LUPIN Human Welfare & Research FOUNDATION

IMPACT ASSESSMENT REPORT

DESH BANDHU JAN UTKARSH PARIYOJANA (DBJUP)

INTEGRATED LIVELIHOOD ENHANCEMENT

IMPLEMENTATION YEAR: FY 2023 - 2024

ASSESSMENT YEAR: FY 2025 - 2026

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Lupin Human Welfare & Research Foundation (LHWRF)

CONTENTS

ABBREVIATIONS

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.

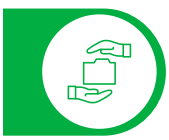
54.7%
of households achieved adequate or year-round green fodder availability, with zero-availability fully eliminated.

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)

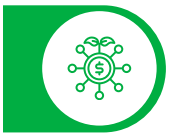
KEY FINDINGS

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 ≥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, Maharshtra

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:

- Estimate the social value created per rupee invested in each livelihood intervention over both one-year and five-year timeframes.
- Identify and monetise key material outcomes experienced by beneficiary households across all programme models.
- Establish the net attributable impact after accounting for deadweight, attribution, displacement, and drop-off.
- Support evidence-based decision-making for programme expansion, replication, and CSR resource allocation.

Specific objectives include:

- Translating income generation, cost savings, asset creation, and livelihood stability outcomes into monetary terms.
- Providing an evidence-based narrative on how livelihood interventions contribute to household economic security and resilience.
- Ensuring alignment with internationally recognised SROI methodology while remaining grounded in field evidence from programme implementation.
- Enabling comparison of social values generated across different livelihood models to inform programme strategy.

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:

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 × (drop-off) × (discount factor for Year 2)

Year 3: Year 1 value × $(\text{drop-off})^2$ × (discount factor for Year 3)

Year 4: Year 1 value × $(\text{drop-off})^3$ × (discount factor for Year 4)

Year 5: Year 1 value × $(\text{drop-off})^4$ × (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.

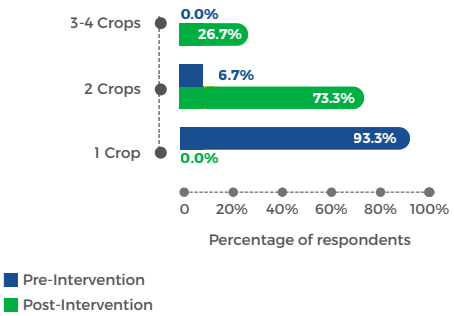
46.7%
of primary income sources were from agricultural labor and rainfed farming, with 6.6% coming from non-farm labor. Pre-intervention, 80% earned less than ₹40,000 annually, and 20% earned between ₹40,000 and ₹70,000

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



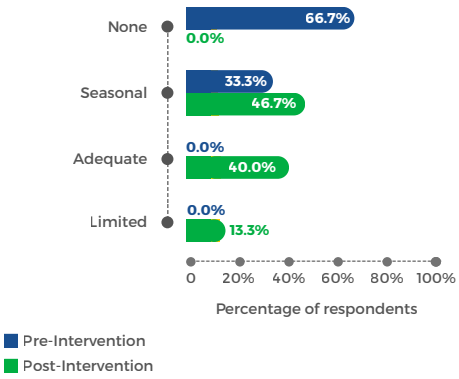
The cropping pattern indicates a clear shift towards diversification after the intervention. While 93.3% of respondents earlier cultivated only one crop, post-intervention all farmers adopted multi-cropping, with 73.3% growing two crops and 26.7% cultivating three to four crops, suggesting improved agricultural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

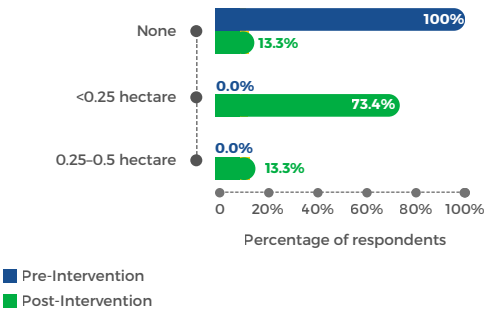
- Adequate: Reliable, sufficient water available year-round.
- Seasonal: Water access is limited by time (e.g., sources dry up during summer months).

- 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)



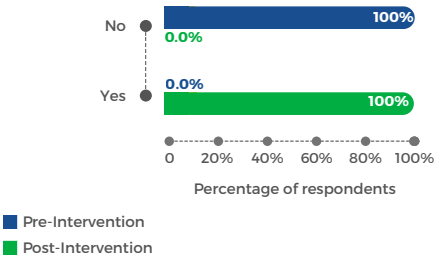
Among the 15 household in the selected sample, there were no respondents who cultivated vegetable prior to the intervention. primarily due to the absence of irrigation and lack of technical knowledge. Post-intervention, 86.7% of households adopted vegetable cultivation, with 73.4% cultivating on less 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

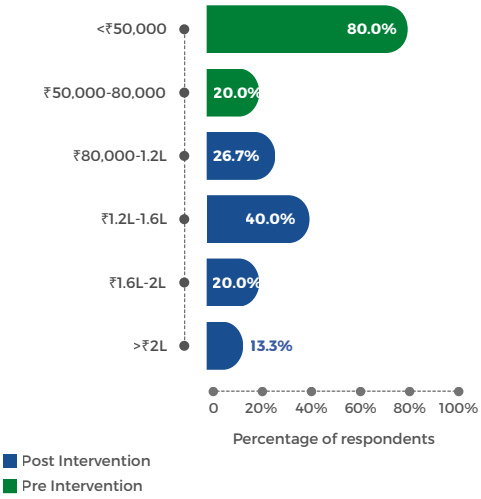


Before the project, no participating household (0%, N=15) maintained organised backyard poultry units. Post-intervention, all 15 households (100%) adopted backyard poultry, on average receiving 300 one-day-old chicks in three batches along with feed support and technical training. Women played a central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

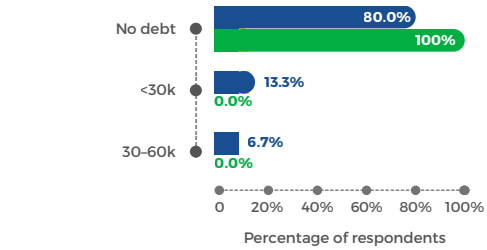
Comparison with the Control group

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

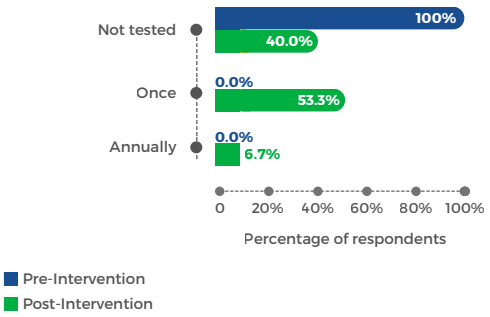
CHART 6: DEBT STATUS PRE- AND POST-INTERVENTION



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

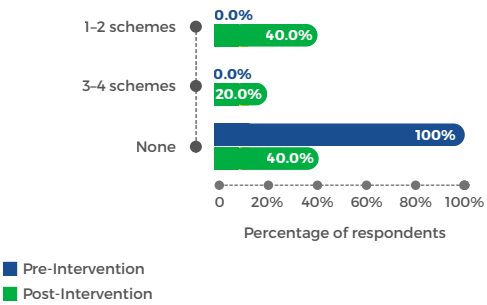


Prior to the intervention, no household (0%, N=15) had conducted soil testing, resulting in imbalanced fertiliser application.

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



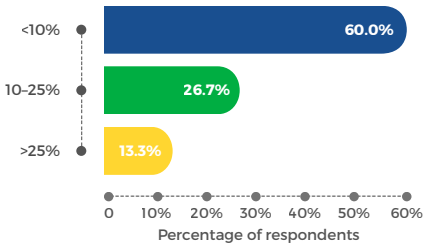
Before the intervention, all households (100%, N=15) had no access to government schemes. Post-intervention, 60% accessed schemes (40% accessed 1-2 schemes and 20% accessed 3-4 schemes), whilst 40% had not yet accessed any schemes.

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



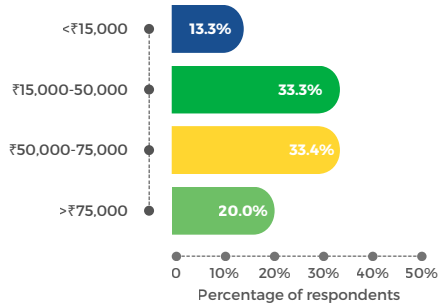
Among the 15 households, 60% reported yield improvements of below 10%, 26.7% achieved increases of 10–25%, and 13.3% realised gains exceeding 25%.

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



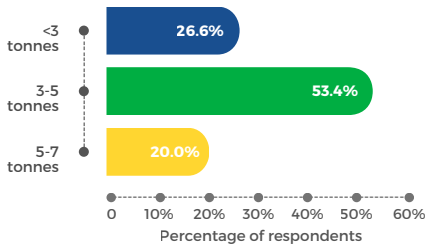
13.3% respondents reported gains in annual crop value below ₹15,000 (early adopters/smaller plots), 33.3% reported gains of ₹15,000–50,000, 33.4% achieved gains of ₹50,000–75,000, and 20% exceeded ₹75,000 annually.

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

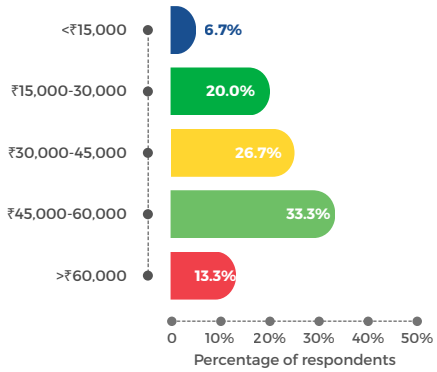


26.6% achieved production below 3 tonnes per year, 53.4% produced 3-5 tonnes, and 20% produced between 5-7 tonnes.

> 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.
>
> **- Shravan Gaju Chaure, 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.

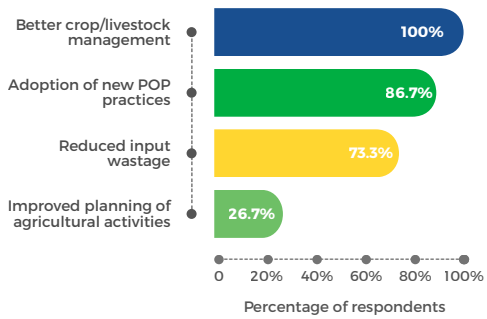
This income was generated through three rearing cycles per year, with each household receiving approximately 300 one-day-old chicks per cycle, feed support, and technical training. The substantial income demonstrates the strong livelihood potential of the backyard poultry intervention when combined with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

> 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**

IMPACT 5: OBSERVED BENEFIT AND IMPACT OF TRAINING

CHART 13: OBSERVED BENEFITS AND IMPACTS OF TRAINING

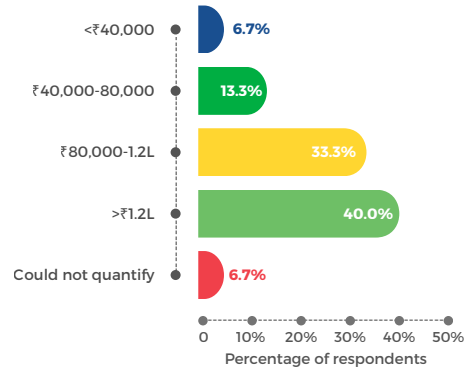


The training resulted in universal improvement in crop and livestock management (100%), with high uptake of new PoP practices (86.7%) and reduced input wastage (73.3%).

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%.

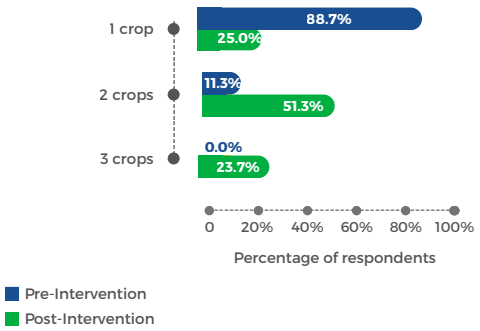
Household heads were predominantly in the 41–50 years bracket (40%), followed by 51–60 years (25%) and 30–40 years (20%). Educational attainment was low: 35% had no formal schooling, 32.5% completed primary education.

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

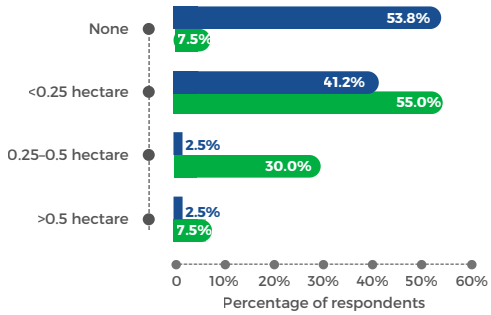


The number of crop seasons cultivated annually increased significantly following the intervention, indicating improved cropping intensity. While 88.7% of respondents earlier cultivated crops in only one season per year, this reduced to 25% post-intervention. A majority of farmers (51.3%) began cultivating 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)

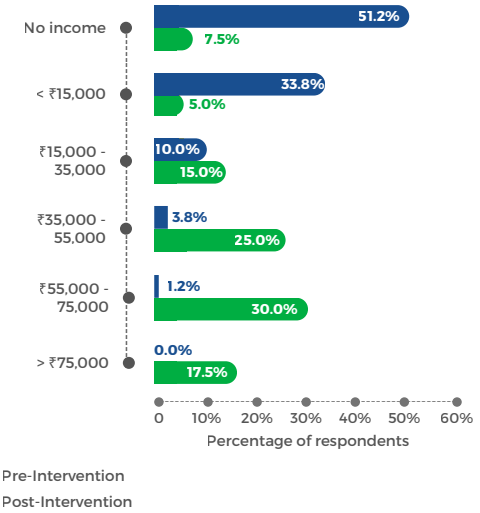
CHART 16: VEGETABLE CULTIVATION AREA PRE- AND POST-INTERVENTION



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.

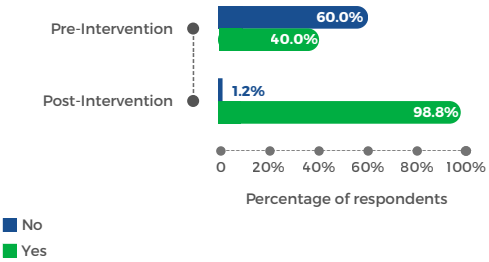
Post-intervention, the income distribution has shifted upward:

- 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).

> 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)

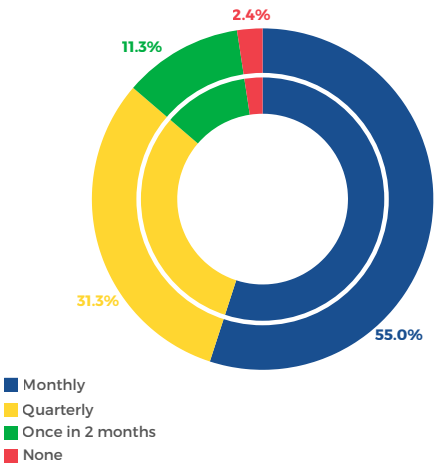
CHART 18: ADOPTION OF GOAT REARING PRE- AND POST-INTERVENTION



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.

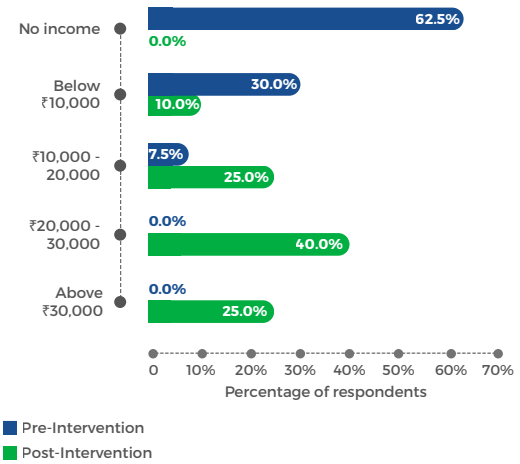
The goat rearing intervention has recorded a robust survival rate ranging between 85% and 95%, validated by beneficiary account, confirming the project's successful push for regular veterinary care.

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)

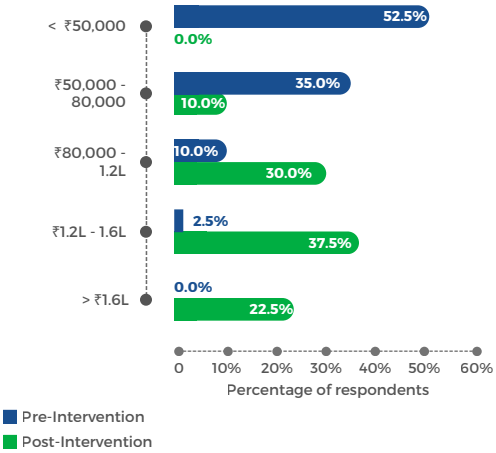


Beneficiaries shared that before the intervention, goat rearing contributed very little to their household income. 62.5% reported earning no income from goats.

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



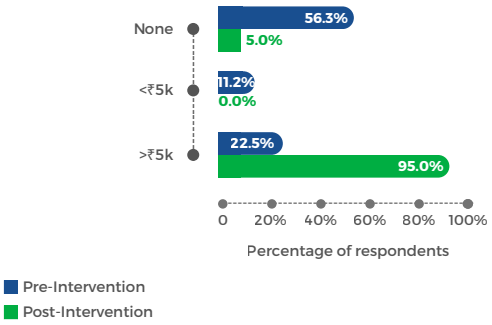
Beneficiaries shared that before the intervention, almost all households earned less than ₹80,000 per year, indicating a highly vulnerable economic baseline. Post-intervention, income levels improved substantially, with the majority of households moving into significantly higher income brackets.

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

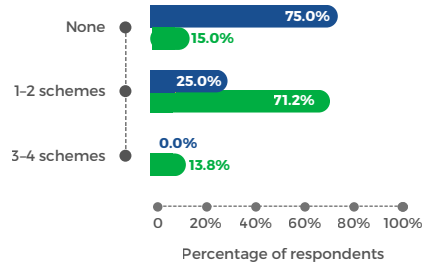
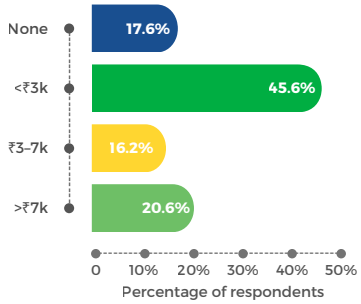


CHART 24: VALUE OF GOVT BENEFITS/YEAR



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

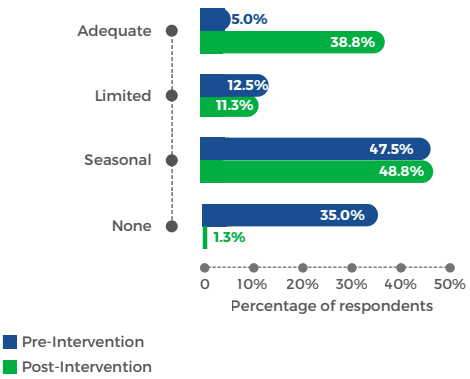
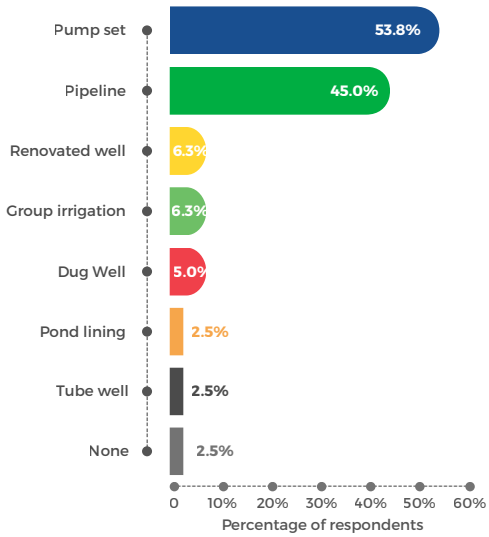


Chart shows a marked improvement in irrigation access after the intervention. Households reporting no irrigation declined from 35.0% to 1.3%, while those with adequate access increased from 5.0% to 38.8%. Seasonal access remained relatively similar (47.5% to 48.8%), indicating a significant shift from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

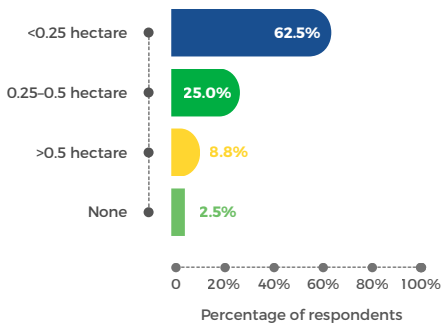
In the control group, only stagnant 9.8% households engaged in farming had adequate access to irrigation.

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.

> 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**

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

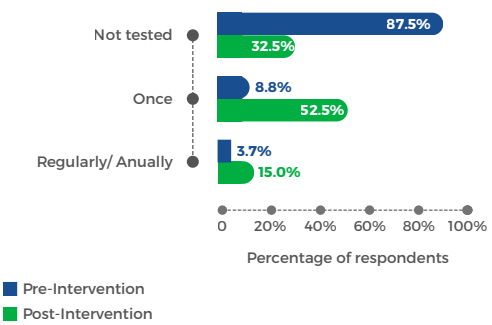
CHART 27: INCREASED CULTIVABLE AREA DUE TO IRRIGATION



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.

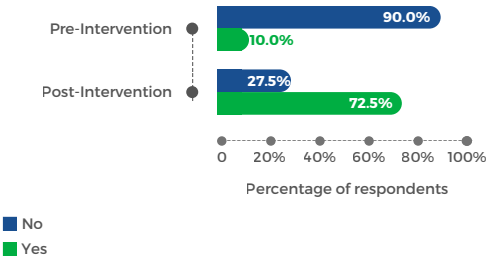
IMPACT 3. ADOPTION OF IMPROVED AGRICULTURAL PRACTICES (N = 80)

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

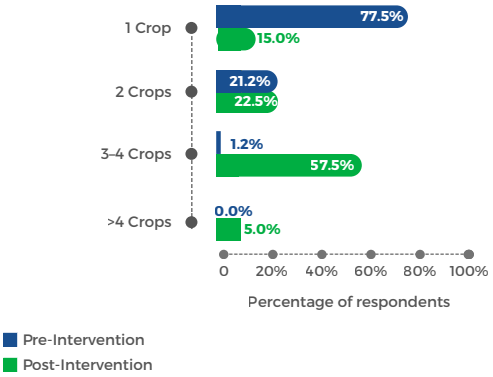


Similarly, improved seed adoption increased from a negligible 10% to 72.5% of respondents. Improved varieties offered advantages, including higher germination rates (reported by 77.5% of respondents), enhanced disease resistance, and superior market quality.

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

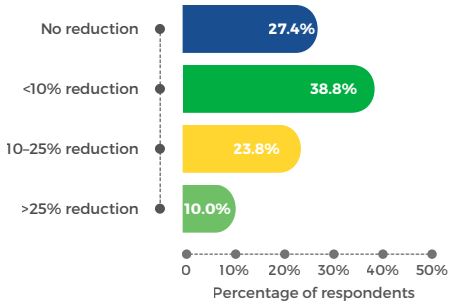


Prior to the intervention, over three-quarters of respondents (77.5%) cultivated only a single crop variety annually, typically a traditional cereal variety. The programme's integrated support enabled diversification, with 57.5% of households post-intervention cultivating 3 to 4 different crops, whilst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

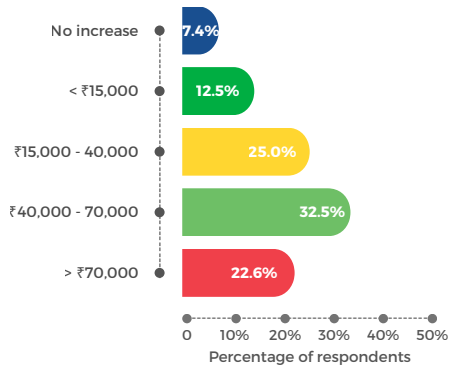
CHART 31: REDUCTION IN CROP LOSS



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).

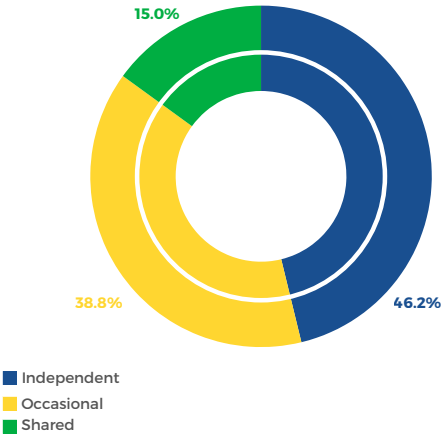
> This project helped us in many ways together. Water, vegetables, and goats gave us multiple income sources. Food is available at home, and we also earn cash. Migration has reduced, and life feels more secure.
>
> **- Rati Ram, Chimravali Sikh, Laxman Garh Block, Alwar District, Rajasthan**

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



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%).

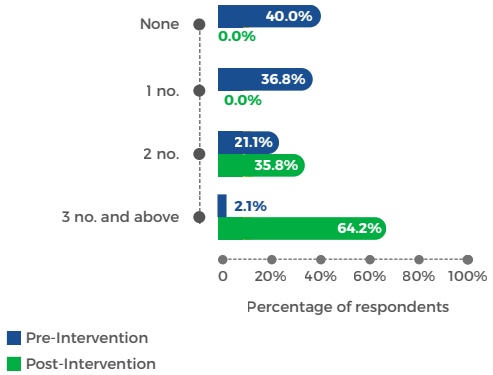
50.0%
earned ₹40,000 annually, while 28.4% earned between ₹40,000 and ₹70,000. Cattle ownership was low: 36.8% owned one animal, 29.5% owned none, 25.3% owned two, and 8.4% owned three or more. Irrigation access was limited for 44.2%, seasonal for 35.8%, and adequate for 20%.

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

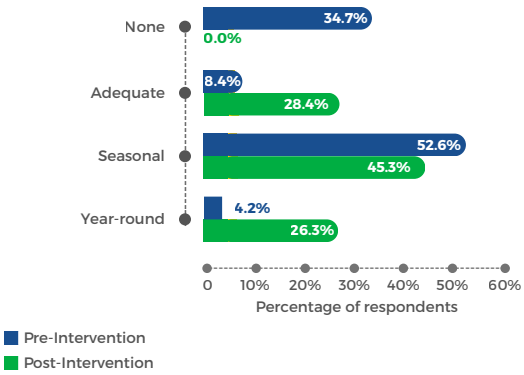


CHART 36: AREA UNDER FODDER CULTIVATION (POST)

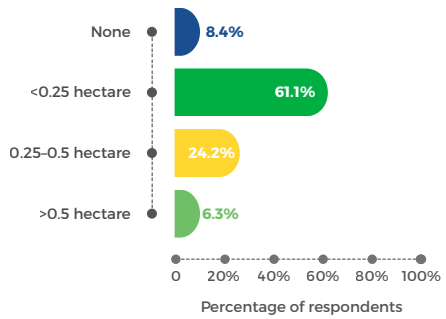


CHART 37: ADOPTION OF IMPROVED/LOCAL GREEN FODDER VARIETIES ATTENDED

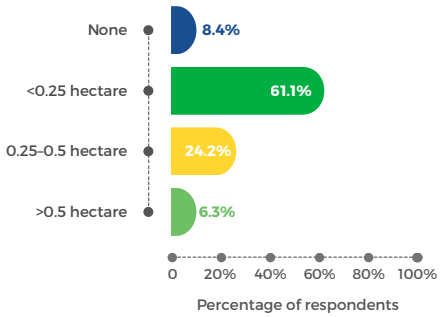
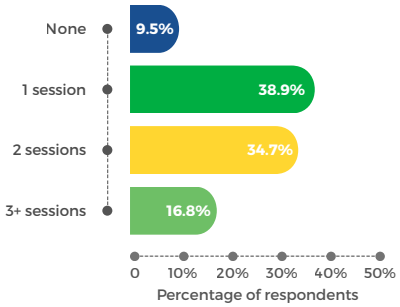


CHART 38: NUMBER OF FODDER TRAINING/TECHNICAL SESSIONS ATTENDED.



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

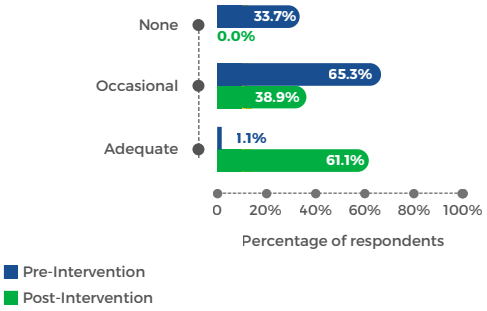
Most respondents participated in fodder-related capacity-building activities. While 38.9% attended one training session and 34.7% attended two sessions, 16.8% attended three or more sessions. Only 9.5% reported no training exposure, suggesting that training outreach was broad and reasonably intensive.

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

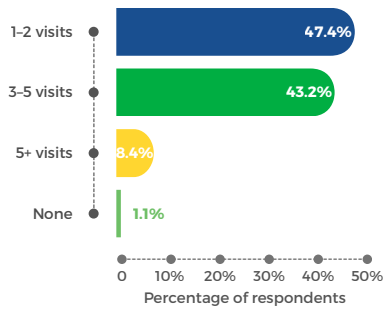
CHART 39: ACCESS TO VETERINARY SERVICES: PRE VS POST



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.

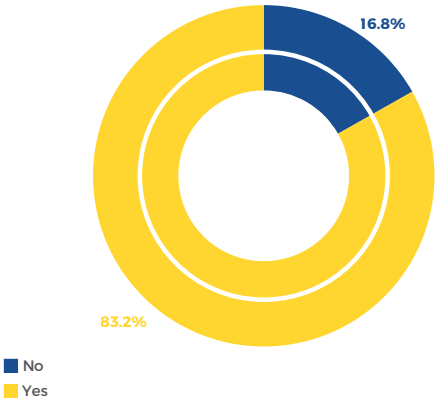
CHART 40: FREQUENCY OF VETERINARY VISITS SUPPORTED BY THE PROJECT



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

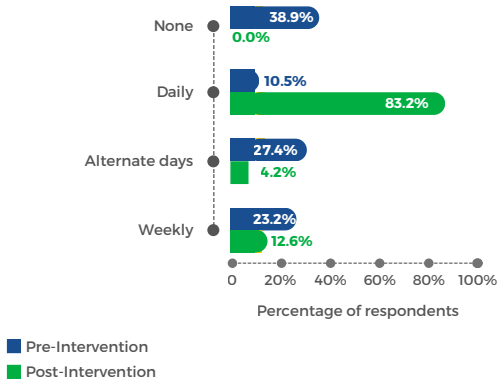
Insurance adoption was high, with 83.2% of respondents completing cattle insurance—reflecting increased awareness, risk mitigation practices, and strengthened engagement with livestock services.

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

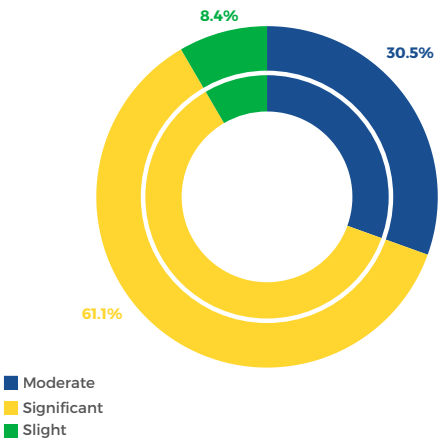
CHART 42: FREQUENCY OF MILK SALES, PRE VS POST



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.

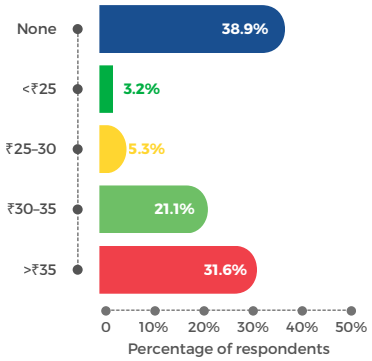
CHART 43: INCREASE IN REGULARITY OF DAIRY INCOME



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.

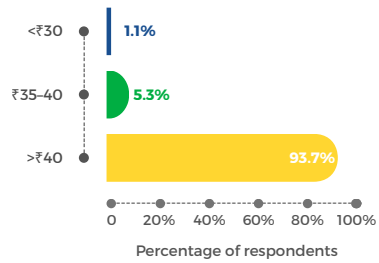
CHART 44: PRE-MILK SELLING PRICE PER LITRE



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



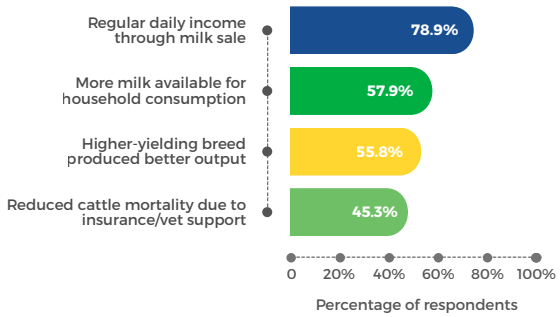
Market Linkage Support

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

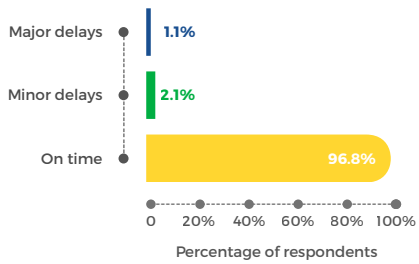
Nearly half (45.3%) reported lower cattle mortality, attributed to insurance and consistent veterinary support—highlighting improved livestock health and reduced economic risk.

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

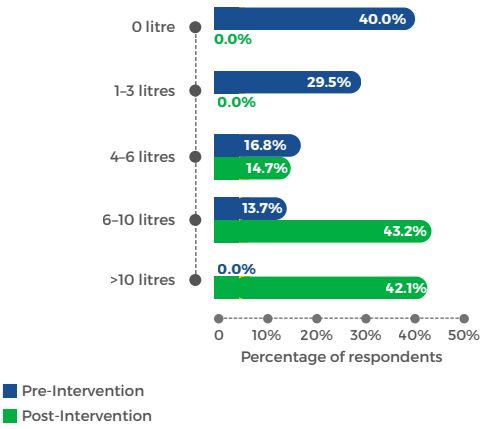
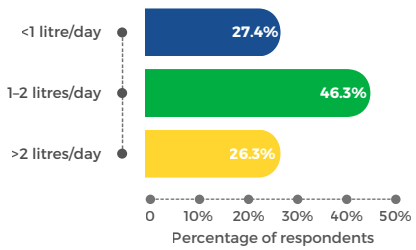


CHART 49: IMPROVEMENT IN MILK YIELD AFTER INDUCTION



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

IMPACT 2. MONTHLY DAIRY INCOME ESCALATION

CHART 50: PRE – MONTHLY INCOME FROM DAIRY

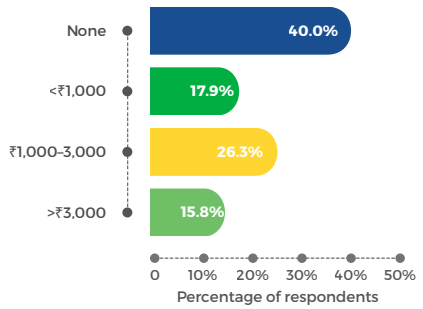
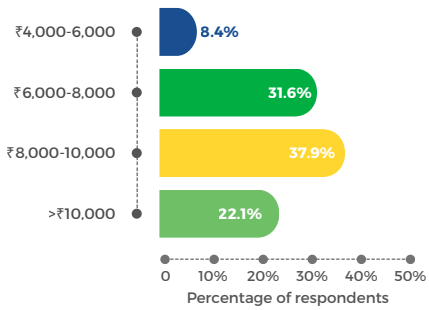


CHART 51: POST – MONTHLY INCOME FROM DAIRY



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

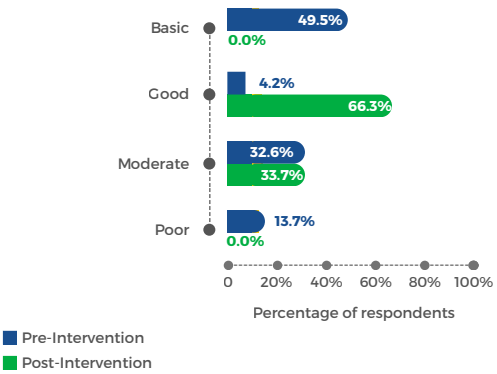


CHART 54: ADOPTION OF IMPROVED CATTLE MANAGEMENT PRACTICES

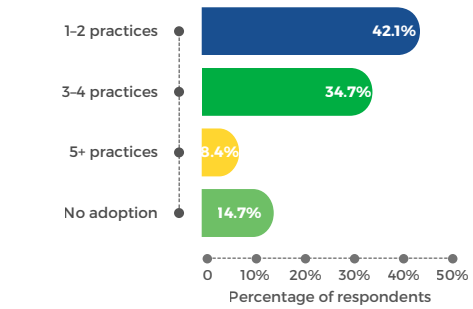
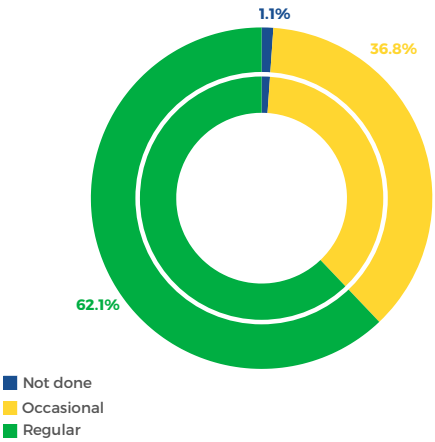


CHART 55: VACCINATION & DEWORMING STATUS (POST)



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

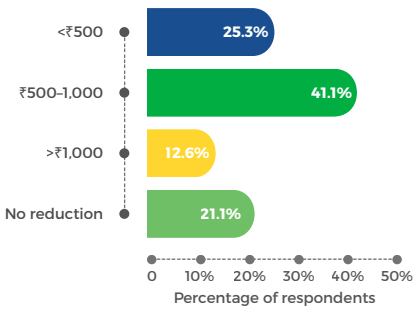
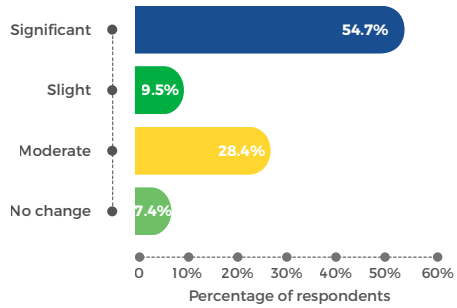


CHART 57: IMPROVEMENT IN CATTLE HEALTH DUE TO FODDER AVAILABILITY



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 improve 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.**

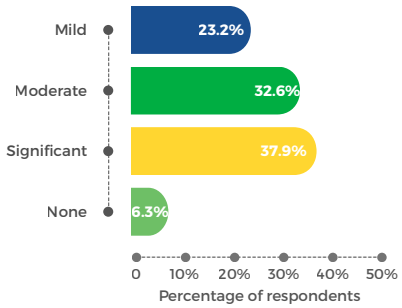
The wide adoption of on-farm green fodder contributed directly to improved nutrition, better animal condition, and reduced vulnerability to illness.

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.

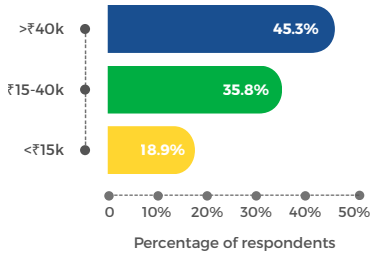
Perceived benefits of training and veterinary support substantiated the mechanisms driving mortality reduction. 95.8% of respondents attributed benefits to timely treatment, reducing illness and death, 93.7% cited improved hygiene and shed management, 87.4% noted increased milk yield due to improved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

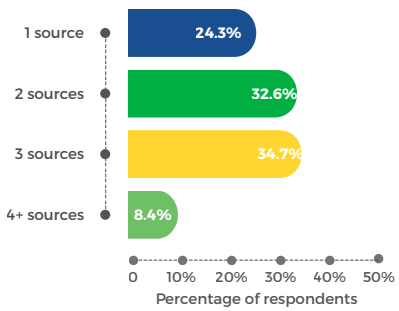
CHART 59: INCREASE IN REGULARITY OF DAIRY INCOME



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


DHULE, SHIRPUR


DHULE, SAKRI


BHARATPUR


PUNE, MAHARASHTRA

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%).

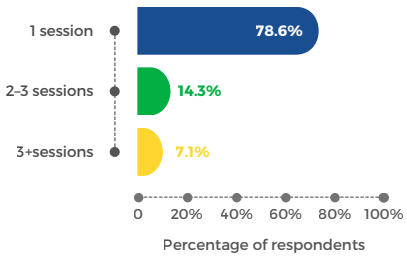
The majority (73%) earned below ₹50,000 annually; 10% earned ₹50,000–80,000, 10% ₹80,000–1 lakh, and 7% ₹1–1.5 lakh. Youth participation was high: 83% of households had one youth (18–35 years), 13% had two.

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

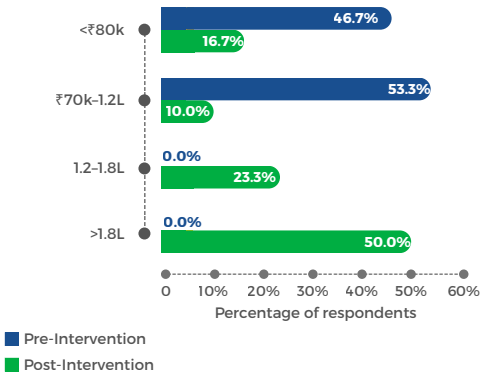
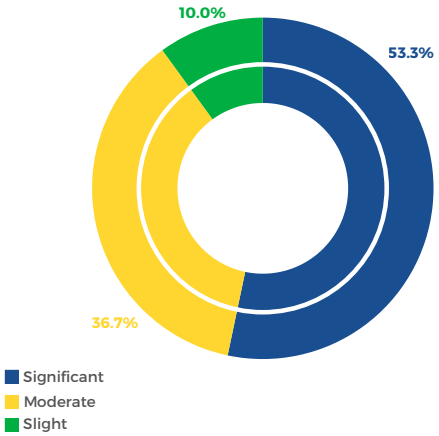


CHART 64: FAMILY'S ABILITY TO MANAGE EXPENSES AFTER MODEL 4



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

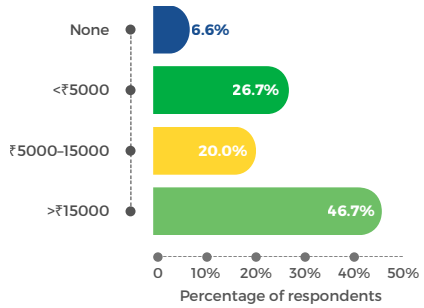
The intervention resulted in a structural upward shift in income levels, with households moving into higher income brackets, diversifying livelihoods, and demonstrating improved financial stability and resilience.

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

> 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.

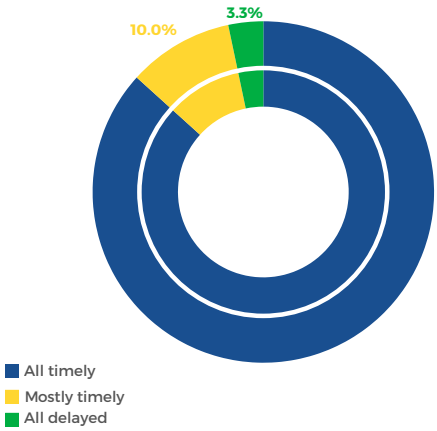
Overall Inference

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



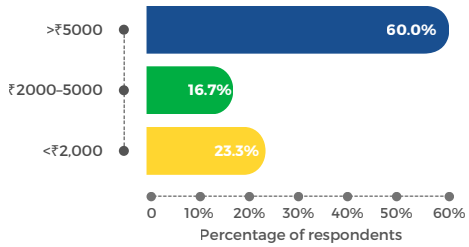
Programme implementation quality was assessed through the timeliness of interventions. The survey revealed that 86.7% reported all activities as timely, and 10% indicated most activities as timely. This high timeliness perception reflected structured planning and regular engagement by programme staff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



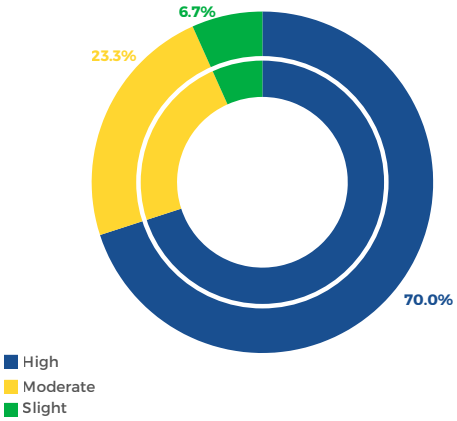
The survey revealed that 60% reported a monthly income increase exceeding ₹5,000, 23% experienced an income gain below ₹2,000, and 17% achieved an income improvement in the ₹2,000–5,000 range.

> 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

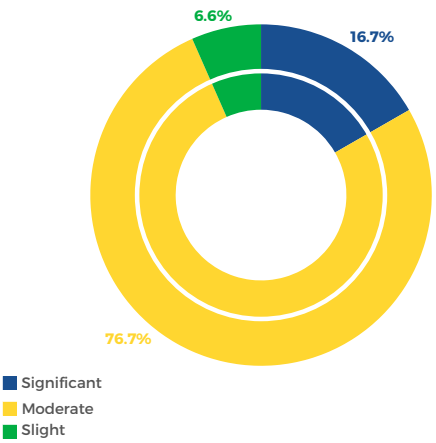
CHART 68: INCREASE IN LIVELIHOOD RESILIENCE



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



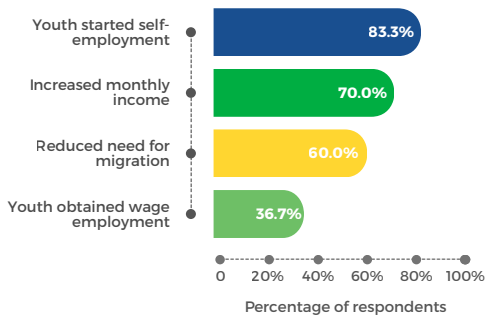
Financial vulnerability reduction was reported across the majority of beneficiary households. Survey data indicated that 76.7% experienced a moderate reduction in financial vulnerability, and 16.7% achieved a significant reduction.

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

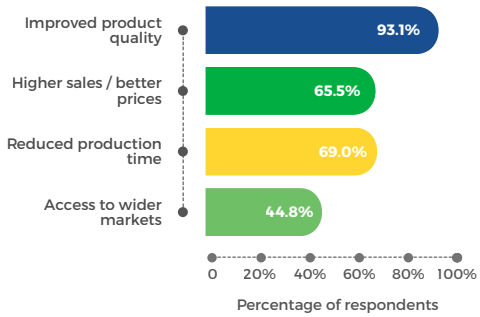


The visible outcomes of skill development were assessed through multiple indicators. The survey revealed that 83.3% started self-employment, 70% experienced increased monthly income, 60% reduced need for migration, and 37% obtained wage employment.

> 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 UPGRADATION BENEFIT PATHWAYS

CHART 71: OBSERVED BENEFITS OF SKIL UPGRADATION



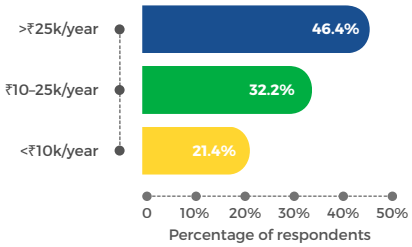
Artisan skill upgradation generated benefits through multiple pathways. Among the 29 households engaged in artisan activities, 93.1% reported improved product quality, 69% experienced reduced production time, 65.5% achieved higher sales and better prices, and 44.8% gained access to wider markets. The 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

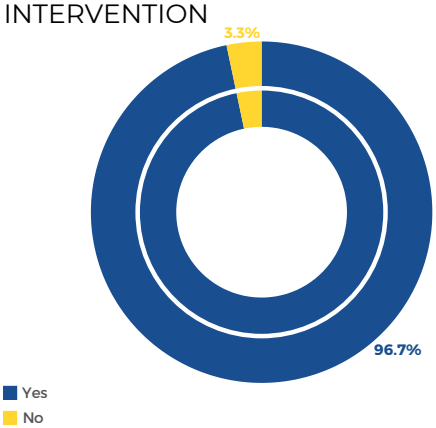
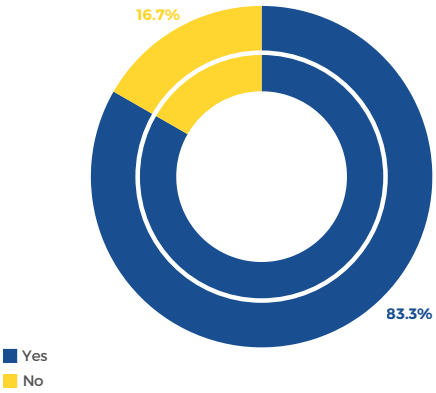


CHART 75: CERTIFICATION RECEIVED



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

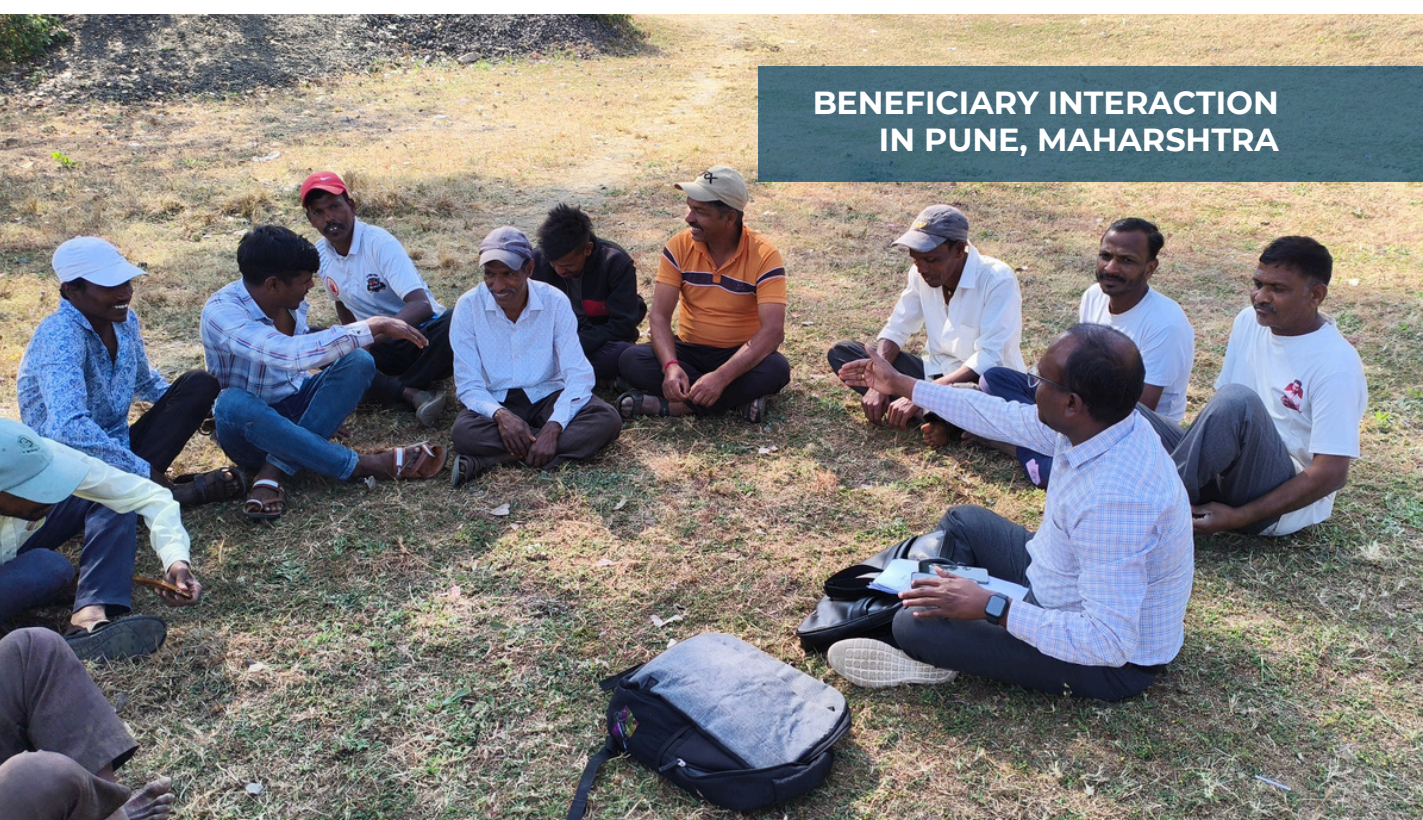
CONTROL GROUP RESPONDENTS, ALWAR (RAJASTHAN)

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.

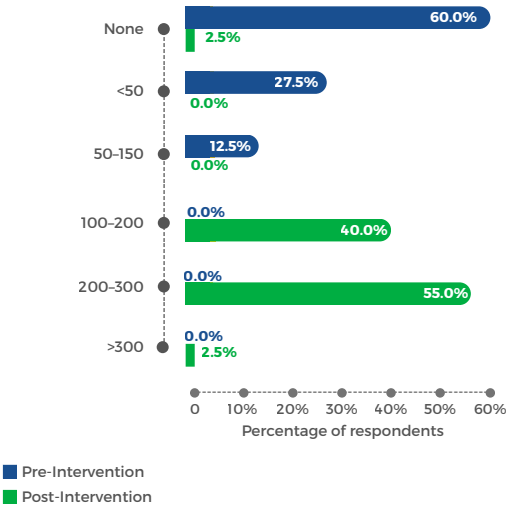
Landlessness was predominant: 70% had no land, 25% owned <1 hectare, and only 5% had 1–3 hectares. Primary pre-intervention income sources were largely livestock/poultry (70%), followed by rainfed farming (12.5%), non-farm labour (12.5%), and agricultural labour (5%).

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)

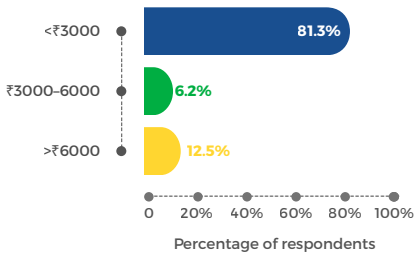
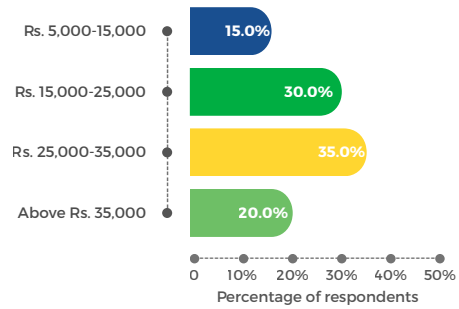


CHART 77: ANNUAL POULTRY INCOME (POST-PROGRAM)



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.

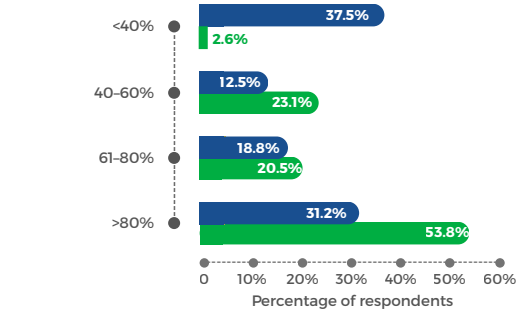
In contrast, the post-program distribution shows a substantial upward shift in income levels from poultry. None of the respondents remain in the extremely low-income brackets seen earlier. Instead, incomes are concentrated in higher ranges: 35% earn ₹25,000–₹35,000 annually, 30% earn ₹15,000–₹25,000, 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)



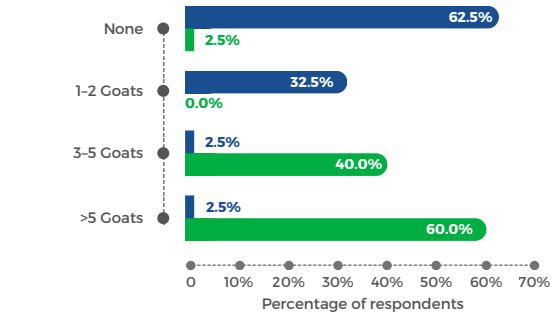
Among the 16 households engaged in poultry pre-programme, 37.5% experienced survival rates below 40%, 12.5% achieved rates between 40 and 60%, 18.75% attained 61 to 80% survival, and 31.2% exceeded 80%.

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)

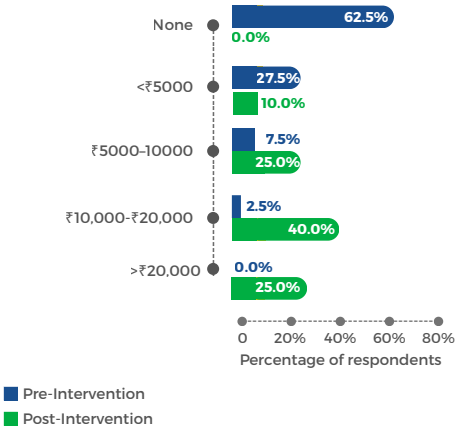


Pre-intervention, 62.5% of households owned no goats, 32.5% maintained one to two goats, and only 5% possessed between three and five animals.

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.

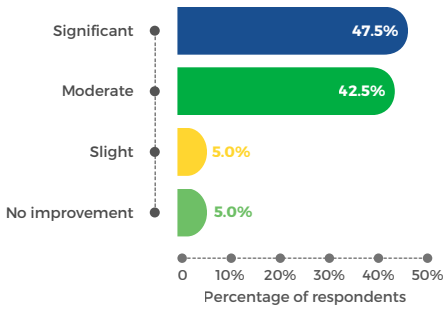
Pre-intervention average income: Rs.1,600/- Post intervention average income: Rs. 14,400/-.

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

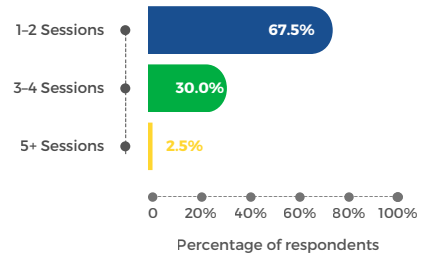
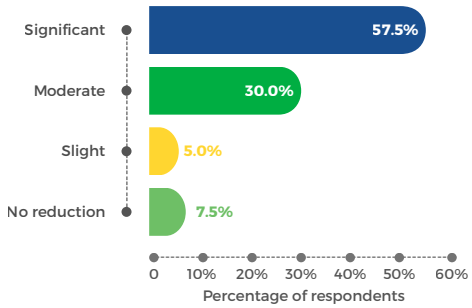


CHART 83: REDUCTION IN GOAT MORTALITY DUE TO TRAINING AND VETERINARY SUPPORT



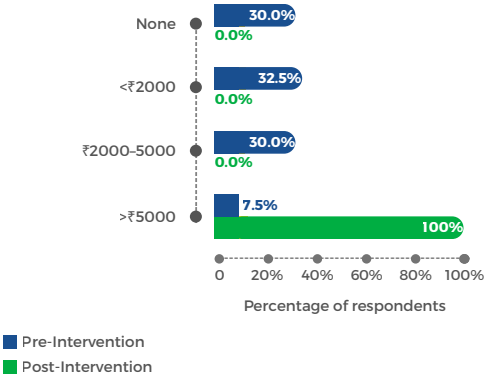
Among respondents, 67.5% attended one to two training sessions, 30% participated in three to four sessions, and 2.5% attended five or more training events during the programme period. Among respondents, 57.5% characterised mortality reduction as significant, and 30% as moderate.

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)



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, Daulatpur, Alwar**

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

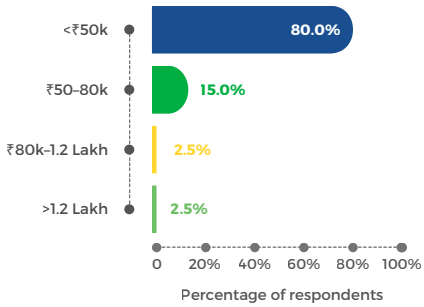
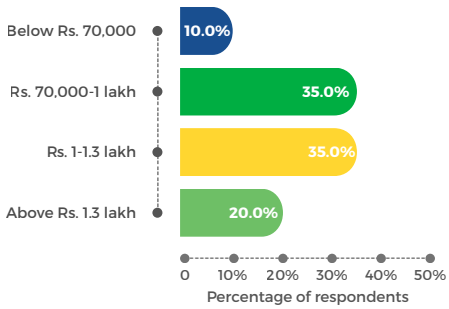


CHART 86: TOTAL HOUSEHOLD INCOME FROM ALL SOURCES (POST-PROGRAM)



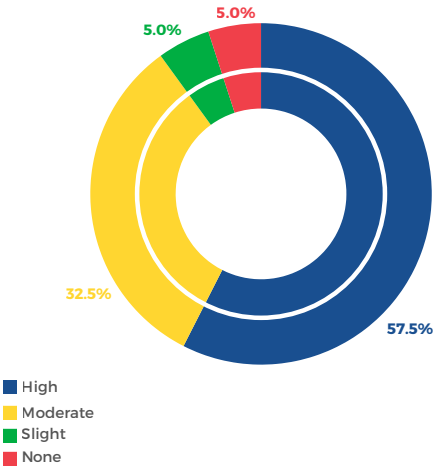
Prior to the programme, household incomes were heavily concentrated at the lower end, with 80% earning less than ₹50,000 annually and another 15% falling between ₹50,000 and ₹80,000. After the intervention, this distribution shifted markedly upward: only 15% of households remained below ₹70,000, while 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**

> 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

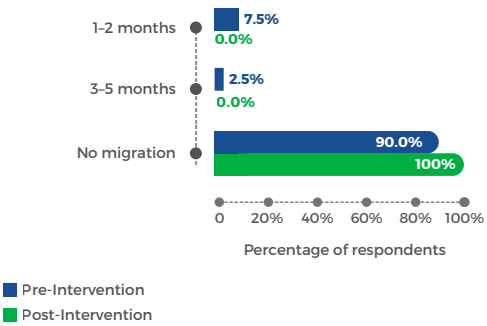


The above chart presents beneficiary perceptions of increased livelihood resilience. Among respondents, 57.5% characterised resilience improvements as high, and 32.5% as moderate.

KEY IMPACT

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

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

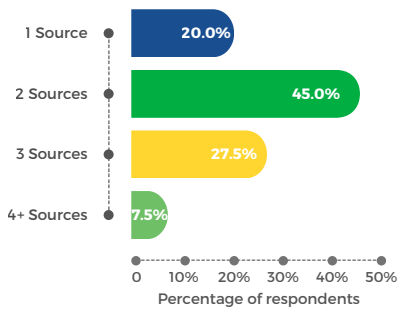


Prior to programme intervention, 10% of households engaged in seasonal labour migration, with 7.5% migrating for one to two months and 2.5% for three to five months annually. Following programme participation, migration ceased entirely, with all households reporting no migration. This complete elimination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



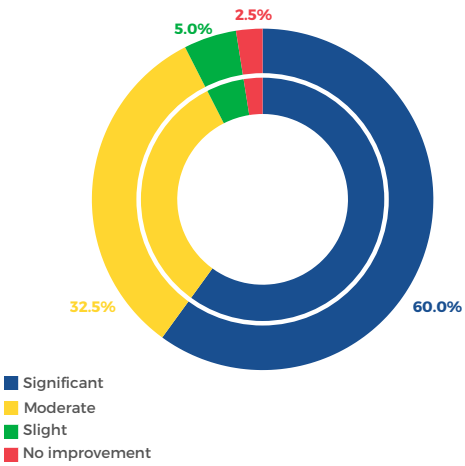
Among respondents, 20% maintained one income source, 45% had two sources, 27.5% operated three sources, and 7.5% had four or more income streams. This distribution indicates that households diversified beyond single-source income dependence, with nearly half maintaining dual income streams. Income diversification 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



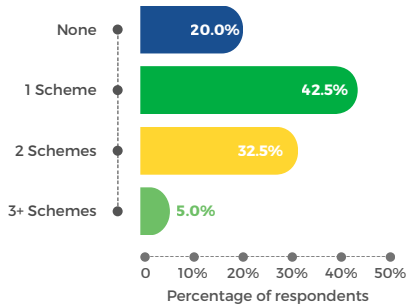
The above chart demonstrates beneficiary perceptions of their improved ability to manage household expenses. Among respondents, 60% reported significant improvements, and 32.5% indicated moderate.

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)

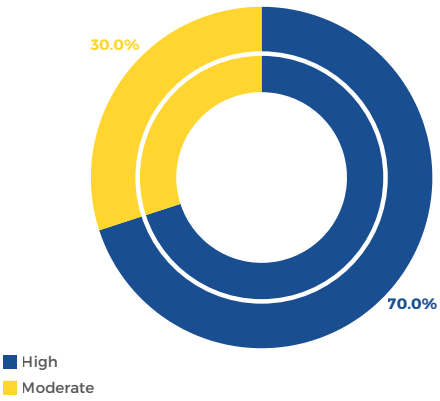
CHART 91: SCHEMES ACCESSED AFTER THE PROGRAM



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. SHGs/microfinance/financial inclusion share 20%.

Note: DW = Deadweight. Attr = Attribution. Total deduction = 1 - ((1-DW) × (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): ₹1,41,18,286 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

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 Gavran 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.

★★★★½

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.

★★★★½

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.

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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.

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.

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.

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.