their transition into regular habits following SBCC exposure.

COMPARISON OF BEHAVIOUR CHANGES: EXPERIMENTAL VS CONTROL GROUP

BEHAVIOUR INDICATOR	EXPERIMENTAL GROUP (SBCC EXPOSURE)	CONTROL GROUP
Increased physical activity /started exercising	81.4% - SBCC messages strongly motivated regular physical activity, a key preventive behaviour. This reflects a major shift towards healthier routines.	37.7% - Fewer adopted exercise without SBCC cues, showing limited motivation for lifestyle change in the absence of targeted awareness.
Got BP/sugar checked	72.4% - Awareness campaigns encouraged early detection, prompting many to undergo screening. Regular checks help identify risks early.	37.7% - The control group showed treatment-focused behaviour rather than preventive screening.
Improved diet	65.7% - Many reduced salt, oil, and sugar after SBCC exposure, reflecting strong message internalisation. Diet change directly reduces NCD risks.	35.7% - Far fewer adopted healthier diets, indicating that without SBCC reinforcement, dietary improvement is less likely.
Reduced tobacco/alcohol use	51.4% - The intervention helped many reduce their use of harmful substances, supporting long-term NCD prevention.	37.7% - Moderate, mainly self-driven changes; absence of SBCC messaging led to lower impact.
Used open gym / physical activity infrastructure	42.4% - SBCC, combined with accessible infrastructure, encouraged sustained exercise, especially valuable in rural areas with limited gym access.	(Not applicable) - No comparable facility or behaviour reported in the control group.

Relative to programme participants, responses from the control group reflected markedly weaker empowerment and lifestyle orientation. Survey interactions indicated lower confidence in managing personal health, a limited sense of responsibility toward promoting healthy habits, and more restrained perceptions of lifestyle improvement. Satisfaction with access to NCD care also remained comparatively modest, suggesting that in the absence of SBCC exposure, psychological empowerment, community ownership, and perceived lifestyle change were less pronounced. This contrast reinforces the contribution of SBCC activities in strengthening self-efficacy, social responsibility, and overall preventive orientation among programme participants.

COMPONENT 2: COMMUNITY-BASED SCREENING

This component assesses the role of community-based screening and mobile health van services in improving access to diagnostics, enabling early detection, and strengthening clinical linkage and care continuity. The analysis follows the pathway from household screening and referral to detection, counselling, treatment initiation, and service experience, supported by selective comparison with a control group to establish attribution and evaluate the programme's contribution to timely care and financial protection.

The programme conducted extensive village-level screening across both intervention districts, enabling large-scale early identification of NCD risk within communities. The table below summarises district-wise screening coverage, high-risk detection, and geographic reach achieved during the assessment period.

COMMUNITY SCREENING AND HIGH-RISK IDENTIFICATION

INDICATOR	ALWAR DISTRICT	PALCHAR DISTRICT	TOTAL
Individuals Screened	19,360	7,429	26,789
High-Risk Individuals Identified	3,055	692	3,747
Villages Covered	160	120	280

(Source: Project Documents)

DEMOGRAPHIC PROFILE OF BENEFICIARIES

➔ AGE GROUP DISTRIBUTION

60+	61.3%	n=184
50–59	25.3%	n=76
40–49	10%	n=30
30–39	3.4%	n=10

➔ GENDER DISTRIBUTION

Male 52.3% (n=157)	Female 47.7% (n=143)
---	---

→ DAILY INCOME LEVEL

₹300–500	48%	n=144
Less than ₹300	42%	n=126
₹501–800	7.7%	n=23
More than ₹800	2.3%	n=7

The Social and Behaviour Change Communication (SBCC) component surveyed 210 respondents. The age distribution showed a heavy concentration of older adults, with 52.4% aged 60 and above and 27.6% aged 50–59. Similar to component 1, this demographic concentration aligned with epidemiological findings from the LASI, which established a steep increase in NCD prevalence among older adults. The cohort exhibited a skewed gender distribution, comprising 64.3% males and 35.7% females. Educational attainment within the group was limited; 29.0% reported no formal education, 20.5% completed only primary schooling, and 28.6% attained secondary education. Because limited health literacy is a primary barrier to modifying lifestyle risk factors, the deployment of targeted SBCC interventions was highly appropriate for this demographic. Evidence indicates that tailored, low-literacy communication strategies are essential for translating health knowledge into sustained behaviour change and improved clinical outcomes.

Occupational profiles were predominantly composed of homemakers (24.8%), self-employed individuals (24.3%), and the unemployed (17.6%). Regarding monthly household income, 27.1% fell within the INR 10,001 to INR 15,000 bracket, while 21.0% reported earnings between INR 15,001 and INR 25,000 (with 26.2% preferring not to disclose). This socioeconomic profile positioned the majority of the cohort in low- to middle-income brackets, a segment highly vulnerable to the economic shocks of chronic disease management. Preventive SBCC interventions in such populations are recognised as highly cost-effective strategies to mitigate the risk of disease progression, thereby averting catastrophic health expenditures associated with advanced NCD care.

KEY FINDINGS

OUTREACH AND MOBILISATION EFFECTIVENESS IN COMMUNITY-BASED SCREENING

The community mobiliser from LUPIN visited our home and explained the health programme clearly. Because of that visit, I agreed to get screened and later informed my family members as well. Without the home visit, I would not have known about these services.

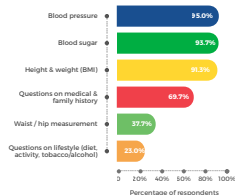
HEALTH SCREENING AT THE COMMUNITY LEVEL

Community screening in FY 2023-24 was conducted in two stages. In Phase 1, approximately half of the screened population was identified as non-risk and was therefore not provided basic facilitation for blood pressure and blood sugar testing. The assessment sample was drawn from individuals identified as at risk in Phase 1 and subsequently referred after initial screening. The control group comprised community members who were screened but did not attend the camp, as they were not referred for further testing.



INTERACTION WITH CONTROL GROUP, PALCHAR

CHART 7: TYPES OF HEALTH SCREENING CONDUCTED DURING HOME VISIT



1. Blood Pressure Measurement (95.0%)

BP checks were the most common screening activity during the home visit. Many respondents said they usually don't get their BP checked unless they feel unwell, so this quick home test helped them know where they stand.

2. Blood Sugar Testing (93.7%)

Most beneficiaries received a doorstep blood sugar test. Several people mentioned that they had never checked their sugar levels before, and the visit made them aware of whether they might need to follow up.

3. Height & Weight / BMI Assessment (91.3%)

BMI measurements were widely included in the screening. Respondents said the visit helped them understand whether their weight was within a healthy range, something they usually don't monitor.

4. Questions on Medical & Family History (69.7%)

Many were asked about previous illnesses and family health patterns. Beneficiaries shared that the questions prompted them to think about issues like BP or diabetes in their families that they hadn't considered before.

As the assessment sample was drawn from referred, at-risk cohort, the outcomes reflect a relatively higher proportion.

5. Waist / Hip Measurement (37.7%)

A smaller proportion reported receiving waist-hip measurements. Those who did said the worker explained why abdominal fat is important to monitor, which they found useful.

6. Questions on Lifestyle (23.0%)

Fewer respondents were asked about their diet, activity, and tobacco/alcohol habits. People who were asked said it made them reflect on their daily routines and where they might need to cut back or improve.



The mobiliser explained my health risks in very simple words, and I could easily understand what the problem was. She told me why the tests were important and what I should take care of. After that, I felt more confident to go for a further check-up.

- Ram Bai, Community Beneficiary, Alwar, Rajasthan



Complete Utilisation of Mobile Health Van



100% VISITED THE MOBILE HEALTH VAN

All respondents who were screened went on to visit the mobile health van, indicating a full shift from community outreach to facility-level diagnostic services. 90.0% visited mobile health van following community screening and 10% walked in.

Quick Service Experience



73.0% COMPLETED THEIR VISIT WITHIN 30 MINUTES

Most users reported a fast, smooth experience, indicating efficient service delivery and minimal waiting time.

High Geographic Accessibility



91.7% FOUND THE LOCATION VERY EASY TO REACH

The vast majority reported that the mobile health van was conveniently located, indicating strong physical accessibility and low travel barriers.

INTERACTION WITH BENEFICIARIES AT PALGHAR CAMP



INTERVIEW WITH RAVINDRA VASANT BHUJAL, SARPANCH, GHOLWAD VILLAGE

Mr Ravindra Vasant Bhujal, Sarpanch of Gholwad village serving a population of nearly 5,000, described the LIVES programme as a major improvement in community access to NCD care. He learned about the programme through the Panchayat, PHC staff, and SHG meetings when MMV visits began regularly about a year ago. He explained that community screening has helped identify hypertension, diabetes, and lifestyle risks early, thereby improving awareness, encouraging timely treatment, and promoting healthier habits.

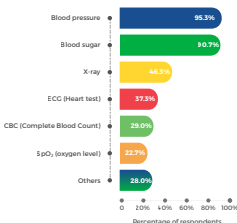
He observed that MMV services are highly valued for doorstep doctor access, on-the-spot screening, medicines, and referrals, particularly benefiting elderly persons, women, chronically ill patients, and residents of remote hamlets. He noted improved health-seeking behaviour, higher screening compliance, and gradual lifestyle changes, although misconceptions about lifelong medicines, costs, and the need for screening among "healthy" individuals persist.

As a community leader, he actively supports mobilisation by informing households, arranging venues, coordinating with ASHAs and facilitators, and encouraging vulnerable groups to attend camps. He reported increased trust in government health services, more organised functioning of PHCs, and better follow-up of chronic patients. Remaining gaps include irregular doctor availability, limited diagnostic services, medicine shortages, and access barriers in remote hamlets. He recommended increasing MMV frequency, strengthening awareness in distant areas, improving follow-up, ensuring consistent medicines, and expanding health education, and expressed strong willingness to support future health initiatives.

EXPERIENCE AT MOBILE HEALTH VAN (SCREENING & DIAGNOSTICS)

DIAGNOSTIC SERVICE INTENSITY AT THE MOBILE HEALTH VAN

CHART 8: SERVICES AND TESTS RECEIVED AT THE MOBILE HEALTH VAN



RESPONDENT PERCEPTIONS OF THE LIVES MMV SERVICES

SERVICE RECEIVED AT MMV	HOW RESPONDENTS LIKELY PERCEIVED THE BENEFIT (REALISTIC SECOND SENTENCE ADDED)
Blood Pressure Check (95.3%)	BP testing was highly valued as it helped them detect issues early. Respondents said they rarely get BP checked in villages, so having it done free and nearby felt reassuring and convenient.
Blood Sugar Test (90.7%)	Sugar testing provided people with clarity about potential diabetes risks. Many shared that they typically need to travel long distances or pay for the test so receiving it at the MMV saved time and money.
X-ray Services (46.3%)	X-rays were seen as a major benefit because such facilities are usually distant or expensive. People said getting an X-ray locally was a "big relief," especially for those with pain or chest issues.
ECG/ Heart Test (37.3%)	ECG access was considered valuable for checking heart health, which is rarely available in rural areas. Respondents said they would never have gone to a city hospital for an ECG unless their symptoms had become severe.
CBC- Complete Blood Count (29.0%)	The CBC test helped detect anaemia or infections, problems common in rural settings. Some beneficiaries found it useful because such tests usually require visiting private labs in nearby towns.
Other Services (28.0%)	Additional tests or consultations were appreciated for addressing individual concerns. People felt the MMV team listened to their problems and provided tests they could not normally afford or access easily.

Field Insight: Health Conditions Identified through Community-Based Screening

Interactions with screening beneficiaries indicated that the mobile health van served as a key platform for identifying a wide spectrum of previously undetected health conditions within the community. Many respondents reported learning for the first time about high blood pressure, high blood sugar, pre-diabetes, heart-related risks, and breathing or oxygen-related problems, often in the absence of noticeable symptoms. Beneficiaries reported that comprehensive testing at a single visit enabled simultaneous detection of multiple risk factors that had not been identified earlier through routine care. This field evidence highlights the programme's contribution to shifting diagnosis from symptom-based detection to systematic early identification, thereby strengthening timely counselling, referral, and the initiation of preventive and clinical care pathways.

Beyond routine mobile van screening, the programme organised dedicated diagnostic and specialist camps to enable confirmatory testing and specialised clinical assessment. These camps played a critical role in translating early risk identification into formal diagnosis and treatment initiation. The table below presents district-wise outputs of diagnostic and specialist camps, patient detection, and gender-wise coverage.

DIAGNOSTIC AND SPECIALIST CAMP OUTPUTS

Indicator	Alwar District	Palghar District	Total
Diagnostic Camps Conducted	154	60	214
Specialist Camps Conducted	4	6	10
Patients Diagnosed	5283	1499	6782
Female Beneficiaries	2219	852	3071
Male Beneficiaries	3,064	647	3711

(Source: Project Documents)

CASE STUDY 3: PREVENTING CARDIOVASCULAR COMPLICATIONS THROUGH CONTINUOUS CARE

Jitendra Bari, a middle-aged farmer, had been experiencing symptoms related to hypertension, diabetes, and heart risk for several years but delayed seeking care due to work commitments and financial constraints. Like many in his community, he believed medical visits were necessary only during emergencies.

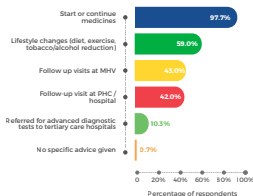
During a community-based screening campaign, health workers detected dangerously high blood pressure levels. The MMV team provided immediate consultation, initiated free medication, and counselled him on diet, exercise, and routine monitoring. He was enrolled for regular follow-up and continued to meet the team during scheduled village visits.

With sustained support, his blood pressure and sugar levels gradually improved, preventing a potential cardiovascular event. His overall stamina improved, and hospital visits reduced. Today, Jitendra actively encourages neighbours, especially men of his age group, to attend screening camps and not ignore early symptoms, becoming a local advocate for preventive healthcare.



CLINICAL ADVICE AND LINKAGE TO CARE AFTER DIAGNOSIS

CHART 9: ADVICE OR ACTION SUGGESTED AFTER DIAGNOSIS



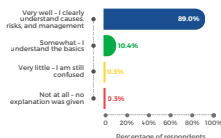
ADVICE OR ACTION SUGGESTED AFTER DIAGNOSIS

ADVICE / ACTION SUGGESTED	SHORT NARRATIVE (AS REPORTED BY RESPONDENTS)
Start or continue medicines (97.7%)	Most respondents were advised to begin or maintain medication to manage their condition. They shared that this guidance helped them understand the importance of taking medicines regularly.
Lifestyle changes: diet, exercise, tobacco/alcohol reduction (59.0%)	Over half were encouraged to improve daily habits to prevent complications. Respondents said this made them think about cutting down on unhealthy foods and being more active.
Follow-up visits at MMV (43.0%)	Many were asked to return to the Mobile Health Unit for monitoring. People felt this was convenient since the MMV visits their area regularly.
Follow-up visits at PHC/hospital (42.0%)	A similar proportion were guided to continue treatment at PHCs or hospitals. Respondents noted this advice helped them plan their next steps for ongoing care.
Referred for advanced diagnostics (10.3%)	Some were directed to higher-level facilities for specialised tests. They mentioned this usually happened when their condition needed a more detailed examination.
No specific advice given (0.7%)	Only a very small number reported receiving no particular advice. These respondents said their issue may have been minor and did not require any additional steps.

Some respondents were directed to tertiary care centres for specialised investigations such as 2D Echo, HRCT, and stress tests, reflecting appropriate clinical judgement and timely referral for advanced diagnostic assessment when higher-level evaluation was required.

Perceptions of diagnostic timing in the control group indicate delayed engagement with care: only 78.7% reported a timely diagnosis, while a considerable proportion expressed uncertainty or perceived a delay. This reflects gaps in early detection, counselling, and structured follow-up among individuals not covered by programme-supported screening and referral mechanisms.

CHART 10: CURRENT UNDERSTANDING OF HEALTH CONDITION(S)



A large majority of respondents reported strong comprehension of their health status, with 89.0% indicating a clear understanding of the causes, risks, and management of their condition. This reflects effective post-diagnosis counselling and successful strengthening of health literacy at the point of care.

INTERVIEW WITH MR VISHAN LAL, SARPANCH, RAJPUR CHHOTA, ALWAR DISTRICT

Mr Vishan Lal shared that he learned about the LIVES programme and MMV services through field staff and local health workers, and that he has actively supported mobilisation and coordination at the village level. He noted improved awareness of blood pressure, diabetes, and the importance of regular screening, with villagers increasingly attending camps and seeking early care.

He described MMV services as highly valuable for elderly persons, women, chronically ill patients, and residents of distant hamlets, providing access to doctors, on-the-spot screening, medicines, and referrals within the village, and reducing dependence on private clinics. He highlighted occasional challenges with crowd management and visit duration, suggesting fixed schedules and longer visits to improve coverage.

Mr Vishan Lal observed gradual behaviour change, including better diet practices, reduced tobacco use in some households, and higher acceptance of regular check-ups, though misconceptions about medicines and symptom-based care remain. He appreciated LHWRF's SBCC efforts and noted improved access, responsiveness, and trust in nearby PHCs and HWCs. He affirmed continued support for future health initiatives to strengthen community health outcomes.

PRIOR AWARENESS OF HEALTH CONDITION OR RISK



The mobile health van came to our village, and the team carefully checked my blood pressure, sugar, and weight. Earlier, I never thought of going to the hospital unless I was very sick. The staff explained my reports in simple language and told me what the problem was and what I should do. Because of Lupin, I came to know about my illness at the right time and started taking medicines early. They also guided me about food, walking, and follow-up visits. This programme has helped people like us who cannot easily go to big hospitals, and now we feel more confident about taking care of our health

- Jitu Kadu, Community Beneficiary, Palghar, Maharashtra



KEY IMPACTS

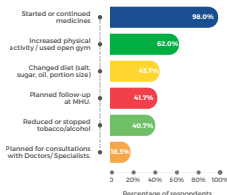
BEHAVIOUR AND LIFESTYLE CHANGE FOLLOWING PROGRAMME EXPOSURE

The intervention group comprised beneficiaries who accessed screening and counselling through the MMV, whereas the control group included individuals diagnosed at other centres who did not interact with MMV services. While both groups took some post-diagnosis actions, only the intervention group received structured guidance that supported wider and more sustained behaviour change.



**MEDICAL EXAMINATION
OBSERVED DURING FIELD
VISIT AT ALWAR,
RAJASTHAN**

CHART 11: CHANGES EXPERIENCED BY BENEFICIARIES DUE TO THE PROGRAMME

**COMPARISON TABLE: BEHAVIOUR CHANGE AFTER DIAGNOSIS – PROGRAMME VS CONTROL GROUP**

BEHAVIOUR INDICATOR	PROGRAMME (EXPERIMENTAL) GROUP	CONTROL GROUP
Started or continued medicines	98.0% – Nearly all beneficiaries initiated or maintained medication, reflecting strong treatment uptake supported by programme counselling.	76.3% – Most began medicines, but this reflected a reactive response typical after diagnosis without structured counselling.
Increased physical activity	62.0%– Many adopted regular activity, showing the programme's influence on healthier lifestyle habits.	37.7% – Lower adoption of exercise, indicating limited motivation without guided lifestyle advice.
Planned follow-up care	41.7% – Beneficiaries took steps for ongoing care, supported by referral and continuity mechanisms within the programme.	26.7%– Fewer planned follow-ups, revealing weaker continuity of care when MMV support was absent.
Changed dietary practices	43.7% – Many made dietary improvements, and although only moderately higher than the control group, this suggests the programme provided an added nudge toward healthier choices.	35.7% – A considerable share also changed diets after diagnosis, showing that receiving a diagnosis itself prompts behaviour change, even without MMV counselling.
Reduced or stopped tobacco/alcohol use	40.7%– Reductions in tobacco/alcohol use were notable, indicating that diagnosis and counselling together encouraged risk-reduction efforts.	37.7% – Similar behavioural shifts were seen, suggesting that learning about one's health condition drives people to cut harmful habits, though sustained support may improve durability.

**99.3%**

of respondents expressed willingness to recommend the programme.

COST SAVINGS AND REDUCTION IN OUT-OF-POCKET EXPENDITURE THROUGH THE PROGRAMME

COMPARISON TABLE: COST SAVINGS VS HEALTHCARE EXPENDITURE

COST COMPONENT	INTERVENTION GROUP (MMV USERS) N=300	CONTROL GROUP (NON-MMV USERS) N=300
Doctor Consultation Fees	100% saved consultation costs by accessing free services through the programme.	47.7% paid between INR 301 and INR 500 per visit, and 42.0% paid between INR 100 and INR 300 per visit, resulting in recurring annual expenses with 4-5 visits per year.
Diagnostic Testing Costs	100% avoided diagnostic charges because the MMV provided tests at no cost.	Paid privately for all diagnostic tests, typically spending anywhere between INR 300 and INR 1,000 per test, depending on the type of investigation, which substantially increased their out-of-pocket health expenses.
Travel Expenses	Minimal or no travel cost, since the MMV reached their locality.	Nearly half spent between INR 51 and INR 100 per visit, and 21.0% spent between INR 101 and INR 300, adding to the overall cost burden.
Wage Loss	Little to no wage loss due to doorstep services and short waiting times.	62.3% lost half a day or more of income per visit due to travel distance, queuing, or time spent at facilities.

“Because testing is done free at the mobile health unit, many people come to know about their illness at an early stage and do not need to go to private clinics or laboratories. When the disease is detected early, treatment can start on time, and the problem does not become serious. People also save their daily wages because they fall sick less often and do not miss work for repeated hospital visits. This programme has helped reduce complications and improve both health and productivity in the community.

- Arju, Community Mobiliser, Team, Rajgarh, Alwar

”

“I am very happy with this programme. The tests were done for free, and the staff explained everything clearly. Because of LUPIN, I could know my health problem early and start treatment. I have also told my neighbours to come for this check-up because this service is very useful for people in our village.

- Raadesh Ravi, Community Beneficiary, Palghar, Maharashtra

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LUPIN LIVES PROGRAMME – DISTRICT-WISE COMPARATIVE ANALYSIS

NCD SBCC IMPACT ASSESSMENT – DISTRICT-WISE COMPARISON

SOURCE: NCD SBCC IMPACT ASSESSMENT SURVEY | PALGHAR (N=104) | ALWAR (N=106)

SECTION A: DEMOGRAPHIC PROFILE

TABLE 1: AGE GROUP OF RESPONDENTS

RESPONSE OPTION	PALGHAR (N=104)	(%)	ALWAR (N=106)	(%)	GAP (PP)
30-39 years	2	1.9%	12	11.3%	-9.4%
40-49 years	8	7.7%	20	18.9%	-11.2%
50-59 years	32	30.8%	26	24.5%	6.3%
60+ years	62	59.6%	48	45.3%	14.3%

TABLE 2: GENDER DISTRIBUTION OF RESPONDENTS

RESPONSE OPTION	PALGHAR (N=104)	(%)	ALWAR (N=106)	(%)	GAP (PP)
Male	63	60.6%	72	67.9%	-7.3 pp
Female	41	39.4%	34	32.1%	+7.3 pp

TABLE 3: EDUCATIONAL LEVEL OF RESPONDENTS

RESPONSE OPTION	PALGHAR (N=104)	(%)	ALWAR (N=106)	(%)	GAP (PP)
No formal education	37	35.6%	24	22.6%	+13.0 pp
Primary	13	12.5%	30	28.3%	-15.8 pp
Secondary	23	22.1%	37	34.9%	-12.8 pp
Higher secondary	23	22.1%	12	11.3%	+10.8 pp
Graduate+	8	7.7%	3	2.8%	+4.9 pp

TABLE 4: OCCUPATION OF RESPONDENTS

RESPONSE OPTION	PALGHAR (N=104)	(%)	ALWAR (N=106)	(%)	GAP (PP)
Homemaker	17	16.3%	35	33.0%	-16.7 pp
Self-employed	24	23.1%	27	25.5%	-2.4 pp
Daily wage worker	2	1.9%	22	20.8%	-18.9 pp
Retired	19	18.3%	4	3.8%	+14.5 pp
Salaried	12	11.5%	11	10.4%	+1.1 pp
Unemployed	30	28.8%	7	6.6%	+22.2 pp

TABLE 5: AVERAGE MONTHLY HOUSEHOLD INCOME

RESPONSE OPTION	PALGHAR (N=104)	(%)	ALWAR (N=106)	(%)	GAP (PP)
Less than ₹5,000	12	11.5%	15	14.2%	-2.7 pp
₹5,001 - ₹10,000	5	4.8%	15	14.2%	-9.4 pp
₹10,001 - ₹15,000	16	15.4%	41	38.7%	-23.3 pp
₹15,001 - ₹25,000	14	13.5%	30	28.3%	-14.8 pp
₹25,001 - ₹40,000	3	2.9%	3	2.8%	+0.1 pp
More than ₹40,000	1	1.0%	0	0.0%	+1.0 pp
Prefer not to say	53	51.0%	2	1.9%	

TABLE 5: AVERAGE MONTHLY HOUSEHOLD INCOME

RESPONSE OPTION	PALGHAR (N=104)	(%)	ALWAR (N=106)	(%)	GAP (PP)
High blood pressure	77	74.0%	75	70.8%	+3.2 pp
Diabetes	70	67.3%	46	43.4%	+23.9 pp
Heart condition	13	12.5%	34	32.1%	-19.6 pp
Respiratory condition.	4	3.8%	19	17.9%	-14.1 pp
Dyslipidaemia.	3	2.9%	15	14.2%	-11.3 pp
Liver/Kidney related conditions.	4	3.8%	7	6.6%	-2.8 pp

SECTION B: SBCC EXPOSURE – ACTIVITY-WISE

TABLE 7: AWARENESS OF HEALTH AND LIFESTYLE WALL PAINTINGS UNDER LIVES

RESPONSE OPTION	PALGHAR (N=104)	(%)	ALWAR (N=106)	(%)	GAP (PP)
Yes	98	94.2%	106	100.0%	-5.8 pp
No	6	5.8%	0	0.0%	+5.8 pp

TABLE 8: EXPOSURE TO STREET PLAYS UNDER LIVES

RESPONSE OPTION	PALGHAR (N=104)	(%)	ALWAR (N=106)	(%)	GAP (PP)
Yes	94	90.4%	106	100.0%	-9.6 pp
No	10	9.6%	0	0.0%	+9.6 pp

TABLE 9: AWARENESS OF OPEN GYM INSTALLED UNDER LIVES

RESPONSE OPTION	PALGHAR (N=104)	(%)	ALWAR (N=106)	(%)	GAP (PP)
Yes	95	91.3%	105	99.1%	-7.8 pp
No	9	8.7%	1	0.9%	+7.8 pp

SECTION C: IMPACT ON AWARENESS, PREVENTION & BEHAVIOUR

TABLE 10: IMPROVED UNDERSTANDING AFTER SBCC EXPOSURE

RESPONSE OPTION	PALGHAR (N=104)	(%)	ALWAR (N=106)	(%)	GAP (PP)
Importance of early screening	91	87.5%	82	77.4%	+10.1 pp
Risk factors	87	83.7%	66	62.3%	+21.4 pp
Prevention methods	62	59.6%	65	61.3%	-1.7 pp
What NCDs are	34	32.7%	89	84.0%	-51.3 pp

TABLE 11: BEHAVIOUR CHANGES AFTER SBCC EXPOSURE

RESPONSE OPTION	PALGHAR (N=104)	(%)	ALWAR (N=106)	(%)	GAP (PP)
Started exercising/walking	74	71.2%	97	91.5%	-20.3 pp
Got BP/sugar checked	87	83.7%	65	61.3%	+22.4 pp
Improved diet	70	67.3%	68	64.2%	+3.1 pp
Reduced tobacco/alcohol	46	44.2%	62	58.5%	-14.3 pp
Used open gym	27	26.0%	62	58.5%	-32.5 pp

TABLE 12: COMMUNITY SPILLOVER ACTIONS FOLLOWING SBCC EXPOSURE

RESPONSE OPTION	PALGHAR (N=104)	(%)	ALWAR (N=106)	(%)	GAP (PP)
Discussed health with family	86	82.7%	85	80.2%	+2.5 pp
Shared SBCC messages	87	83.7%	80	75.5%	+8.2 pp
Suggested screening	89	85.6%	66	62.3%	+23.3 pp
Encouraged others to exercise	48	46.2%	65	61.3%	-15.1 pp

SECTION D: ACTIVITY-WISE LIKERT SCALE RATINGS

TABLE 13: WALL PAINTINGS - CLARITY OF HEALTH MESSAGES

RESPONSE OPTION	PALGHAR (N=104)	(%)	ALWAR (N=106)	(%)	GAP (PP)
Strongly Agree	64	65.3%	57	53.8%	+11.5 pp
Agree	32	32.7%	46	43.4%	-10.7 pp
Neutral	2	2.0%	3	2.8%	-0.8 pp
Disagree	0	0.0%	0	0.0%	0.0 pp
Strongly Disagree	0	0.0%	0	0.0%	0.0 pp

TABLE 14: WALL PAINTINGS - REGULAR REMINDERS

RESPONSE OPTION	PALGHAR (N=104)	(%)	ALWAR (N=106)	(%)	GAP (PP)
Strongly Agree	59	60.2%	55	51.9%	+8.3 pp
Agree	36	36.7%	51	48.1%	-11.4 pp
Neutral	3	3.1%	0	0.0%	+3.1 pp
Disagree	0	0.0%	0	0.0%	0.0 pp
Strongly Disagree	0	0.0%	0	0.0%	0.0 pp

TABLE 15: STREET PLAYS - RELATABILITY TO REAL LIFE

RESPONSE OPTION	PALGHAR (N=104)	(%)	ALWAR (N=106)	(%)	GAP (PP)
Strongly Agree	47	50.0%	52	49.1%	+0.9 pp
Agree	41	43.6%	54	50.9%	-7.3 pp
Neutral	6	6.4%	0	0.0%	+6.4 pp
Disagree	0	0.0%	0	0.0%	0.0 pp
Strongly Disagree	0	0.0%	0	0.0%	0.0 pp

TABLE 16: STREET PLAYS - MOTIVATION FOR PREVENTIVE ACTION

RESPONSE OPTION	PALGHAR (N=104)	(%)	ALWAR (N=106)	(%)	GAP (PP)
Strongly Agree	43	45.7%	40	37.7%	+8.0 pp
Agree	40	42.6%	64	60.4%	-17.8 pp
Neutral	11	11.7%	2	1.9%	+9.8 pp
Disagree	0	0.0%	0	0.0%	0.0 pp
Strongly Disagree	0	0.0%	0	0.0%	0.0 pp

LUPIN LIVES PROGRAMME – DISTRICT-WISE COMPARATIVE ANALYSIS

NCD SCREENING & DIAGNOSIS – DISTRICT-WISE COMPARISON

SOURCE: COMMUNITY-BASED NCD SCREENING & DIAGNOSTICS SURVEY | PALGHAR (N=176) | ALWAR (N=124)

SECTION A: DEMOGRAPHIC PROFILE

TABLE 1: AGE GROUP OF BENEFICIARIES					
RESPONSE OPTION	PALGHAR (N=176)	(%)	ALWAR (N=124)	(%)	GAP (PP)
30-39 years	5	2.8%	5	4.0%	-1.2%
40-49 years	13	7.4%	17	13.7%	-6.3%
50-59 years	50	28.4%	26	21.0%	7.4%
60+ years	108	61.4%	76	61.3%	0.1%

TABLE 2: GENDER DISTRIBUTION OF BENEFICIARIES					
RESPONSE OPTION	PALGHAR (N=176)	(%)	ALWAR (N=124)	(%)	GAP (PP)
Male	86	48.9%	71	57.3%	-8.4 pp
Female	90	51.1%	53	42.7%	+8.4 pp

SECTION B: COMMUNITY-BASED PRELIMINARY SCREENING (HOME VISIT)

TABLE 3: TYPES OF HEALTH CHECKS CONDUCTED DURING HOME VISIT					
RESPONSE OPTION	PALGHAR (N=176)	(%)	ALWAR (N=124)	(%)	GAP (PP)
Blood pressure	168	95.5%	117	94.4%	+1.1 pp
Blood sugar	167	94.9%	114	91.9%	+3.0 pp
Height & weight (BMI)	167	94.9%	107	86.3%	+8.6 pp
Questions on medical & family history	130	73.9%	80	64.5%	+9.4 pp
Waist / hip measurement	80	45.5%	33	26.6%	+18.9 pp
Questions on lifestyle (diet, activity, tobacco/alcohol)	47	26.7%	22	17.7%	+9.0 pp

SECTION C: ACCESS TO MOBILE HEALTH VAN

TABLE 4: EASE OF ACCESS TO THE MOBILE HEALTH VAN LOCATION

RESPONSE OPTION	PALGHAR (N=176)	(%)	ALWAR (N=124)	(%)	GAP (PP)
Very easy	163	92.6%	112	90.3%	+2.3 pp
Somewhat easy	11	6.2%	12	9.7%	-3.5 pp
Difficult	2	1.1%	0	0.0%	+1.1 pp

TABLE 5: TOTAL TIME SPENT AT THE MOBILE HEALTH VAN

RESPONSE OPTION	PALGHAR (N=176)	(%)	ALWAR (N=124)	(%)	GAP (PP)
Less than 30 minutes	129	73.3%	90	72.6%	+0.7 pp
30-60 minutes	19	10.8%	27	21.8%	-11.0 pp
More than 1 hour	28	15.9%	7	5.6%	+10.3 pp

SECTION D: EXPERIENCE AT MOBILE HEALTH VAN (SCREENING & DIAGNOSTICS)

TABLE 6: SERVICES AND TESTS RECEIVED AT THE MOBILE HEALTH VAN

RESPONSE OPTION	PALGHAR (N=176)	(%)	ALWAR (N=124)	(%)	GAP (PP)
Blood pressure	165	93.8%	121	97.6%	-3.8 pp
Blood sugar	158	89.8%	114	91.9%	-2.1 pp
X-ray	33	18.8%	106	85.5%	-66.7 pp
ECG (Heart test)	45	25.6%	67	54.0%	-28.4 pp
CBC (Complete Blood Count)	64	36.4%	23	18.5%	+17.9 pp
SpO ₂ (oxygen level)	47	26.7%	21	16.9%	+9.8 pp
Others (Spirometry, Lipid Profile, HbA1c, LFT, Trop-T/L, RFT, Serum Electrolytes)	13	7.4%	71	57.3%	-49.9 pp

TABLE 7: ADVICE OR ACTION SUGGESTED AFTER DIAGNOSIS

RESPONSE OPTION	PALGHAR (N=176)	(%)	ALWAR (N=124)	(%)	GAP (PP)
Start or continue medicines	171	97.2%	122	98.4%	-1.2 pp
Lifestyle changes (diet, exercise, tobacco/alcohol reduction)	69	39.2%	108	87.1%	-47.9 pp
Follow up visits at MHV	27	15.3%	102	82.3%	-67.0 pp
Follow-up visit at PHC / hospital	18	10.2%	108	87.1%	-76.9 pp
Referred for advanced diagnostic tests to tertiary care hospitals	1	0.6%	30	24.2%	-23.6 pp
No specific advice given	2	1.1%	1	0.8%	+0.3 pp

TABLE 8: CURRENT UNDERSTANDING OF HEALTH CONDITION(S)

RESPONSE OPTION	PALGHAR (N=176)	(%)	ALWAR (N=124)	(%)	GAP (PP)
Very well - I clearly understand causes, risks, and management	146	83.0%	121	97.6%	-14.6 pp
Somewhat - I understand the basics	28	15.9%	3	2.4%	+13.5 pp
Very little - I am still confused	1	0.6%	0	0.0%	+0.6 pp
Not at all - no explanation was given	1	0.6%	0	0.0%	+0.6 pp

TABLE 9: CHANGES EXPERIENCED BY BENEFICIARIES DUE TO THE PROGRAMME

RESPONSE OPTION	PALGHAR (N=176)	(%)	ALWAR (N=124)	(%)	GAP (PP)
Started or continued medicines	171	97.2%	123	99.2%	-2.0 pp
Increased physical activity / used open gym	77	43.8%	109	87.9%	-44.1 pp
Changed diet (salt, sugar, oil, portion size)	85	48.3%	46	37.1%	+11.2 pp
Planned follow-up at MHU.	29	16.5%	96	77.4%	-60.9 pp
Reduced or stopped tobacco/alcohol	15	8.5%	107	86.3%	-77.8 pp
Planned for consultations with Doctors/ Specialists.	6	3.4%	49	39.5%	-36.1 pp

COMPONENT 3 – HEALTH SYSTEM STRENGTHENING

This section presents findings related to the Health System Strengthening component of the LIVES NCD Programme, focusing on improvements in facility readiness, infrastructure, equipment availability, and service delivery capacity at public health facilities. Targeted investments were made to strengthen institutional systems for routine screening, diagnosis, treatment continuity, and referral integration. The table below summarises the principal health system strengthening inputs established across Alwar and Palghar districts during the assessment period, providing an overview of the foundational platforms created to support sustained NCD service delivery.

HEALTH SYSTEM STRENGTHENING INPUTS

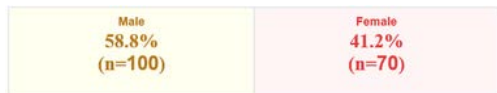
INDICATOR	ALWAR DISTRICT	PALGHAR DISTRICT	TOTAL
NCD Corners Established	9	9	18
Mobile Medical Vans	1	1	2
Healthcare Staff Deployed	84	59	143

DEMOGRAPHIC PROFILE

→ AGE GROUP DISTRIBUTION

61+	 52.9%	n=90
46–60	 35.3%	n=60
31–45	 10%	n=17
18–30	 1.8%	n=3

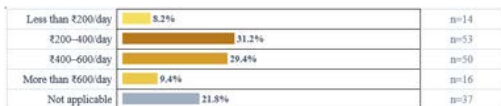
→ GENDER DISTRIBUTION



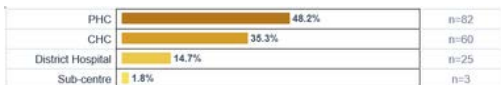
→ EDUCATION LEVEL

No formal schooling	 31.8%	n=54
Primary (up to Cl. 5)	 32.9%	n=56
Secondary (Cl. 6–10)	 22.4%	n=38
Higher sec. (Cl. 11–12)	 10%	n=17
Graduate & above	 2.9%	n=5

➔ APPROXIMATE EARNING PER WORKDAY



➔ FACILITY TYPE VISITED



The HSS component assessed 170 beneficiaries accessing NCD care at public health facilities. The age distribution indicated that 52.9% of beneficiaries were aged 61 and over, with an additional 35.3% in the 46-60 bracket. Similar to the previous two components, this demographic concentration also aligned with epidemiological findings from the LASI, which established a steep increase in NCD prevalence among older adults. The gender distribution of the respondents was 58.8% male and 41.2% female. Educational attainment among beneficiaries was notably limited, with 31.8% reported no formal schooling, and 32.9% had completed only primary education. Health literacy research consistently demonstrates that low educational attainment is a primary barrier to NCD self-management and medication adherence.

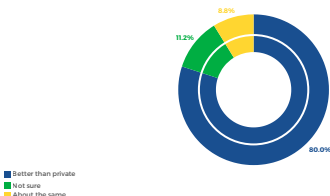
Regarding facility utilisation, 48.2% of beneficiaries accessed care at Primary Health Centres (PHCs), followed by Community Health Centres (CHCs) at 35.3%, and District Hospitals at 14.7%. Economically, 60.6% of working respondents reported daily wages between INR 200 and INR 600, while 21.8% selected "not applicable" (representing unemployed, retired, or homemaking individuals). Extensive health economics research in India highlights that out-of-pocket (OOP) payments for chronic NCD treatment are a primary driver of household impoverishment. Therefore, access to free or subsidised public healthcare at these strengthened facilities served as a documented, critical safety net preventing catastrophic health expenditure (CHE) for low-income and vulnerable populations.

KEY FINDINGS

The following section synthesises key findings from the qualitative data from the beneficiaries and other stakeholders.

SERVICE UTILISATION AND CARE-SEEKING PATTERNS

CHART 12: OVERALL COMPARISON OF FACILITY WITH PRIVATE NCD SERVICES



COMPARATIVE INDICATOR	SHORT NARRATIVE (AS REPORTED BY RESPONDENTS & STAFF)
Perceived Superiority over Private Care (80.0%)	A commanding majority of respondents rated the government facility as "Better than private." This successfully positioned PHCs and CHCs as the primary choice for NCD care.
Operational Efficiency & Accuracy	Medical officers attributed the improved service quality to the provision of digital tools (glucometers, tablets). These inputs enabled faster assessments and more accurate measurements, directly addressing the challenge of high patient loads. <i>"Before the LIVES programme, screening coverage and awareness were limited, follow-up was irregular, and access to medicines and diagnostics was inadequate. Digital BP equipment has been most useful. The equipment has supported faster assessment, more accurate measurements, and increased patient load handling capacity."</i> - Dr Riddhi Sankhe, Medical Officer, PHC Satpati, Palghar District
Integrated "One-Stop" Service Model	Beneficiaries in Alwar highlighted the convenience of consolidated services. The ability to receive BP checks, diagnostics, and doctor consultations in a single visit eliminated the need to travel to multiple locations, reducing the logistical burden on patients. <i>"Earlier, I had to go to different places for a BP test and a doctor check up. Now everything is done here in one visit. The staff checked my BP quickly, and then I met the doctor without much waiting. I feel comfortable coming here regularly because the process is simple and the staff explain things nicely."</i> - Pyarelal, PHC Beneficiary, Alwar, Rajasthan
Patient Engagement & Trust	The simplified care process and consistent availability of medicine have fostered trust. Respondents noted that clear communication from staff and timely care made them feel comfortable returning regularly, ensuring better long-term health management. <i>"I am very happy with the treatment I am getting here. Doctors and nurses explain everything nicely, and medicines are easily available. Because of the Lupin programme, services have improved a lot, and many people in our village are getting timely care."</i> — Prashant Parshuram Tare, Beneficiary, Palghar, Maharashtra

STRENGTHENED FRONTLINE COORDINATION

Field interviews highlighted improved coordination across stakeholder groups. Community mobilisers met weekly with ASHAs and ANMs, and fortnightly with CHOs and medical officers, and monthly with village leaders to coordinate health activities. Village leaders and SHG members actively supported mobilisation for MMV visits and awareness sessions.

“

We meet with ASHAs and ANMs weekly, CHOs and medical officers fortnightly, and village leaders monthly to coordinate health activities.

- Sucheta Ganesh Patil, Community Mobiliser, Murbhe Rural Area, Palghar District

”

Medical officers reported effective MMV integration that reduced facility load, expanded outreach to remote areas, and improved continuity of care. Facility workflows became more systematised and aligned with NPCDCS and HWC goals.

In Alwar, ANMs reported that their role extended beyond clinical screening to include coordination, documentation, and community-level health management. Two health camps were held monthly (one at the PHC and one at the CHC), with systematic planning of camp schedules and patient lists.

“

Two health camps are conducted regularly every month, one at the PHC level and one at the CHC level. The majority of patients attending these camps are elderly, with most aged 60 or older. At each camp, approximately seven to eight patients are newly detected and initiated on treatment.

- Ms Tanu, ANM, PHC Dhamred, Alwar, Rajasthan

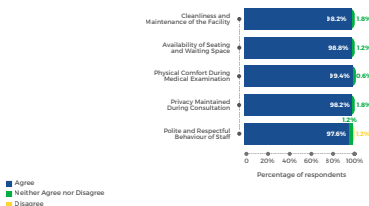
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KEY IMPACT

IMPACT OF FACILITY UPGRADES AND STAFF CAPACITY ON PATIENT EXPERIENCE

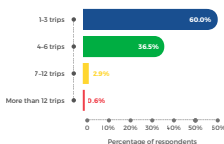
CHART 13: BENEFICIARY SATISFACTION WITH QUALITY OF CARE AND INFRASTRUCTURE



INFRASTRUCTURE & EXPERIENCE INDICATOR	SHORT NARRATIVE (AS REPORTED BY RESPONDENTS)
Physical Comfort During Medical Examination (99.4%)	Nearly all respondents reported feeling physically at ease during their check-ups. Beneficiaries indicated that proper examination tables and specialised equipment made the process feel professional and dignified.
Availability of Seating and Waiting Space (98.8%)	The vast majority found adequate space to wait without overcrowding. Respondents noted that proper seating arrangements made the waiting period much less tiring, particularly appreciated by elderly patients.
Cleanliness and Maintenance of the Facility (98.2%)	High agreement was observed regarding the centre's hygiene standards. Beneficiaries reported that the clean, well-maintained environment increased their confidence in the quality of care and made them feel safe during their visit.
Privacy Maintained During Consultation (98.2%)	A significant proportion confirmed that their consultations were conducted privately. Respondents reported feeling secure discussing sensitive health issues without being overheard, likely aided by the designated NCD corners.
Polite and Respectful Behaviour of Staff (97.6%)	Most patients experienced courteous and supportive treatment from the healthcare team. They expressed that the staff's respectful attitude—bolstered by capacity building—made them feel valued rather than just a number.

REDUCED PATIENT TURNAROUND TIME & ELIMINATION OF TRAVEL BARRIERS

CHART 14: NUMBER OF HEALTH-RELATED TRIPS MADE PER YEAR WITHOUT THIS FACILITY



IMPACT INDICATOR	SHORT NARRATIVE (AS REPORTED BY RESPONDENTS & STAFF)
Avoidance of Distant Medical Trips (60.0% 1-3 trips and 36.5% 4-6 trips)	The vast majority of respondents (96.5%) would otherwise be forced to undertake 1 to 6 trips annually to district headquarters or private labs. The program's decentralised approach successfully eliminated these journeys, removing a significant logistical hurdle for rural families.
Economic & Opportunity Cost Savings	By bringing diagnostics to the village level, the intervention addressed the "double burden" of travel costs and lost daily wages. Previously, these financial pressures forced high-risk patients to delay testing.
Behaviour Change in Vulnerable Groups	The convenience of proximity has transformed health-seeking behaviour among older adults and homemakers. Beneficiaries like Savitri Patil, who previously neglected testing due to distance, now adhere to monthly monitoring schedules, directly resulting in better disease control. <i>"I was diagnosed with diabetes two years ago, but never got tested regularly because it was too far and too costly. After the MMV started coming to our village, I get my sugar checked every month. The doctor also told me about diet and walking. My sugar levels are better now."</i> — Savitri Patil (62 years), Female, Homemaker, Murbhe Village, Palghar

HIGH-RISK PATIENTS IDENTIFIED AT AN EARLIER STAGE

The integration of community mobilisation, household screening, and MMV services enabled earlier identification of NCD cases among older adults and high-risk groups.

“

A patient from Dahanu with chest pain was referred for angiography and showed a positive response.

- Dr Mayur Swami, Medical Officer, Mobile Medical Unit, Palghar-Dahanu

”

In Alwar, the free testing services through mobile health units enabled early-stage detection among populations who would otherwise have relied on private clinics or gone undiagnosed.

“

Because testing is done free at the mobile health unit, many people come to know about their illness at an early stage and do not need to go to private clinics or laboratories. When the disease is detected early, treatment can start on time, and the problem does not become serious.

- Arju, Community Mobiliser, MMV Team, Rajgarh, Alwar, Rajasthan

”

“

I never knew I had a sugar problem. During the camp in our village, they checked my blood and said my sugar was very high. They immediately referred me to the PHC. Now I am on treatment, and my sugar has come down. If I had not attended that camp, I would not have known.

- Ganesh Thakur (64 years), Male, Daily wage labourer, Dahanu, Palghar

”

DIGITISATION STREAMLINED DATA MANAGEMENT

The introduction of tablets and digital data entry improved the accuracy, accessibility, and timeliness of patient information. CHOs reported greater confidence in entering and managing patient data on the NCD portal.

In Alwar, diagnostic reports were now better integrated into patient records, enabling continuity of care. Patient histories, investigation results, and follow-up schedules were maintained in a structured format, allowing staff to monitor adherence and identify gaps in care.



Patient histories, investigation results, and follow-up schedules are now maintained in a structured format, allowing staff to monitor adherence and identify gaps in care.

- Meena Bhardwaj, Senior Nursing Officer, CHC Pinan, Alwar, Rajasthan



MEETING WITH CONTROL
GROUP MEMBER AT
PALGHAR, MAHARASHTRA

CASE STUDIES

These case studies highlight the transformation of public health facilities under Component 3 of the LIVES NCD Programme. They focus on how strengthening infrastructure, equipment, and staff capacity at PHCs and CHCs has directly improved patient lives in Palghar and Alwar.

CASE STUDY 1: THE BREATH OF RELIEF

BENEFICIARY: DNYASHWAR MAHADEV TANDE

LOCATION: DAHANU BLOCK, PALGHAR

For 65-year-old Dnyashwar, living with both diabetes and a chronic respiratory condition meant that every breath was a calculation of effort and cost. In his village in Dahanu, a simple check-up used to be an ordeal. To monitor his oxygen saturation or blood sugar, he would have to travel to a private clinic in the main town. The journey was exhausting for his weak lungs, and the fees chipped away at his meagre household budget. Often, he would skip checks, hoping his breathlessness would pass on its own.

The strengthening of his local Sub-Centre under the LIVES NCD Programme changed this reality. The facility was equipped with digital blood pressure monitors, glucometers, and, crucially for Dnyashwar, pulse oximeters.

"I used to dread the travel more than the sickness," Dnyashwar recalls. "Now, I just walk to the centre. The Tai (health worker) checks my oxygen and sugar right here. It feels like the big hospital has come to our small village."

The availability of functioning equipment and trained staff at the village level has given Dnyashwar a sense of security. He no longer ignores his symptoms. The immediate care he receives has stabilised his condition, allowing him to breathe freely both literally and financially.

CASE STUDY 2: STABILITY IN SENIOR YEARS

BENEFICIARY: KALAKAR LAXMAN TARE

LOCATION: PALGHAR BLOCK, PALGHAR

At 62, Kalakar Tare carries the heavy burden of "triple NCDs", namely, hypertension, diabetes, and asthma. For years, managing his health was a chaotic juggling act. He used to visit private doctors where he paid for consultation, separate lab tests, and medicines. The financial strain was immense, often eating into the earnings from his small-scale work of tailoring.

The transformation of his local PHC has brought a new order to his life. The LIVES programme established a dedicated NCD Corner, streamlining the patient flow. Now, when Kalakar visits, there is a clear system: registration, vital signs check, doctor consultation, and medicine dispensing occur in a logical, efficient sequence.

"Everything is in one place now," Kalakar says with relief. "I don't have to run from one window to another or wait for hours. They check my BP, sugar, and weight all at once. It respects my time and my age."

For Kalakar, the strengthened health system means dignity. He saves substantial money every month, funds that now go towards his family rather than medical bills.

CASE STUDY 3: DIGNITY IN CARE

BENEFICIARY: MUNNI DEVI

LOCATION: ALWAR DISTRICT

Munni Devi, 63, had always found large government hospitals intimidating. The crowds, the noise, and the feeling of being "just a number" made her anxious. Like many elderly women in her village, she often preferred local private practitioners, even though she knew they were "money drains," simply because they spoke to her nicely.

However, her recent experience at the strengthened Community Health Centre (CHC) in Alwar shifted her perspective entirely. Under the LIVES programme, not only was the facility upgraded with better equipment, but the staff also received training in soft skills and NCD management.

"The difference is in how they treat you," Munni explains. "The sister (nurse) didn't just rush me. She asked about my health, explained why I need to take the pills every day, and spoke politely. I felt looked after."

This human element of Health System Strengthening, where technical upgrades meet compassion, has been transformative. Munni now visits the CHC regularly for her check-ups. She saves between INR 500 and INR 800 every month that would have been spent on private clinics. But more than the money, it is the feeling of being respected and cared for that keeps her coming back, helping her stay on track with her health.

CASE STUDY 4: THE EFFICIENT SYSTEM

BENEFICIARY: KESHAV JI

LOCATION: ALWAR DISTRICT

For Keshav Ji, a 52-year-old daily wage worker, time is quite literally money. Every hour spent waiting in a hospital queue is an hour of lost wages. Diagnosed with hypertension, he knew he needed regular check-ups, but the choice was always difficult: health or livelihood? In the past, a government hospital visit meant writing off the entire day.

The Health System Strengthening component changed this equation. With the integration of digital data entry (via tablets provided by LIVES) and improved lab workflows, the turnaround time at the CHC has drastically reduced.

"I went in, got my BP checked, gave my blood sample, and saw the doctor, all within 45 minutes," Keshav shares, pleasantly surprised. "The reports were ready on the doctor's table when I went in. I was back at work by noon."

The system's efficiency has removed the biggest barrier to his care. Keshav no longer has to choose between earning a living and staying alive. The strengthened facility works as hard as he does, ensuring that his health remains a priority without becoming a financial burden.



**BENEFICIARY INTERACTION
DURING FIELD VISIT AT
ALWAR, RAJASTHAN**

04. KEY CHALLENGES AND BARRIERS



Follow-Up and Treatment Adherence

Patients frequently missed follow-up visits and discontinued treatment due to practical barriers. Distance to facilities, travel costs, work commitments, and low perception of risk when symptoms were mild or absent were the primary factors.



Coverage of Remote and Tribal Populations

Certain populations remained harder to reach despite programme efforts. These included migrant workers, elderly individuals with mobility issues, and residents of remote hamlets.



Medicine Supply

While the program has successfully deployed trained staff and diagnostic support, their ability to deliver care is occasionally capped by external factors such as medicine stock-outs.



Behavioural Barriers and Misconceptions

Persistent misconceptions about NCDs limited behaviour change in some communities. Cultural norms and poor health literacy constrained behavioural adoption.



Digital and Connectivity Constraints

Connectivity challenges affected data entry and patient tracking, particularly in remote villages. Delayed data entry and network issues limited real-time monitoring.

05. IMPACT ACROSS MULTIPLE LEVELS



INDIVIDUAL LEVEL

- Early detection and timely diagnosis enabled a large proportion of beneficiaries to initiate treatment and adopt preventive behaviours.
- Improved health literacy strengthened confidence in long-term disease management and treatment adherence.
- Regular follow-up and monitoring supported sustained control of NCD risk factors.
- Reduced out-of-pocket expenditure improved the affordability of essential care.



FAMILY LEVEL

- Increased household awareness led to wider screening, early care-seeking, and shared preventive practices.
- Family members actively supported treatment adherence, follow-up, and lifestyle modification.
- Reduced illness-related financial stress strengthened household economic stability.
- Peer influence within families promoted sustained healthy behaviours.



DISTRICT LEVEL

- Strengthened referral linkages improved continuity between community screening, facilities, and higher-level care.
- Upgraded diagnostic capacity and service efficiency enhanced routine NCD service delivery.
- Improved patient experience increased utilisation of public health facilities for chronic care.
- Financial protection reduced pressure on district-level tertiary services through early intervention.



STATE LEVEL

- Strengthened primary and secondary care capacity, improved system readiness for long-term NCD management.
- Standardised screening, diagnostics, and follow-up supported uniform quality across facilities.
- Improved trust in public health services increased utilisation and reduced dependence on private care.
- Demonstrated scalability of integrated SBCC, screening, and facility-strengthening models.



NATIONAL LEVEL

- Contribution to early detection and secondary prevention supports national NCD control priorities.
- Reduced financial burden aligns with universal health coverage and financial protection goals.
- Strengthened public sector capacity enhances the sustainability of chronic disease management systems.
- The evidence generated supports the replication of community-based screening and HSS models in high-burden settings.



**STAKEHOLDER INTERVIEW
DURING FIELD VISIT**

06. SOCIAL RETURN ON INVESTMENT (SROI) ANALYSIS

SECTION 1: INTRODUCTION AND SROI FRAMEWORK

INTRODUCTION

This chapter presents a Social Return on Investment (SROI) analysis of the LIVES NCD Programme, also known as the Desh Bandhu Jan Aarogya Pariyojana, implemented by Lupin Human Welfare and Research Foundation (LHWRF) during the financial year 2023-24. The SROI methodology employed in this analysis adheres to the principles established by Social Value UK and the SROI Network, ensuring that social outcomes are valued transparently, verifiably, and grounded in stakeholder engagement. The analysis adopts a retrospective evaluative approach for Year 1 outcomes and a forecast approach for subsequent years, applying standard adjustments for deadweight, attribution, displacement, and drop-off to arrive at conservative estimates of social value created.

PURPOSE AND OBJECTIVES OF THE SROI ANALYSIS

The primary purpose of this SROI analysis is to quantify and communicate the social value generated by the LIVES NCD Programme in monetary terms, thereby enabling stakeholders to understand the intervention's broader impact beyond conventional output metrics. The analysis establishes accountability by clearly showing to the funding organisation, implementing partner, government authorities, and beneficiary communities the extent to which programme resources have been converted into meaningful social outcomes.

The analysis aims to support strategic decision-making by providing evidence on which programme components generate the greatest social return, thereby informing future resource allocation, programme design modifications, and scaling decisions. The component-wise outcome mapping within this unified SROI framework enables such comparative assessment while avoiding the methodological pitfalls of arbitrary investment splitting.

SCOPE SUMMARY

SCOPE SUMMARY OF THE SROI ANALYSIS

Parameter	Description
Programme Name	LIVES NCD Programme (Desh Bandhu Jan Aarogya Pariyojana)
Implementing Organisation	Lupin Human Welfare and Research Foundation (LHWRF)
Implementation Period	Financial Year 2023-24
Geographic Coverage	Alwar District (Rajasthan): 4 Blocks, 160 Villages; Palghar District (Maharashtra): 2 Blocks, 120 Villages
Total Investment	INR 7,32,33,569 (Alwar: INR 3,88,64,159; Palghar: INR 3,43,69,410)
SROI Type	Evaluative (Year 1) and Forecast (Years 2-5)
Time Horizon	Five years (Year 1 retrospective; Years 2-5 projected)
Discount Rate	8.0% per annum (standard social discount rate)

SECTION 2: SCOPE AND STAKEHOLDERS (PHASE 1)

STAKEHOLDER REGISTER

Phase 1 of the SROI methodology establishes the analytical boundaries and identifies the stakeholder groups whose outcomes will be valued. The primary stakeholder groups include direct beneficiaries (individuals screened, diagnosed, and treated), their households (including family members who provide caregiving support), healthcare providers at public facilities, the implementing organisation, and the state health system.

STAKEHOLDER REGISTER

Stakeholder Group	Quantity	Relationship to Programme	Nature of Change
Individuals screened	26,789	Received household screening for NCD risk factors	Early risk identification; health awareness
High-risk individuals	3747	Identified through screening; referred to MMV	Timely referral; avoided hospitalisation
Diagnosed patients	6782	Received diagnosis at camps; initiated treatment	Avoided costs; early treatment
Family members (caregivers)	6,782	Family members of diagnosed patients providing care support	Avoided wage loss; reduced caregiver burden
SBCC beneficiaries	55,900	Exposed to health messages (Alwar only)	Awareness; behaviour change
HSS facility patients	36,000	Accessed NCD corners at strengthened facilities	Improved access; quality care



**DISPERSAL OF MEDICINES
OBSERVED DURING FIELD
VISIT IN ALWAR,
RAJASTHAN**

SECTION 3: OUTCOME MAPPING (PHASE 2)

PROGRAMME OUTPUTS

SUMMARY OF PROGRAMME OUTPUTS BY DISTRICT

Output Indicator	Alwar	Palghar	Total
Individuals screened at the household level	19,360	7,429	26,789
High-risk individuals identified	3,055	692	3,747
Diagnostic camps conducted	150	54	204
Specialist camps conducted	6	6	10
Patients diagnosed with NCD conditions	5,283	1,499	6,782
Nukkad Nataks (Street Plays)	180	-	180
Wall Paintings	500	-	500
Open Gyms installed	10	-	10
NCD corners established at PHC/CHC	9	9	18

DISEASE-WISE DIAGNOSIS PROFILE

DISEASE-WISE DIAGNOSIS AT CAMPS

Condition	Alwar	Palghar	Total	% Share
Hypertension	1,228	772	2,000	29.5%
Diabetes	918	327	1,245	18.4%
COPD	724	12	736	10.9%
Asthma	548	55	603	8.9%
Ischemic Heart Disease	430	22	452	6.7%
Multiple Comorbidities	1,435	311	1,746	25.7%
TOTAL DIAGNOSED	5,283	1,499	6,782	100%

CONSOLIDATED OUTCOME MAP

The consolidated outcome map identifies eight monetisable outcomes for valuation in this SROI analysis. The outcomes are consistently named throughout this report as follows:

CONSOLIDATED OUTCOME MAP WITH CONSISTENT NAMING

No.	Monetisable Outcome	Stakeholder	Quantity
1	Avoided hospitalisation costs	High-risk patients	3,747 patients
2	Avoided consultation fees	Diagnosed patients	27,128 consultations
3	Avoided diagnostic test costs	Diagnosed patients	Disease-specific tests
4	Avoided travel costs	Diagnosed patients	27,128 visits
5	Avoided lost working days (beneficiaries)	Diagnosed patients	13,564 days
6	Avoided wage loss of family members (caregivers)	Family members	6,782 households
7	Value of free medicines	Diagnosed patients	6,782 patients

SECTION 4: EVIDENCING AND VALUATION (PHASE 3)

OUTCOME 1: AVOIDED HOSPITALISATION COSTS

OUTCOME DESCRIPTION AND EVIDENCE

The programme identified 3,747 individuals as high-risk through community-based screening. These individuals exhibited elevated blood pressure, blood sugar levels, or other clinical indicators suggesting undiagnosed or uncontrolled NCD conditions. Without early detection and intervention, these high-risk individuals would have been at significant risk of progressing to acute episodes requiring hospitalisation, including hypertensive crisis, diabetic ketoacidosis, myocardial infarction, stroke, or acute respiratory failure.

The assumption that all high-risk patients would have required hospitalisation in the absence of early detection represents a conservative analytical position for the rural populations served by this programme. Evidence from comparable settings indicates that undetected and unmanaged NCDs in rural India frequently present first at the emergency department due to limited primary care access and low awareness of warning signs. The programme's early identification and treatment initiation prevented progression to acute episodes for this cohort.

FINANCIAL PROXY AND RATIONALE

The financial proxy for avoided hospitalisation is the average cost of inpatient treatment for NCD-related acute episodes at district and tertiary hospitals. Hospitalisation costs vary by condition, with cardiovascular events and diabetic emergencies typically costing more than respiratory admissions. For this analysis, disease-specific hospitalisation costs have been applied based on published estimates and CGHS (Central Government Health Scheme) rates, which represent standardised costs for government-empanelled healthcare facilities.

DISEASE-SPECIFIC HOSPITALISATION COSTS

Condition	High-Risk Patients	Cost per Episode (INR)	Total Value (INR)
Hypertension (Hypertensive Crisis/Stroke)	1,105	25,000	2,76,25,000
Diabetes (Diabetic Emergency)	688	20,000	1,37,60,000
COPD (Acute Exacerbation)	407	15,000	61,05,000
Asthma (Acute Attack)	333	12,000	39,96,000
Ischemic Heart Disease (MI/ACS)	250	50,000	1,25,00,000
Multiple Comorbidities (Composite)	964	30,000	2,89,20,000
TOTAL	3,747	Weighted Avg: 24,548	9,29,06,000

Note: High-risk patient distribution is proportionate to the diagnosed disease profile. Hospitalisation costs based on CGHS/PM-JAY package rates for respective conditions. MI = Myocardial Infarction; ACS = Acute Coronary Syndrome.

OUTCOME 2: AVOIDED CONSULTATION FEES

OUTCOME DESCRIPTION AND EVIDENCE

The programme provided free doctor consultations to 6,782 diagnosed patients through diagnostic camps and Mobile Medical Van services. In the absence of the programme, these patients would have sought consultations at private clinics, incurring consultation fees. Evidence from the control group survey indicates that 47.7% of non-programme beneficiaries paid INR 301 to INR 500 per consultation, whilst 42.0% paid INR 100 to INR 300 per consultation. The weighted average consultation fee is estimated at INR 350.

Survey data indicate that the control group had an average of 4-5 doctor visits per year for NCD management. Adopting a conservative estimate of 4 visits per annum, the total number of consultations avoided is calculated as 6,782 patients multiplied by 4 visits, yielding 27,128 consultations.

FINANCIAL PROXY AND CALCULATION

AVOIDED CONSULTATION FEE CALCULATION

Parameter	Value
Number of diagnosed patients	6,782
Average consultations per patient per year	4
Total consultations avoided	27,128
Average consultation fee (INR)	350
GROSS VALUE (INR)	94,94,800

Source: Control group survey data; calculation: $6,782 \times 4 \times 350 = \text{INR } 94,94,800$.

OUTCOME 3: AVOIDED DIAGNOSTIC TEST COSTS

OUTCOME DESCRIPTION AND EVIDENCE

The programme provided comprehensive diagnostic testing free of charge to patients at diagnostic camps. Tests conducted included Complete Blood Count (CBC), Liver Function Test (LFT), Renal Function Test (RFT), Lipid Profile, Serum Electrolyte, HbA1c, Troponin-T, and Troponin-I. In accordance with the analytical framework, diagnostic tests have been attributed to specific disease categories based on clinical relevance: CBC and Serum Electrolyte as general tests applicable to all patients; HbA1c and RFT to diabetes patients; Lipid Profile to hypertension and cardiovascular patients; LFT to patients with metabolic conditions; and Troponin markers to patients with ischemic heart disease.

FINANCIAL PROXY AND DISEASE-SPECIFIC ATTRIBUTION

Financial proxies for diagnostic tests are based on private-laboratory rates in semi-urban and rural settings, reflecting the costs patients would have incurred in the absence of the programme. The table below presents the test-wise attribution and valuation.

AVOIDED DIAGNOSTIC TEST COST CALCULATION

Test	Attribution	Patients	Cost/Test	Value (INR)
CBC	All diagnosed patients	6,782	350	23,73,700
Serum Electrolyte	All diagnosed patients	6,782	350	23,73,700
HbA1c	Diabetes + Comorbidities	2,991	450	13,45,950
RFT	Diabetes + Comorbidities	2,991	450	13,45,950
Lipid Profile	HTN + IHD + Comorbidities	4,198	550	23,08,900
LFT	Diabetes + Comorbidities	2,991	450	13,45,950
Troponin-T	IHD patients only	452	900	4,06,800
Troponin-I	IHD patients only	452	900	4,06,800
TOTAL AVOIDED DIAGNOSTIC TEST COSTS				1,19,07,750

Note: Test costs based on private laboratory rates in semi-urban areas. HTN = Hypertension; IHD = Ischemic Heart Disease. Comorbidities (1,746 patients) were attributed to relevant test categories in proportion to their prevalence.

OUTCOME 4: AVOIDED TRAVEL COSTS

OUTCOME DESCRIPTION AND EVIDENCE

The programme delivered services at the village level through Mobile Medical Vans and at nearby PHCs and CHCs through strengthened NCD corners. This reduced the need for patients to travel to distant district hospitals or urban private clinics. Survey data from the control group indicates that nearly half of respondents spent between INR 51 and INR 100 per visit on travel, whilst over one-fifth spent between INR 101 and INR 300. The weighted average travel cost is estimated at INR 100 per visit.

FINANCIAL PROXY AND CALCULATION

AVOIDED TRAVEL COST CALCULATION

Parameter	Value
Number of diagnosed patients	6,782
Average visits per patient per year	4
Total visits	27,128
Average travel cost avoided per visit (INR)	100
GROSS VALUE (INR)	27,12,800

OUTCOME 5: AVOIDED LOST WORKING DAYS

OUTCOME DESCRIPTION AND EVIDENCE

Survey data from the control group indicate that 62.3% of respondents reported losing at least half a day of work per healthcare visit due to travel time, waiting time at facilities, and time spent in consultation. The programme reduced this burden by providing services at the village level and at nearby PHCs with efficient patient flow. The value of avoided productivity loss is estimated using the MGNREGA wage rate as a conservative proxy for daily earnings among the programme's rural population.

FINANCIAL PROXY AND CALCULATION

AVOIDED LOST WORKING DAYS CALCULATION

Parameter	Value
Number of diagnosed patients	6,782
Average visits per patient per year	4
Working days saved per visit	0.5
Total working days saved	13,564
Daily wage rate (MGNREGA, INR)	267
GROSS VALUE (INR)	36,21,588

Note: MGNREGA wage rate for FY 2023-24 (average of Rajasthan and Maharashtra rates). Calculation: $6,782 \times 4 \times 0.5 \times 267 = \text{INR } 36,21,588$.

OUTCOME 6: AVOIDED WAGE LOSS OF FAMILY MEMBERS (CAREGIVERS)

Family members of NCD patients typically accompany them to healthcare facilities, resulting in wage loss. Without the programme, family members would have lost additional working days spent accompanying patients to distant facilities and during hospitalisation. The programme reduced this burden by providing village-level services and preventing acute episodes.

AVOIDED WAGE LOSS OF FAMILY MEMBERS (CAREGIVERS)

Parameter	Value
Number of diagnosed patient households	6,782
Caregiver days saved per patient per year (accompanying visits)	2 days
Total caregiver days saved	13,564
Daily wage rate (MGNREGA, INR)	267
GROSS VALUE (INR)	36,21,588

OUTCOME 7: VALUE OF FREE MEDICINES

OUTCOME DESCRIPTION AND EVIDENCE

The programme provided essential NCD medicines free of cost to diagnosed patients at diagnostic camps and through strengthened NCD corners. Survey data indicate that 87.6% of beneficiaries received all prescribed medicines at facilities, and 98.0% started or continued medicines following programme exposure. In the absence of the programme, patients would have purchased these medicines from private pharmacies.

FINANCIAL PROXY AND CALCULATION

The financial proxy for free medicines is the retail market price of essential NCD medications. Based on published data on average monthly expenditure on NCD medicines in rural India, a conservative estimate of INR 500 per month is applied, yielding an annual value of INR 6,000 per patient.

VALUE OF FREE MEDICINES CALCULATION

Parameter	Value
Number of patients receiving free medicines	6,782
Average annual value of medicines per patient (INR)	6,000
GROSS VALUE (INR)	4,06,92,000

SUMMARY OF YEAR 1 GROSS VALUES

VALUE OF FREE MEDICINES CALCULATION

No.	Monetisable Outcome	Stakeholder	Gross Value (INR)
1	Avoided hospitalisation costs	High-risk patients	9,29,06,000
2	Avoided consultation fees	Diagnosed patients	94,94,800
3	Avoided diagnostic test costs	Diagnosed patients	1,19,07,750
4	Avoided travel costs	Diagnosed patients	27,12,800
5	Avoided lost working days (beneficiaries)	Diagnosed patients	36,21,588
6	Avoided wage loss of family members (caregivers)	Family members	36,21,588
7	Value of free medicines	Diagnosed patients	4,06,92,000
	TOTAL YEAR 1 GROSS VALUE		16,49,56,526

SECTION 5: IMPACT ADJUSTMENTS (PHASE 4)

IMPACT ADJUSTMENT FACTORS

IMPACT ADJUSTMENT FACTORS AND RATIONALE

Outcome	Deadweight	Attribution	Displacement	Rationale
Avoided hospitalisation costs	10.0%	10.0%	0%	Limited alternative screening in rural areas
Avoided consultation fees	10.0%	10.0%	0%	Some may have accessed free government consultations
Avoided diagnostic test costs	10.0%	10.0%	0%	Limited free diagnostics in rural areas
Avoided travel costs	10.0%	10.0%	0%	Some nearby facilities existed
Avoided lost working days (beneficiaries)	10.0%	10.0%	0%	Linked to travel cost savings
Avoided wage loss of family members (caregivers)	10.0%	10.0%	0%	Same rationale as beneficiary wage loss
Value of free medicines	20.0%	10.0%	0%	Some government supplies exist



BENEFICIARIES AT CAMP IN ALWAR, RAJASTHAN

YEAR 1 NET IMPACT VALUE CALCULATION

The following table applies deadweight and attribution adjustments to gross values to derive the Year-1 net impact. Displacement is set at 0% across all outcomes. The formula applied is:

$$\text{NET VALUE} = \text{GROSS VALUE} \times (1 - \text{DEADWEIGHT}) \times (1 - \text{ATTRIBUTION}) \times (1 - \text{DISPLACEMENT})$$

YEAR 1 NET IMPACT VALUE CALCULATION

Outcome	Gross Value	DW	Attr	Disp	Factor	Net Impact
Avoided hospitalisation costs	9,29,06,000	10.0%	10.0%	0%	0.81	7,52,53,860
Avoided consultation fees	94,94,800	10.0%	10.0%	0%	0.81	76,90,788
Avoided diagnostic test costs	1,19,07,750	10.0%	10.0%	0%	0.81	96,44,278
Avoided travel costs	27,12,800	10.0%	10.0%	0%	0.81	21,97,368
Avoided lost working days (beneficiaries)	36,21,588	10.0%	10.0%	0%	0.81	29,33,486
Avoided wage loss of family members (caregivers)	36,21,588	10.0%	10.0%	0%	0.81	29,33,486
Value of free medicines	4,06,92,000	20.0%	10.0%	0%	0.72	2,92,98,240
TOTAL	19,06,96,526					12,99,51,506

SECTION 6: SROI CALCULATION (PHASE 5)

YEAR 1 SROI RATIO

$$\text{SROI RATIO} = \text{NET PRESENT VALUE OF BENEFITS} / \text{TOTAL INVESTMENT}$$

YEAR 1 SROI CALCULATION

Component	Value (INR)
Total Programme Investment (A)	7,32,33,569
Total Year 1 Net Impact Value (B)	12,99,51,506
YEAR 1 SROI RATIO (B / A)	1.77:1

The Year 1 SROI ratio of 1.77:1 indicates that for every INR 1 invested in the programme during FY 2023-24, approximately INR 1.77 of social value was generated. This represents a strong return on investment in Year 1 alone, before accounting for the continuing benefits that accrue over subsequent years.

FIVE-YEAR PROJECTION METHODOLOGY

The five-year projection extends the Year-1 net social value over a five-year horizon, applying outcome-specific drop-off rates and a standard social discount rate. This approach captures the enduring benefits of infrastructure investments and sustained health improvements while conservatively accounting for outcome decay.

Key assumptions for the projection:

- Social Discount Rate: 8.0% per annum (aligned with NITI Aayog/IEG Study)
- One-time outcomes: Full value in Year-1 only (100% drop-off); includes travel savings, diagnostic tests, consultations, and avoided wages
- Continuing outcomes: Annual drop-off applied; avoided hospitalisation (20.0%), NCD corners (15.0%), open gyms (15.0%)

FIVE-YEAR PROJECTED SROI

The five-year projection estimates the present value of social benefits accruing over the period FY 2023-24 to FY 2027-28. This projection recognises that many programme outcomes, particularly those relating to early detection and behaviour change, generate benefits that persist beyond the initial implementation year. The projection applies annual drop-off rates to account for a gradual reduction in outcome persistence and discounts future values to present value using a social discount rate of 8.0% per annum, consistent with the NITI Aayog/IEG Study.

DROP-OFF RATES BY OUTCOME CATEGORY

ANNUAL DROP-OFF RATES BY OUTCOME

Outcome	Drop-off	Rationale
Avoided hospitalisation costs	20.0%	Moderate adherence decline over time
Avoided consultation fees	10.0%	Ongoing programme support maintains access
Avoided diagnostic test costs	10.0%	Ongoing programme support maintains access
Avoided travel costs	10.0%	Ongoing programme support maintains access
Avoided lost working days (beneficiaries)	10.0%	Linked to service utilisation patterns
Avoided wage loss of family members (caregivers)	10.0%	Linked to beneficiary service utilisation
Value of free medicines	10.0%	Continued programme of medicine supply

FIVE-YEAR PRESENT VALUE PROJECTION

The annual values are discounted to present value using a social discount rate of 8.0% per annum. The formula applied is: $PV = FV / (1 + r)^n$, where $r = 0.08$ and $n = \text{year number (Year 1 = 0)}$.

FIVE-YEAR PRESENT VALUE CALCULATION

Outcome	Year 1	Year 2	Year 3	Year 4	Year 5
Avoided hospitalisation costs	7,52,53,860	6,02,03,088	4,81,62,470	3,85,29,976	3,08,23,981
Avoided consultation fees	76,90,788	69,21,709	62,29,538	56,06,584	50,45,926
Avoided diagnostic test costs	96,44,278	86,79,850	78,11,865	70,30,679	63,27,611
Avoided travel costs	21,97,368	19,77,631	17,79,868	16,01,881	14,41,693
Avoided lost working days (beneficiaries)	29,33,486	26,40,137	23,76,123	21,38,511	19,24,660
Avoided wage loss of family members (caregivers)	29,33,486	26,40,137	23,76,123	21,38,511	19,24,660
Value of free medicines	2,92,98,240	2,63,68,416	2,37,31,574	2,13,58,417	1,92,22,575
Annual Total	12,99,51,506	9,94,30,968	8,24,67,561	6,84,04,559	5,67,11,106
Discount Factor (8.0%)	1.000	0.926	0.857	0.794	0.735
Present Value	12,99,51,506	9,20,72,276	7,06,74,518	5,43,13,220	4,16,82,663

CUMULATIVE FIVE-YEAR SROI RATIO

FIVE-YEAR CUMULATIVE SROI CALCULATION

Component	Value (INR)
Total Programme Investment (A)	7,32,33,570
Total Five-Year Present Value (B)	38,86,94,183
FIVE-YEAR SROI RATIO (B ÷ A)	5.31:1

The five-year cumulative SROI ratio of 5.31:1 indicates that for every INR 1 invested in the LIVES NCD Programme, approximately INR 5.31 of social value is generated over the five-year projection period. This ratio reflects the sustained benefits of early detection, behaviour change, and system strengthening outcomes that persist beyond the initial implementation year.

SUMMARY OF SROI RATIOS

SUMMARY OF SROI RESULTS

Metric	Value (INR)	SROI Ratio
Programme Investment	7,32,33,570	-
Year 1 Net Impact	12,99,51,506	1.77:1
Five-Year Present Value	38,86,94,183	5.31:1

The SROI analysis demonstrates that the LIVES NCD Programme generates substantial social value relative to the investment made. The Year 1 ratio of 1.77:1 confirms a positive return within the implementation year, whilst the five-year projection of 5.31:1 reflects the compounding benefits of early detection and sustained behaviour change over time. These results support the effectiveness and value-for-money of the integrated community-to-facility NCD care model.

SECTION 7: LIMITATIONS

LIMITATIONS

The SROI analysis is subject to several limitations. Intangible outcomes such as improved quality of life, reduced anxiety, enhanced family wellbeing, and community empowerment are not captured in the SROI ratio. Attribution complexity persists, as the precise contribution of the programme relative to other factors cannot be definitively established in the absence of a randomised controlled trial. The five-year projection relies on assumptions about the persistence of outcomes, which inherently involve uncertainty. Financial proxies are estimates based on available data and may not accurately reflect the actual costs incurred by individual beneficiaries. While the analysis assumes 100% hospitalisation risk for identified high-risk patients due to the acute nature of findings in this specific rural demographic, we acknowledge that disease progression rates vary by individual.



**INTERACTION WITH
BENEFICIARIES DURING
FIELD VISIT AT ALWAR,
RAJASTHAN**

SECTION 8: CONCLUSION

This Social Return on Investment analysis has assessed the social value generated by the LIVES NCD Programme, implemented by Lupin Human Welfare and Research Foundation in Alwar district, Rajasthan, and Palghar district, Maharashtra, during FY 2023-24. The analysis has followed a rigorous methodology consistent with Social Value UK principles, applying conservative assumptions throughout to ensure the credibility of findings.

The programme invested a total of INR 7.32 crore across both districts to deliver an integrated model of community screening, mobile diagnostics, social behaviour change communication, and health system strengthening. Eight monetisable outcomes were identified and valued: avoided hospitalisation costs, avoided consultation fees, avoided diagnostic test costs, avoided travel costs, avoided lost working days (beneficiaries), avoided wage loss of family members (caregivers), value of free medicines, and employment income.

The Year 1 SROI ratio of 1.77:1 indicates that for every rupee invested in the programme, approximately INR 2 of social value was generated within the implementation year. The five-year cumulative SROI ratio of 5.31:1 demonstrates that when the sustained benefits of early detection, behaviour change, and continued treatment are accounted for, the programme generates over six rupees of social value for every rupee invested.

The SROI analysis provides robust evidence that community-based NCD prevention and management programmes represent sound investments that deliver significant social value. The findings support continued investment in the LIVES model and its potential expansion to additional districts and populations facing similar NCD burden. As India confronts the growing challenge of non-communicable diseases, programmes such as LIVES offer a proven and cost-effective approach to improving health outcomes, reducing catastrophic expenditure, and strengthening the foundation of primary healthcare.



INTERACTION DURING FIELD VISIT AT ALWAR, RAJASTHAN

07. OECD-DAC EVALUATION FRAMEWORK



Relevance



Coherence



Effectiveness



Efficiency



Impact



Sustainability



RELEVANCE

The programme specifically targeted rural and tribal populations in Alwar and Palghar, where NCD diagnostic facilities were largely absent or inaccessible. By deploying Mobile Medical Units (MMUs) and strengthening local PHCs, it brought "doctor and diagnostics" to the doorstep, overcoming the "distance and cost" barrier that previously prevented villagers from seeking care. 61.3% of beneficiaries were aged 60+, directly addressing the high-risk demographic most vulnerable to NCDs.



COHERENCE

The programme's design is fully aligned with the NPCDCS (National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke) and Ayushman Bharat - Health and Wellness Centres (HWCs) guidelines. It operationalised the "continuum of care" model mandated by government policy. Additionally, it directly contributes to SDG Target 3.4 (Reduce premature mortality from non-communicable diseases) by enabling early detection and management of hypertension and diabetes.



EFFECTIVENESS

Successfully established an end-to-end NCD care model. 26,789 individuals screened (Target met). 3,747 (14.0%) high-risk individuals were identified who were previously unaware or untreated—204 diagnostic camps conducted, diagnosing 6,782 patients. Control-group analysis showed significantly higher health awareness and treatment-seeking behaviour in intervention villages (99.0% referral uptake) compared with non-intervention areas.



EFFICIENCY

The "Integrated Model" (Mobiliser MMV Public Facility) ensured that specialist resources (Doctors/Lab Techs) were utilised only for identified cases, preventing wastage. Instead of creating parallel systems, the programme strengthened 18 existing Government Health Facilities (PHCs/CHCs) with equipment and training, ensuring long-term utility of invested capital. The Year 1 SROI Ratio of 1.77:1 shows that for every rupee invested, value worth INR 1.77 was created.



IMPACT

Timely identification of "silent killers" (Hypertension/Diabetes) prevented potential cardiac events and complications for thousands of beneficiaries. 99.3% of respondents expressed willingness to recommend the programme. By providing free diagnostics and medicines closer to home, the programme significantly reduced Out-of-Pocket Expenditure (OOPE) on travel and private care.



SUSTAINABILITY

Equipped 18 public facilities and trained 143 staff (ANMs/ASHAs), leaving a lasting asset base within the public system. High involvement of Sarpanches (elected village heads) indicates strong local buy-in. The programme still faces threats from staff turnover in government facilities and from reliance on continuous funding for the mobile units (MMUs), which the state system cannot yet fully absorb.



Relevance



Cohence



Effectiveness



Efficiency



Impact



Sustainability

08. SWOT ANALYSIS



- ➔ Strong doorstep outreach enabling early identification of NCD risk among rural and tribal populations.
- ➔ Integrated service pathway linking screening, diagnostics, referral, counselling, and follow-up within one programme framework.
- ➔ High community trust in mobile services and strong acceptance of screening and diagnostics at the village level.
- ➔ Strengthened PHCs and HWCs through equipment support, trained staff, and structured NCD service delivery.
- ➔ Effective coordination among community teams, MMVs, and public facilities enables smooth referrals and linkages.



- ➔ Follow-up tracking across large geographies remains resource-intensive with the existing field workforce.
- ➔ Limited availability of dedicated staff for intensive home-based follow-up in high-burden clusters.
- ➔ Temporary service disruptions during equipment maintenance or repair periods require rescheduling and additional counselling.



- ➔ Expansion of the model to additional underserved districts with high unmet NCD burden.
- ➔ Gradual integration with state and national NCD digital platforms to strengthen continuity of care.
- ➔ Strengthening referral linkages with higher-level facilities for advanced diagnostics and specialised care.
- ➔ Scale-up of preventive outreach to younger and working-age populations to delay disease onset.
- ➔ Replication of the community-to-facility model as a district health system best practice for NCD management.



- ➔ Rising NCD prevalence may exceed current operational capacity, increasing service demand.
- ➔ Turnover of public facility staff may affect continuity, training retention, and service quality.
- ➔ Sudden health emergencies or other priority programs may temporarily shift staff and resources away from routine screening and follow-up services.

09.

RECOMMENDATIONS

The following recommendations are derived directly from the key challenges and barriers identified in the field notes, testimonials, and stakeholder interviews. They focus on specific, actionable operational improvements within the scope of the LIVES NCD programme.



To tackle isolation and motivation issues, the team can pilot "NCD Adherence Clubs" in high-burden villages. These groups can meet monthly (facilitated by the mobiliser/ASHA) for peer support, shared experiences, and group counselling, which can reinforce the habit of regular medication and lifestyle change. To operationalise this, the implementing agency can first conduct village profiling to identify high-burden areas based on disease prevalence and documented medication dropout rates. Following this, dedicated mobilisers or ASHA workers must be assigned as primary facilitators and provided with structured training modules focusing on group facilitation. Furthermore, a fixed monthly schedule for club meetings must be established, with a standard agenda, and the programme's efficacy must subsequently be evaluated by tracking participant attendance against clinical health indicators.



For beneficiaries struggling with "forgetfulness," the programme can distribute simple, pictorial medication calendars or pillboxes. Field staff can mark these calendars during visits to visually track adherence. Strategically, the programme can design and procure culturally relevant pictorial tracking tools that require no literacy to understand, alongside durable pillboxes categorised by times of the day. These visual aids must be targeted directly at beneficiaries with a history of missed doses during routine NCD camps or home visits. To ensure efficacy, field staff must be mandated to review, mark, and update these calendars during their scheduled visits, transforming the calendar into a verifiable tracking tool for both the beneficiary and the programme monitor.



The programme can record and play short video/audio testimonials from "Model Patients" (such as Jitendra or Champa) during camp waiting times. Hearing a peer explain why long-term medicine is vital (even when feeling well) can be more convincing than clinical advice alone. These recordings must focus solely on the patient's health journey and the critical need for continuous care, even when the patient feels physically well. NCD camp waiting areas can then be equipped with portable audio-visual playback devices, and camp coordinators can be trained to continuously play these testimonials during patient waiting periods.

10 CONCLUSION —

The LIVES NCD Programme, implemented by Lupin Human Welfare & Research Foundation, has delivered strong, consistent results across prevention, early detection, treatment linkage, behaviour change, financial protection, and health system strengthening. The integrated model of SBCC, community screening, mobile diagnostics, and facility-level support has effectively improved access to care, enabled timely diagnosis, strengthened treatment adherence, and enhanced patient experience among rural and vulnerable populations.

Comparison with the control group establishes clear programme attribution. Beneficiaries in intervention areas demonstrated higher adherence to medicines and follow-up, stronger preventive behaviours, better understanding of health conditions, lower out-of-pocket expenditure, and greater satisfaction with public health services. At the same time, control populations continued to face higher costs, longer waiting times, greater wage loss, and more limited continuity of care.

The programme has also strengthened public health facilities by improving service efficiency, diagnostic reliability, provider-patient interactions, and infrastructure readiness, positioning public facilities as a preferred source of long-term NCD care. The results demonstrate a scalable and sustainable community-to-facility model aligned with national priorities for early detection, quality care, and universal health coverage.

IMPACT ASSESSMENT REPORT

LIFE SCIENCES BACHELOR OF SCIENCES IN
PHARMACEUTICAL MANUFACTURING PROGRAMME

Implementing Partner: Tata Institute of Social Sciences - School of
Vocational Education (TISS SVE)





Website: www.soulace.in Email: enquiry@soulace.in

ISO/IEC 27001:2022 Certified

Mumbai Office:

602, Metro Avenue, Andheri - Kurla Rd, Mota Nagar,
Andheri East, Mumbai - 400053

Bangalore Office:

7th Floor, Jupiter Block, Prestige Technology Park III,
Marathahalli Ring Road, ORR, Bengaluru 560103

Delhi NCR Office:

422A, B4, Spaze iTech Park, Sohna Road, Gurgaon - 122018,

Registered Office:

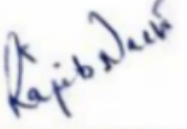
410/1, Block G, New Alipore, Kolkata - 700053;

SOCIAL IMPACT ASSESSMENT CERTIFICATE

This is to certify that SoulAce Consultancy Pvt Limited has carried out Social Impact Assessments of various initiatives undertaken by LUPIN LIMITED as part of the Corporate Social Responsibility for the Financial Year 2023-24.

The Social Impact Assessments were carried out from December 2025 to March 2026.

For SoulAce Consulting (P) Ltd.



For SOULACE CONSULTING (P) LTD.
Authorised Signatory

Rajib Nath

Manager - Admin

Date : 06/03/2026

Place : Kolkata, West Bengal

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A

BBREVIATIONS

LUPIN

API	Active Pharmaceutical Ingredients
B.Sc	Bachelor of Sciences in Pharmaceutical Manufacturing
CSR	Corporate Social Responsibility
eBMR	Electronic Batch Manufacturing Records
ERP	Enterprise Resource Planning
FY	Fiscal Year
GMP	Good Manufacturing Practices
HR	Human Resources
ITI	Industrial Training Institute
KII	Key Informant Interview
LMS	Learning Management System
NSQF	National Skills Qualifications Framework
OBC	Other Backward Classes
OECD-DAC	Organisation for Economic Co-operation and Development - Development Assistance Committee
OJT	On-the-Job Training
PPE	Personal Protective Equipment
QA	Quality Assurance
QC	Quality Control
QMS	Quality Management System
SC	Scheduled Castes
SDG	Sustainable Development Goals
SOP	Standard Operating Procedure
SVE	School of Vocational Education
SWOT	Strengths, Weaknesses, Opportunities, and Threats
TISS	Tata Institute of Social Sciences
UGC	University Grants Commission
US FDA	United States Food and Drug Administration
WHO	World Health Organisation

EXECUTIVE SUMMARY

INTRODUCTION

Lupin Limited commissioned SoulAce Consulting Pvt. Ltd. to conduct an independent Impact Assessment of the Bachelor of Sciences in Pharmaceutical Manufacturing (B.Sc) Programme implemented in partnership with the Tata Institute of Social Sciences - School of Vocational Education (TISS SVE). The assessment was conducted for FY 2023-2024 to evaluate the programme's effectiveness in achieving its objectives of skill development, employability enhancement, and socioeconomic impact among enrolled beneficiaries. This report presents the key findings, impact assessment, and recommendations emerging from the study conducted across four Lupin manufacturing locations in Dabhosa, Goa, Nagpur, and Tarapur.

PROJECT BACKGROUND

The B.Sc Programme is a three-year vocational degree programme designed to bridge the skill gap in pharmaceutical manufacturing by combining academic learning with On-the-Job Training (OJT) at Lupin's manufacturing facilities. The programme targets economically disadvantaged youth, providing them with industry-relevant skills, financial support through stipends, and pathways to employment in the pharmaceutical sector. The programme operates across multiple Lupin plants in Maharashtra, Goa, and Sikkim, with TISS SVE providing academic oversight, curriculum design, and certification. The 'Earn While You Learn' model enables students to pursue higher education without financial burden while gaining practical industry experience. The stipends of Rs. 10,000 are provided to first-year students and Rs. 12,000 and Rs. 14,000 to 2nd and 3rd year students.

PROJECT DETAILS



Implementation year

FY 2023 - 2024



Assessment year

FY 2025 - 2026



Number of Beneficiaries

199 Enrolled and completed



Locations

Dabhosa (Maharashtra), Goa, Nagpur (Maharashtra), Tarapur (Maharashtra)



Budget (Fees per Student)

- Annual Course Fees: ₹42,000 per student (₹3,500 per month)
- Annual Examination Fees: ₹3,200 per student (₹1,600 per semester)
- Refundable Caution Deposit: ₹5,000 per student



Implementing Partner

Tata Institute of Social Sciences - School of Vocational Education (TISS SVE)



Alignment with SDGs



Alignment with Government Initiatives

- National Skill Development Mission (Skill India)
- National Education Policy (NEP) 2020
- Digital India/ Industry 4.0
- Make in India (Pharma Sector)

KEY FINDINGS



76.0%

of the beneficiaries came from families with annual income below Rs. 1,00,000, and 74% were first-generation learners, confirming the programme's reach to economically disadvantaged youth.



86.0%

of the respondents joined the programme for the opportunity to earn while learning through stipend support, followed by employment assurance (82%) and affordable fees (80%).



81.0%

of the respondents credited the stipend with enabling them to continue in the programme without dropping out, while 99% reported reduced household financial stress.



85.0%

of the respondents reported applying theory concepts (Good Manufacturing Practices, Standard Operating Protocols, quality control, safety) directly during daily shop-floor tasks, suggesting strong alignment with integrated curriculum design.



93.0%

of the respondents received step-by-step SOP explanations before task execution, and 85% reported that supervisors were always available during OJT.



84.0%

of the respondents agreed that theory classes helped them understand pharmaceutical manufacturing concepts applied during shop-floor work.

**90.0%**

of the respondents could independently operate basic production equipment in accordance with SOP guidelines, while 88% could perform weighing, dispensing, and material-handling tasks.

**89.0%**

of the respondents were trained on Quality Management System (QMS) software, with 82% trained on electronic batch manufacturing records (eBMR).

**67.0%**

of the respondents consistently followed GMP during all assigned tasks, with an additional 26% following GMP for most tasks with occasional reminders and 7% got trained but still need more support.

**96.0%**

of the respondents found the examination content well aligned with both the theory and OJT components, and 89% received their certificates on time.

**50.0%**

of the respondents planned to pursue careers in the pharmaceutical sector at Lupin, and 27% at other companies, 20% want to do further study and 3% undecided.

KEY FINDINGS

**69.0%**

of the respondents reported a significant reduction in household financial stress due to stipend support, and 30% reported a moderate reduction and 1% said reduced slightly.

**84.0%**

of the respondents agreed that stipend support enabled uninterrupted continuation and completion of the programme.

**84.0%**

of the respondents agreed that on-the-job training strengthened their technical skills through hands-on practice.

**83.0%**

of the respondents agreed that supervisor guidance during OJT improved the quality and accuracy of their work.

**83.0%**

of the respondents agreed that safety training and practices during OJT enabled them to work confidently in a manufacturing environment.

**83.0%**

of the respondents were job-ready for Quality Control / Quality Assurance assistant roles, with 75% ready for Production / Manufacturing trainee positions.

**82.0%**

of the respondents agreed that the combined theory-and-OJT structure increased their engagement and interest in learning.

**82.0%**

of the respondents agreed that the programme boosted their confidence to perform in professional work settings.

**82.0%**

of the respondents agreed that the programme improved their employment and career prospects in the pharmaceutical/life sciences sector.

CHAPTER 1

INTRODUCTION

Vocational education programs that combine academic learning with industry exposure are crucial for addressing skill gaps in India's manufacturing sector. The Sciences in Pharmaceutical Manufacturing program, a collaboration between Lupin Limited and the Tata Institute of Social Sciences - School of Vocational Education, aims to develop industry-ready manpower and create job opportunities for disadvantaged youth. To improve the program, Lupin engaged SoulAce Consulting for an independent assessment during FY 2023-2024, which evaluated beneficiary profiles, skill development, training quality, and employability outcomes, providing recommendations for enhancing future delivery.

ABOUT LUPIN LIMITED

Dr. Desh Bandhu Gupta founded Lupin in 1968, driven by the vision of accessible quality healthcare for all. His legacy continues to be the cornerstone of our culture, fostering innovation, compassion, and meaningful impact. It defines our purpose of catalyzing treatments that transform hope into healing. Today, Lupin is a global pharmaceutical leader with strong presence across North America, EMEA, LATAM, APAC, and India, and products distributed in over 100 markets. With a portfolio spanning generics, complex generics, specialty medicines, and biosimilars, we are committed to improving lives and expanding access to quality healthcare worldwide.

As part of its Corporate Social Responsibility (CSR) commitment, Lupin Limited focuses on healthcare, education, and rural development initiatives. The partnership with TISS SVE for the B. Sc. in Pharmaceutical Manufacturing Programme reflects Lupin's strategic approach to CSR, combining social impact with industry relevance by creating a skilled workforce for the pharmaceutical sector while providing educational and employment opportunities to economically disadvantaged youth.

ABOUT THE IMPLEMENTING AGENCY

The Tata Institute of Social Sciences (TISS) is a premier social sciences institution in India, established in 1936 and recognised as a Deemed University. TISS has been at the forefront of social work education, research, and field action, contributing significantly to policy development and social change across the country. The Institute operates from multiple campuses, including Mumbai, Tuljapur, Guwahati, and Hyderabad.

The School of Vocational Education (SVE) is a specialised unit within TISS dedicated to designing and delivering industry-integrated vocational education programmes. TISS SVE operates under the guidelines of the University Grants Commission (UGC) and the National Skills Qualifications Framework (NSQF), offering Bachelor of Sciences in Pharmaceutical Manufacturing (B.Sc) programmes across multiple verticals, including Life Sciences, Retail Management, Banking and Finance, and Information Technology.

TISS SVE's pedagogical approach emphasises integrating theoretical knowledge with practical industry experience through structured On-the-Job Training (OJT) partnerships with leading corporations. The School maintains academic rigour through standardised curricula aligned with UGC norms, while ensuring industry relevance through continuous engagement with sector partners. TISS SVE's programmes are designed to enhance employability among youth, particularly those from economically disadvantaged backgrounds, by providing industry-recognised qualifications and practical work experience.

CHAPTER 2

BACKGROUND AND PROJECT CONTEXT

NEED FOR THE PROGRAMME

The pharmaceutical manufacturing sector in India faces a persistent skill gap, with industry requirements often misaligned with the competencies of fresh graduates entering the workforce. Conventional academic programmes typically emphasise theoretical knowledge without adequate exposure to industry-standard practices such as Good Manufacturing Practices (GMP), Standard Operating Procedures (SOPs), quality compliance, and shop-floor operations. This gap is particularly pronounced among youth from economically disadvantaged backgrounds, who lack access to quality vocational training and industry exposure.

Concurrently, financial constraints prevent many capable students from pursuing higher education, forcing them into unskilled or semi-skilled employment with limited career progression. The need for an integrated programme that combines academic learning with practical industry training, while providing financial support to enable participation, formed the rationale for the B.Sc Programme. This initiative addresses both the industry's need for a skilled workforce and the socioeconomic barriers faced by disadvantaged youth seeking quality vocational education.

OBJECTIVES OF THE PROJECT

The B.Sc Programme was designed with the following objectives:



To institutionalise a three-year Bachelor of Sciences in Pharmaceutical Manufacturing (B.Sc) Programme in the vertical, combining academic learning with industry-relevant skill training.



To bridge the skill gap in pharmaceutical manufacturing by providing hands-on training in GMP, quality control, safety practices, documentation, and equipment handling.



To implement a dual training model enabling students to learn through On-the-Job Training (OJT) on actual industry shop floors alongside theoretical education.



To promote an 'Earn While You Learn' model through stipend support, enabling economically disadvantaged youth to pursue vocational education without financial burden.



To strengthen academic-industry linkages by creating a workforce skilled in industry benchmark pharmaceutical manufacturing practices.



To enhance the employability and career prospects of beneficiaries through industry-recognised certification and practical experience.



To create pathways for potential absorption of programme graduates as full-time employees in the pharmaceutical sector.

PROJECT ACTIVITIES

The programme implementation involved the following major activities:



ACADEMIC DESIGN AND OVERSIGHT

Standardisation of syllabi as per UGC guidelines; development of technology-based content; empanelment of domain experts and examiners; curriculum alignment with pharmaceutical industry requirements.



TRAINING INFRASTRUCTURE

Provision of training facilities for vocational and theoretical domain training; supply of equipment, consumables, and safety protective gear (helmets, gloves, etc.) by Lupin Limited.



STUDENT MANAGEMENT

Student admissions and registration; maintenance of attendance databases; stipend disbursement; student welfare and grievance redressal.



THEORY INSTRUCTION

Classroom teaching of core subjects; use of case studies, demonstrations, videos, and visual aids; bilingual instruction to address language barriers; mentoring and doubt-clearing sessions.



ON-THE-JOB TRAINING

Practical training on the shop floor at Lupin manufacturing plants; rotation across relevant processes; structured progression from observation to hands-on responsibilities; supervision at a recommended 1:10 ratio as standard Lupin policy.



SAFETY AND COMPLIANCE TRAINING

Safety induction programmes; mandatory PPE usage enforcement; training on GMP, SOPs, hygiene, and contamination control; continuous supervision with immediate correction of risky behaviour.



ASSESSMENT AND CERTIFICATION

Conduct of semester examinations, internal assessments and practical evaluations; maintenance of training logs and performance records; award of certificates and diplomas upon successful completion.



CAREER SUPPORT

Placement guidance and career counselling; issuance of internship letters and experience certificates; facilitation of potential absorption as full-time employees at Lupin or other pharmaceutical companies.

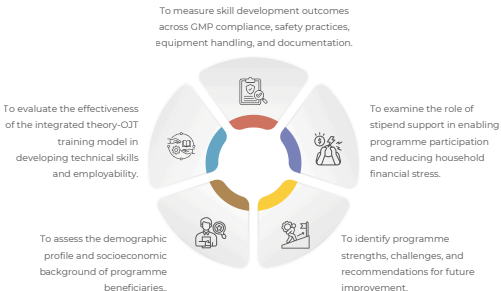
CHAPTER 3

RESEARCH METHODOLOGY

RESEARCH DESIGN

The impact assessment employed a cross-sectional descriptive research design combining quantitative and qualitative methods. The quantitative component comprised a structured survey administered to student beneficiaries enrolled in the B.Sc Programme. The qualitative component involved Key Informant Interviews (KIIs) with OJT Training Supervisors and Faculty Members to capture stakeholder perspectives on programme implementation, outcomes, and areas for improvement.

STUDY OBJECTIVES



DATA SOURCES

PRIMARY DATA

Structured surveys were conducted with 100 students at four Lupin manufacturing sites, along with interviews of 2 OJT Training Supervisors and 2 Faculty Members from TISS School of Vocational Education.

SECONDARY DATA

Programme documentation, including the Master Agreement between TISS SVE and Lupin Limited, programme structure and curriculum details, and project implementation records.

CONTEXTUAL DATA

National skill development policies, pharmaceutical industry workforce requirements, and vocational education frameworks informing the programme context.



PROJECT SNAPSHOT



Name of the project

Bachelor of Sciences in Pharmaceutical Manufacturing Programme



Donor Organisation

Lupin Limited



Implementing organisation

Tata Institute of Social Sciences - School of Vocational Education (TISS SVE)



Implementation Period

FY 2023-2024



Assessment Year

FY 2025-2026



Research design

Cross-sectional Descriptive Study (Mixed Methods)



Sampling technique

Stratified Random Sampling and Purposive Sampling



Sample size

100 Students (Survey) + 4 Key Informants (KIs)



Geographic Coverage

Dabhosa (Maharashtra), Goa, Nagpur (Maharashtra), Tarapur (Maharashtra)

KEY STAKEHOLDERS



Student Beneficiaries (B.Sc Programme enrollees from 2023 and 2024 cohorts)



OJT Training Supervisors / Shop-floor Trainers (Lupin Limited)



Faculty Members (TISS School of Vocational Education)



Programme Coordinators (TISS SVE and Lupin Limited)

STUDY TOOLS

The assessment utilised two primary data collection instruments: a Structured Survey Questionnaire for student beneficiaries covering demographic profile, programme experience, skill development, and perceived impact; and a Key Informant Interview (KII) Guide for OJT Training Supervisors and Faculty Members focusing on training processes, student performance, challenges, and recommendations. Both instruments were designed to capture quantitative and qualitative data aligned with the study objectives and indicator framework.

ETHICAL CONSIDERATIONS

The assessment adhered to standard ethical protocols for social research. Informed consent was obtained from all respondents prior to data collection, with a clear explanation of the study purpose, the voluntary nature of participation, and confidentiality assurances. Respondent anonymity was maintained throughout data analysis and reporting. No personally identifiable information has been disclosed in the report. The assessment team ensured that data collection processes did not disrupt ongoing training activities or adversely affect respondents.

DATA VALIDATION AND INTERPRETATION APPROACH

Quantitative data was validated through completeness checks and logical consistency verification. Qualitative inputs from KIIs were used to contextualise and interpret quantitative findings. The interpretation approach prioritised evidence-based analysis, with all findings grounded in verified data. Convergent findings across stakeholder groups were identified to strengthen analytical conclusions.



04. KEY FINDINGS AND IMPACTS

This chapter presents the key findings and impact of the B.Sc Programme. The analysis draws upon primary data collected from 100 student respondents across four training locations, supplemented by qualitative inputs from OJT Training Supervisors and Faculty Members.

DEMOGRAPHIC PROFILE

The demographic profile of the respondents provided critical context for understanding the programme's reach and inclusivity. The following infographic summary presents the key demographic characteristics of the 100 student beneficiaries surveyed.



GENDER DISTRIBUTION

88.0% **12.0%**

Male

Female



TRAINING LOCATIONS

4

Manufacturing Plants

Coa (47%) | Nagpur (21%) |
Tarapur (17%) | Dabhosa (15%)



ANNUAL FAMILY INCOME

76.0%

Below Rs. 1,00,000

20% (Rs. 1-2.5 Lakh),
4% (Rs. 2.5-5 Lakh)



EARNING MEMBERS

76.0%

Single Earner Families

21% (Two),
3% (More than Two)



FIRST-GENERATION LEARNERS

74.0%

First in Family to Pursue Higher Education

26% had parents with post-school education



SOCIAL CATEGORY

54.0%

OBC + SC Categories

General (46%) | OBC (41%) | SC (13%)



EDUCATIONAL BACKGROUND

90.0%

Class 12 (Science Stream)

ITI/Diploma (5%) | Graduate (4%) |
M.Com (1%)



PRE-PROGRAMME STATUS

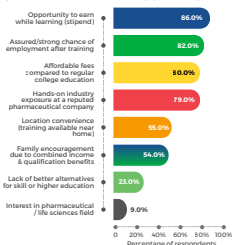
95.0%

Students or Unemployed

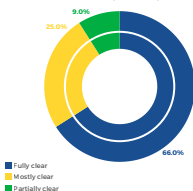
Student only (72%) | Unemployed (23%) | Part-time (4%)

The demographic profile showed that the programme successfully reached its intended target population: economically disadvantaged youth seeking vocational education. The predominance of first-generation learners (74%) from single-earner households (76%) with annual family incomes below Rs. 1,00,000 (76%) underscored the programme's alignment with CSR objectives of bridging socioeconomic disparities through skill development. The enrolment pattern across the 2023 (65%) and 2024 (35%) cohorts provided a cross-sectional view of students at different stages of the programme.

KEY FINDINGS


**FINDING 1:
PROGRAMME ENTRY
MOTIVATION**
**CHART 1: PRIMARY REASONS FOR
JOINING THE PROGRAMME
(MULTIPLE RESPONSES) (N = 100)**


The survey findings revealed that economic considerations and employment prospects largely drove the primary motivations for programme enrolment. The opportunity to earn while learning through the stipend provision emerged as the most significant motivating factor, reported by 86% of respondents. This was closely followed by the assurance of employment prospects (82%) and affordable fee structure (80%). The emphasis on hands-on industry exposure at Lupin Limited's pharmaceutical facilities motivated 79% of the students, as multiple responses were allowed in this section.


**FINDING 2:
PROGRAMME UNDERSTANDING
AT ENTRY**
**CHART 2: UNDERSTANDING OF
PROGRAMME STRUCTURE AT THE
TIME OF JOINING (N = 100)**

91.0%

of the respondents had a clear or mostly clear understanding of the programme structure at the time of joining, with 66% reporting complete clarity and 25% mainly indicating clear understanding.



For me, the main attraction was being able to support myself financially while studying. The stipend allowed me to cover my daily travel and food expenses.

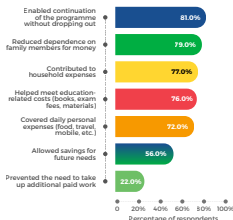
- Afasar Manyar, Quality Control Trainee,
Nagpur





FINDING 3: ROLE OF STIPEND SUPPORT

CHART 3: WAYS IN WHICH THE STIPEND RECEIVED WAS HELPFUL (MULTIPLE RESPONSES) (N = 100)

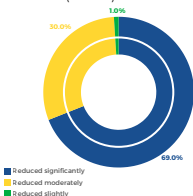


81.0%

of the respondents credited the stipend with enabling them to continue in the programme without dropping out.

The stipend also reduced financial dependence on family (79%), contributed to household expenses (77%), and covered education-related costs (76%).

CHART 4: CHANGE IN HOUSEHOLD FINANCIAL STRESS DUE TO STIPEND SUPPORT (N = 100)



A REDUCTION IN HOUSEHOLD FINANCIAL STRESS DUE TO STIPEND SUPPORT:



69.0%

of the respondents reported a significant reduction and 30% a moderate one.



Most students are 10th or 12th pass and come from remote areas; they are sharp but often lack confidence and communication skills.

Many students know the answers but hesitate to speak. Generally, it takes about 1.5 years for fresh employees to adapt to a company environment. However, since these students receive industrial exposure and knowledge from the 1st-2nd semester itself, they can understand processes and adapt much faster to industry realities.

-Durgesh Talwadker
Faculty Member (18 years' experience)
TISS School of Vocational Education,
Mumbai, Maharashtra





FINDING 4: THEORY-PRACTICE INTEGRATION

CHART 5: CONTRIBUTION OF THEORY CLASSES TO TASK PERFORMANCE DURING OJT (N = 100)



The integration of theoretical learning with practical application was a defining feature of the B.Sc programme.



85.0%

of the respondents reported applying theory concepts such as GMP, SOPs, quality control, safety, and documentation in their daily shop-floor tasks.

CHART 6: THEORY AREAS MOST FREQUENTLY APPLIED DURING ON-THE-JOB TRAINING (MULTIPLE RESPONSES) (N = 100)



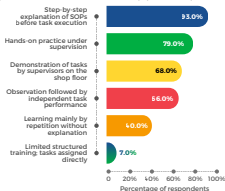
The specific theory areas most frequently applied during OJT included safety, hygiene, and contamination control (80%), followed by SOPs (79%), QC/ QA concepts (77%), and GMP (76%). Documentation and batch records were applied by 62% of respondents.

OJT supervisors confirmed that students successfully related classroom learning to practical work, particularly in GMP, safety, and process flow areas. However, some initial gaps were observed in documentation and advanced technical understanding, which typically improved with continued exposure and supervision.



FINDING 5: ON-THE-JOB TRAINING METHODOLOGY

CHART 7: MODES OF TRAINING USED DURING ON-THE-JOB TRAINING (MULTIPLE RESPONSES) (N = 100)



The OJT methodology employed a structured, progressive approach to skill development.



93.0%

of the respondents received a step-by-step explanation of SOPs before task execution, representing the most common training mode.

This was complemented by hands-on practice under supervision (79%), task demonstrations by supervisors (68%), and observation followed by independent performance (66%).



Many B.Sc students are suitable for regular employment as they are familiar with processes, discipline, and safety practices. On-the-job training is planned by allocating tasks based on student level, rotating them across relevant processes, and following a structured approach where students begin with observation and gradually move to hands-on responsibilities.

- Dhananjay Mane

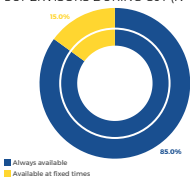
OJT Training Supervisor (18 years experience)

Lupin Limited, Manufacturing Plant, Maharashtra



FINDING 6: SUPERVISION AND MENTORSHIP QUALITY

CHART 8: AVAILABILITY OF SUPERVISORS DURING OJT (N = 100)



The quality of supervision emerged as a critical factor in skill development and workplace safety.



85.0%

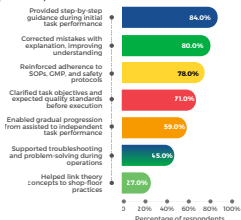
of the respondents reported that supervisors were always available during OJT, while 15% indicated availability at fixed times.



89.0%

of the respondents reported receiving regular and specific feedback during their training period.

CHART 9: WAYS IN WHICH SUPERVISION IMPROVED LEARNING OUTCOMES (MULTIPLE RESPONSES) (N = 100)



The specific contributions of supervision to learning outcomes were documented across multiple dimensions. Step-by-step guidance during initial task performance (84%), mistake correction with explanations (80%), and reinforcement of SOPs, GMP, and safety protocols (78%) were the most frequently cited contributions.



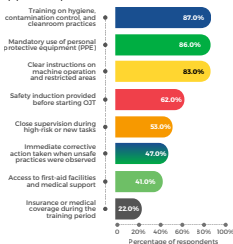
70.0%

of the respondents reported significant improvement in their ability to perform tasks independently after supervisor support underscored the effectiveness of the mentorship model.



FINDING 7: INFRASTRUCTURE AND SAFETY PROVISIONS

CHART 10: SAFETY MEASURES FOLLOWED DURING ON-THE-JOB TRAINING (MULTIPLE RESPONSES) (N = 100)



The programme demonstrated strong adherence to safety protocols. Training on hygiene, contamination control, and cleanroom practices was reported by 87% of respondents, while 86% reported mandatory PPE usage. Clear instructions on machine operation and restricted areas were provided to 83% of students. However, safety induction before OJT commencement was reported by 62% of respondents.

CHART 11: AVAILABILITY OF EQUIPMENT DURING OJT (N = 100)

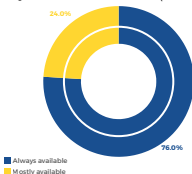
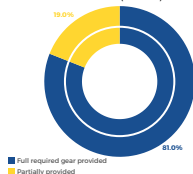


CHART 12: PROVISION OF SAFETY GEAR DURING OJT (N=100)

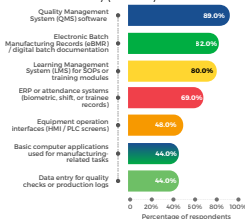


Equipment availability (76% always available, 24% mostly available) and safety gear provision (81% full gear, 19% partial) further confirmed the adequacy of training infrastructure.

OJT supervisors emphasised that safety was ensured through mandatory safety induction, strict adherence to PPE requirements, continuous supervision, and immediate correction of risky behaviour. The defined escalation process involving supervisors, HR or training coordinators, and TISS representatives ensured the timely resolution of any issues.

FINDING 8: DIGITAL AND TECHNOLOGY EXPOSURE

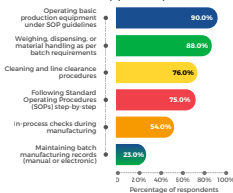
CHART 13: DIGITAL AND SOFTWARE-BASED SYSTEMS TRAINED UNDER THE PROGRAMME (MULTIPLE RESPONSES) (N = 100)



Quality Management System (QMS) software training was received by 89% of respondents, followed by electronic batch manufacturing records (82%) and Learning Management System usage (80%). This digital literacy component was particularly significant given that 92% of respondents reported at least some digital systems training. The benefits of this training included increased compliance with GMP and audit requirements (85%), greater confidence in handling shop-floor technology (81%), and improved documentation accuracy (71%).

FINDING 9: SKILL DEVELOPMENT OUTCOMES

CHART 14: PHARMACEUTICAL MANUFACTURING TASKS PERFORMED INDEPENDENTLY (MULTIPLE RESPONSES) (N = 100)

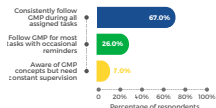


90.0%

of the respondents could independently operate basic production equipment in accordance with SOP guidelines, while 88% could perform weighing, dispensing, and material-handling tasks.

Cleaning and line clearance procedures (76%) and step-by-step SOP adherence (75%) were also widely acquired skills.

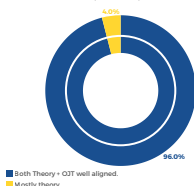
CHART 15: UNDERSTANDING AND APPLICATION OF GOOD MANUFACTURING PRACTICES (GMP) (N = 100)



GMP compliance, a critical competency in pharmaceutical manufacturing, was consistently demonstrated by 67% of respondents, with an additional 26% following GMP for most tasks requiring only occasional reminders.

FINDING 10: ASSESSMENT AND CERTIFICATION

CHART 16: ALIGNMENT OF EXAM CONTENT WITH TRAINING CURRICULUM (N = 100)



96.0%

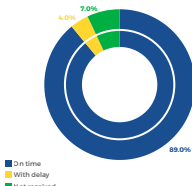
of the respondents found exam content well aligned with both theory and OJT components.



89.0%

of the respondents received their internship or course completion certificates on time.

CHART 17: RECEIPT OF INTERNSHIP OR COURSE COMPLETION CERTIFICATE



“

There are several instances where students who initially struggled with confidence and communication gradually developed professional skills, applied classroom learning effectively on the shop floor, and demonstrated clear personal and career-oriented transformation through the programme. As the programme progresses, students show increased confidence and articulation, improved ability to apply concepts practically, and greater clarity regarding their career paths.

- Gourish Sail

Faculty Member (16 years experience, 1 year with Lupin Programme)

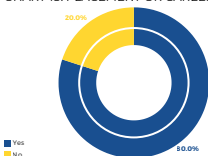
TISS School of Vocational Education, Mumbai, Maharashtra

”



FINDING 11: PLACEMENT OR CAREER GUIDANCE RECEIVED

CHART 18: PLACEMENT OR CAREER GUIDANCE RECEIVED (N = 100)



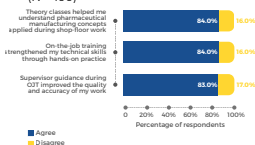
80.0%
of the respondents reported
receiving placement or career
guidance during the programme.

KEY IMPACTS



IMPACT 1: TECHNICAL SKILLS AND PRACTICAL APPLICATION

CHART 19: IMPACT ON TECHNICAL
SKILLS AND PRACTICAL APPLICATION
(N = 100)



84.0%
of the respondents agreed that
theory classes helped them
understand pharmaceutical
manufacturing concepts that were
subsequently applied during shop-
floor work.



84.0%
of the respondents confirmed that
OJT strengthened their technical
skills through hands-on practice.

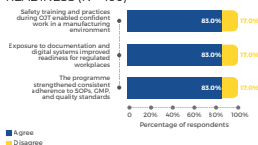


83.0%
of the respondents acknowledged
the impact of supervisor guidance,
reporting improved work quality and
accuracy as a result.



IMPACT 2: SAFETY, COMPLIANCE, AND WORKPLACE READINESS

CHART 20: IMPACT ON SAFETY,
COMPLIANCE, AND WORKPLACE
READINESS (N = 100)



83.0%
of the respondents were enabled to
work confidently in manufacturing
environments due to safety training
and practices.

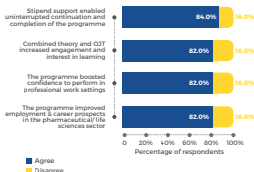
The same proportion reported that exposure to
documentation and digital systems improved
their readiness for regulated pharmaceutical
workplaces.



83.0%
of the respondents confirmed that
the programme strengthened their
consistent adherence to SOPs, GMP,
and quality standards.

IMPACT 3: PROGRAMME SUPPORT, ENGAGEMENT, AND CAREER OUTCOMES

CHART 21: IMPACT ON PROGRAMME SUPPORT, ENGAGEMENT, AND CAREER OUTCOMES (N = 100)



Stipend support was credited with enabling uninterrupted programme continuation and completion by 84% of respondents. The integrated theory-OJT structure increased engagement and interest in learning for 82%. The programme boosted confidence for professional work settings among 82% of respondents, and an equal proportion reported improved employment and career prospects in the pharmaceutical sector.



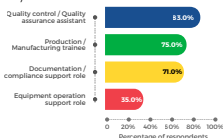
Choosing this course was easy because of the strong assurance of a job post-training. Receiving a monthly stipend meant I could continue my studies without financial stress. I could immediately apply concepts like GMP and SOPs in my practical work.

- Harshad Vilas Jondhale, Quality Control Trainee, Tarapur



IMPACT 4: JOB READINESS AND CAREER ASPIRATIONS

CHART 22: JOB READINESS FOR PHARMACEUTICAL MANUFACTURING ROLES (MULTIPLE RESPONSES) (N = 100)



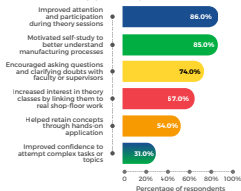
83.0%

of the respondents considered themselves job-ready for QC/QA assistant positions, 75% for production/ manufacturing trainee roles, and 71% for documentation/ compliance support roles.

Career aspiration data revealed that 50% of respondents planned to work at Lupin Limited upon programme completion, while 27% intended to apply to other pharmaceutical companies, indicating strong sectoral commitment. Twenty per cent expressed interest in pursuing further studies, reflecting the programme's role in opening educational pathways. The finding that 80% received placement or career guidance further underscored the programme's effectiveness in career preparation.

➔ IMPACT 5: INFLUENCE ON LEARNING ENGAGEMENT

CHART 23: INFLUENCE OF ON-THE-JOB TRAINING ON LEARNING ENGAGEMENT (MULTIPLE RESPONSES) (N = 100)



86.0%

of the respondents reported improved attention and participation during theory sessions as a result of OJT exposure.

Self-study motivation increased for 85%, while 74% were encouraged to ask questions and seek clarifications. The linkage between theory classes and real shop-floor work increased interest for 67%, and hands-on application aided concept retention for 54%.



The programme benefits the shop floor by creating a semi-trained workforce that adapts faster to processes. B.Sc trainees generally show better readiness to work, faster learning due to prior exposure, and more professional behaviour compared to other fresh entrants. Many students are suitable for regular employment due to their practical skills and discipline.

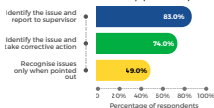
- Vinod Bhonsle

OJT Training Supervisor

Lupin Limited, Manufacturing Plant,
Maharashtra

➔ IMPACT 6: PROBLEM-SOLVING AND INDEPENDENT WORK CAPABILITY

CHART 24: APPROACH TO HANDLING PROCESS ISSUES OR ERRORS (MULTIPLE RESPONSES) (N = 100)



The programme's impact on developing problem-solving capabilities was evidenced in students' approaches to handling process issues.



83.0%

of the respondents could independently identify issues and report to supervisors, while 74% could identify issues and take corrective action.



76.0%

of the respondents reported the ability to maintain manufacturing and quality documentation accurately with minimal errors.



66.0%

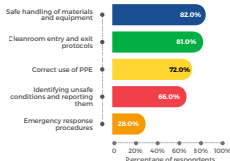
of the respondents indicated they could perform in similar job roles with minimal supervision.





IMPACT 7: SAFETY AND RISK AWARENESS

CHART 25: ABILITY TO FOLLOW SAFETY AND RISK-CONTROL PRACTICES INDEPENDENTLY (MULTIPLE RESPONSES) (N = 100)



82.0%

of the respondents could independently follow safe handling practices for materials and equipment, while 81% adhered to cleanroom entry and exit protocols.

Correct PPE usage was practised by 72%, and the capability to identify and report unsafe conditions was developed by 66%.



For me, the main attraction was the 'earn and learn' model, which made higher education accessible. Financial support was key, it helped me reduce my financial reliance on my parents. I learned the critical importance of wearing protective gear like gloves and masks at all times.

- Vishalsing Songara, Quality Control Trainee, Goa



OJT supervisors and faculty members consistently reported that B.Sc trainees demonstrated measurable advantages compared to other fresh entrants or apprentices joining the industry. These advantages included better readiness to work, faster learning and adaptation due to prior industry exposure, more professional behaviour, familiarity with processes, discipline, and safety practices. While supervisors noted that some students may require further strengthening in technical depth and independent decision-making, the overall assessment was that the programme successfully produced a semi-trained workforce capable of adapting more quickly to routine manufacturing processes.

CASE STUDIES

CASE STUDY 1:

PROFILE: ASPIRING PROFESSIONAL FROM A LOW-INCOME BACKGROUND

Prem Chandrakant Jadhao joined the Goa facility, coming from a family with an annual income of less than ₹1,00,000. While not a first-generation learner, the financial constraints of higher education were a significant hurdle. He was motivated primarily by the "earn while learning" model and the affordable fee structure compared to traditional colleges.

INTERVENTION

The programme provided a critical financial lifeline through its monthly stipend, which Prem utilised to cover daily personal expenses, exam fees, and study materials. This financial independence allowed him to continue the programme without dropping out. Concurrently, the academic structure ensured that theoretical concepts like GMP and SOPs taught in the classroom were directly applied to his daily shop-floor tasks, reinforcing his learning loop.

TRANSFORMATION

Prem's journey reflects a transition from a student with limited means to a job-ready professional. He now possesses the confidence and skills to take on roles such as a Production Trainee, QC Assistant, or Documentation Support. He explicitly acknowledges that the programme has improved his employment prospects in the pharmaceutical sector.

LEARNINGS

The stipend is not just pocket money but a retention tool; for students like Prem, it directly prevents dropout by covering education-related costs.



Practical application of theory (GMP/SOPs) bridges the "experience gap" that often hinders fresh graduates.



Integrating affordable fees with an income source makes professional education accessible to the < ₹1 Lakh income demographic.

CASE STUDY 2:

PROFILE: FIRST-GENERATION LEARNER SEEKING STABILITY

Sandeep Patel, a first-generation learner from Nagpur with a family income below ₹1,00,000, faced a double challenge: lack of academic guidance at home and financial pressure. He joined the programme driven by the lack of better alternatives for skill education and the firm assurance of employment post-training.

INTERVENTION

Sandeep's training involved a rigorous application of theory to practice. The programme's structure meant that safety protocols and quality control measures learned in class were immediately put into practice under supervision. The stipend played a multifaceted role, reducing his financial dependence on his family, allowing him to save for future needs, and providing a sense of security previously absent.

TRANSFORMATION

Sandeep has emerged as an advocate for the programme's impact. He has developed comprehensive job readiness, feeling competent to work in Production, Quality Control, or Documentation. His transformation from a student with limited options to a multi-skilled trainee underscores the programme's effectiveness in upskilling first-generation learners.

LEARNINGS

First-generation learners benefit immensely from the "assured employment" value proposition, which serves as a strong motivator.



The programme successfully serves as a social elevator, taking students with "lack of better alternatives" and turning them into skilled professionals.



Financial savings enabled by the stipend contribute to the long-term economic stability of low-income families.

CASE STUDY 3: PROFILE: THE MULTI-TASKING LOCAL YOUTH

Atik Abdul Shaikh, a first-generation learner from Tarapur, came from a slightly higher income bracket (₹1-2.5 Lakh) but was responsible for contributing to his household. The convenience of a training location near his home was a key deciding factor, allowing him to balance family obligations with professional growth.

INTERVENTION

Atik's engagement with the programme was comprehensive. The stipend was utilised not only for personal costs but also to contribute to household expenses, effectively preventing him from having to take up additional low-skilled paid work. His training covered a broad spectrum, preparing him for technical roles including Equipment Operation Support—a distinct technical skill set.

TRANSFORMATION

The programme significantly expanded Atik's career horizons. Starting with local aspirations, he is now ready for diverse roles ranging from Production to Equipment Operation. His ability to apply complex documentation and safety concepts demonstrates a high level of technical proficiency.

LEARNINGS

When the stipend contributes to household income, it validates the student's education in the eyes of their family, securing their support.



"Location convenience" is a strategic asset for recruiting students who have family obligations.



Broad-based training (Production + QC + Equipment) creates versatile employees suitable for various plant functions.

CASE STUDY 4: PROFILE: FOCUSED PRODUCTION ASPIRANT

Ravinkumar Samantsinh Baria from Dabhosa, coming from a low-income family (< ₹1 Lakh), entered the programme with a laser focus on "hands-on industry exposure." Unlike peers who sought broad options, his motivation was to gain specific technical skills at a reputable company like Lupin.

INTERVENTION

Ravinkumar's experience highlights the depth of the technical training. The direct application of theory to shop-floor tasks allowed him to master the nuances of pharmaceutical manufacturing. The stipend was instrumental in covering his travel and food, ensuring his daily attendance and focus were not compromised by financial stress.

TRANSFORMATION

Ravinkumar's outcome is highly specialised; he strongly identifies as ready for a "Production / Manufacturing trainee" role. This specificity indicates a deep engagement with the manufacturing aspect of the curriculum. He strongly agrees that the programme has improved his career prospects, reflecting a high degree of satisfaction with his technical upskilling.

LEARNINGS

Students with a strong desire for "hands-on exposure" tend to develop specialised confidence in specific domains (e.g., Production).



For students from remote or specific plant locations like Dabhosa, the programme serves as a critical bridge to the formal industrial economy.

The alignment of personal motivation (industry exposure) with programme delivery (OJT) leads to high trainee satisfaction and role clarity.

05. SWOT ANALYSIS

S
Strengths

- ➔ Stipend model enabled 81% to continue without dropout risk.
- ➔ 99% reported reduced household financial stress.
- ➔ 85% direct application of theory concepts during OJT.
- ➔ 93% received structured SOP-based training.
- ➔ 85% had supervisors always available.
- ➔ 90% achieved independent equipment operation capability.
- ➔ 89% trained on QMS software systems.
- ➔ 96% exam-curriculum alignment reported.

W
Weakness

- ➔ Emergency response competence can be further developed, with 28% currently demonstrating this skill.
- ➔ Supervisor-to-student ratios occasionally exceed the recommended 1:10 during peak periods, presenting an opportunity for closer monitoring.

O
Opportunities

- ➔ Successful industry-academia model can serve as a template for replication in other sectors and geographies.

T
Threats

- ➔ Time constraints during high-load periods.
- ➔ Language barriers in English comprehension.



06. OECD FRAMEWORK



Relevance



Coherence



Effectiveness



Efficiency



Impact



Sustainability



RELEVANCE

The programme showed exceptional relevance to beneficiary needs and national skill development priorities such as National Skill Development Mission (Skill India). The target population comprised predominantly first-generation learners (74%) from economically disadvantaged households (76% with annual income below Rs. 1,00,000), validating alignment with CSR objectives. The dual training model directly addressed the industry skill gap, with 86% of respondents citing the earn-while-learn opportunity as their primary motivation. The curriculum's relevance was confirmed by 85% reporting direct application of theory concepts during OJT, particularly in GMP, SOPs, quality control, and safety practices.



COHERENCE

Internal coherence was strong, with 96% of respondents confirming that exam content was well aligned with both theory and OJT components. The TISS SVE-Lupin partnership demonstrated effective coordination, with structured training protocols (93% received step-by-step SOP explanations) and integrated supervision mechanisms. Faculty and supervisors highlighted the complementarity between classroom instruction and shop-floor experience. However, stakeholders identified scope for stronger pre-OJT orientation and more structured learning milestones, along with periodic curriculum updates to address gaps in advanced technical areas.



EFFECTIVENESS

The programme effectively achieved its primary skill development objectives. Technical competency outcomes were strong: 90% could independently operate production equipment, 88% could perform weighing and dispensing tasks, and 67% consistently followed GMP practices. Job readiness was demonstrated by 83% for QC/QA roles and 75% for production trainee positions. The integrated model increased learning engagement, with 86% reporting improved attention during theory sessions. Effectiveness was partially constrained by lower outcomes in documentation (23% independent capability) and emergency response (28%), indicating areas requiring enhanced focus.



EFFICIENCY

Resource utilisation was largely efficient within operational constraints. The stipend mechanism achieved high impact, with 81% crediting it with enabling programme continuation and 99% reporting reduced household financial stress. Training infrastructure was adequately provisioned (76% of equipment and 81% of safety gear were always available). Supervisor availability was high (85% always available), though actual ratios sometimes exceeded the recommended 1:10 during peak production. The dual training model optimised learning time by integrating theory and practice, though student fatigue and limited self-study time during intensive OJT periods represented efficiency constraints.



IMPACT

The programme demonstrated measurable impact across technical, professional, and socioeconomic dimensions. The impact on technical skills was confirmed by 84% agreeing that theory classes helped them understand manufacturing concepts and 84% reporting strengthened skills through hands-on OJT. The impact of professional development was evidenced by 82% reporting increased confidence in professional settings and improved career prospects. Socioeconomic impact was substantial, with 99% reporting reduced household financial stress. Qualitative evidence from supervisors confirmed that B.Sc trainees demonstrated greater readiness, faster adaptation, and more professional behaviour than other fresh entrants.



SUSTAINABILITY

Sustainability prospects were positive across individual and institutional dimensions. At the beneficiary level, 77% planned careers in the pharmaceutical sector and 85% were aware of career progression pathways, indicating sustained employability. Digital systems training (89% on QMS, 82% on eBMR) enhanced graduates' adaptability to evolving industry requirements. At the institutional level, the TISS SVE-Lupin partnership demonstrated a replicable framework with potential for geographic expansion. The 20% expressing interest in further studies suggested that the programme serves as a pathway to continued education.



Relevance



Coherence



Effectiveness



Efficiency



Impact



Sustainability

07. RECOMMENDATIONS



Based on the assessment findings, the following recommendations are offered across the programmatic, operational, policy, and sustainability dimensions to strengthen the B.Sc Programme further.



Documentation and batch record management modules can be strengthened, as only 23% demonstrated independent capability in this critical area.



The pre-OJT orientation could be made more comprehensive, as 38% did not receive a formal safety induction before commencing shop-floor training.



Supervisor-to-student ratios can be monitored more closely during peak production periods to maintain the recommended 1:10 standard.



Flexible scheduling mechanisms can be explored to address student fatigue from long shifts, which faculty noted affects learning attentiveness.



Periodic curriculum review mechanisms can be institutionalised to include evolving industry practices.



Alum tracking mechanisms can be established to monitor long-term career outcomes and validate programme impact over time.



The successful dual training model can be documented as a replicable framework for potential geographic expansion to other Lupin facilities or industry partners.

08 CONCLUSION —

The impact assessment of the B.Sc Programme, a strategic synergy between the TISS School of Vocational Education and Lupin Limited, highlights a leap in industry-academia collaboration that directly advances SDG 4 (Quality Education) and SDG 8 (Decent Work and Economic Growth). By targeting the socioeconomically vulnerable, the initiative successfully integrated 74% first-generation learners into a high-tech workforce through a stipend-supported dual training model that reduced household financial stress for 99% of participants, thereby aligning with SDG 1 (No Poverty) and SDG 10 (Reduced Inequalities). The program's pedagogical rigour, evidenced by an 85% theory-to-practice application rate, transformed students into job-ready professionals capable of independent shop-floor operations and stringent compliance with Good Manufacturing Practices (GMP). Ultimately, this partnership serves as a scalable blueprint for vocational excellence, proving that when financial barriers are dismantled and structured on-the-job training is prioritised, economically disadvantaged youth can be seamlessly bridged into the pharmaceutical value chain.

