

Integrated Livelihood Development Programme

Endline Impact Evaluation - 2025



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Executive Summary

The Integrated Livelihood Development program aims to reduce poverty sustainably and facilitate rural development by empowering women as agents of change by modifying BRAC's graduation approach model to the Indian context. Anchored in the mobilisation of women from marginalised and socially disadvantaged backgrounds into Self-Help Groups, the program provides sustained access to credit-targeted livelihood training, and gender sensitisation — with the goal of enabling women to diversify income sources, exercise financial agency, and influence local governance.

To investigate the impact of the program, an endline study was conducted. A quantitative household questionnaire (modified from baseline) was administered by local community cadres, who were trained by Veddis. A stratified, multistage, proportionate random sampling strategy with elements of purposive sampling at the village-selection stage was employed. Endline study notes ~95% overlap of respondents in the treatment group; ~95% overlap of respondents in the one control GP, with the other control GP seeing a loss of ~19% of respondents (outside of Veddis' control).

Overall, the program reports statistically significant and economically meaningful results. Using a Difference-in-difference regression model, the study finds that differential impact of the intervention on income between treatment and control groups, at baseline and endline periods, was INR 1.15 lakhs (p-value: <0.01; estimate was robust to GP-level fixed effect specifications). Given that the intensification across livelihood activities remained similarly distributed across both groups, this change in income is attributed to the diversification of livelihood sources from 1 source at baseline to 3 sources at endline for the treatment group (1 vs 2 for the control group). While the findings are robust, the report acknowledges limitations in generalisability due to the sampling strategy. However, strong baseline comparability of demographic characteristics between treatment and control groups, and use of fixed effects lend credibility to the causal claims.

Other notable outcomes include high formal borrowing rates for treatment groups, especially from SHGs (83% in treatment vs 12% in control). The main reasons for borrowing reflect shifts to productive uses of credit; loans were primarily taken for livelihood support (agriculture and/or livestock rearing), followed by education and healthcare expenses. Additionally, loans were taken from SHGs for starting/sustaining micro enterprises (higher in treatment group than control). Empowerment within households was high, with a 15x likelihood of a treated woman having a say in finance-related decisions (income, asset purchase and finance planning) than a woman in the control group. Similarly, empowerment in local governance (Gram Sabha meetings) is high in the treated group relative to the control group (88% vs 5%).

Importantly, the program achieved these outcomes through community-rooted structures and modest investment. A Return on Investment (ROI) of INR 37 for every INR 1 spent underscores the model's economic efficiency and potential for scalable impact.

Illustratively, given that the control group respondents were part of Rajeevika SHGs, the outcomes provide a stepping stone into further investigating the differences between government and non-government SHG models. Furthermore, studying the causal relationship between income and empowerment and bolstering the quantitative insights with qualitative observations will be designed as a follow-up to contribute to the larger literature on the impact of SHG models with communitisation on key developmental outcomes.

Chapter 1: IDLP Endline Study Architecture

Background of the ILDP program

The Integrated Livelihood Development program aims to reduce poverty sustainably and facilitate rural development by empowering women as agents of change. The implementing agency, [SPECTRA](#), first piloted this program with one Gram Panchayat - Rata Khurd, between 2013-2018.¹ Working towards the development of families hailing from historically disadvantaged communities with marginal land-holding size, this program directly addresses [Sustainable Development Goals](#) 1 (No Poverty) and 5 (Gender Equality), while indirectly addressing SDG goals 8 (Decent Work and Economic Growth) and 10 (Reduced Inequalities)

Building on the graduation approach model by [BRAC](#), the program recognised the need for providing sustainable access to credit as the catalyst for change. Hence, mobilising women into Self-Help Groups [SHGs] forms a core part of the program. Once access to credit is provided, it is imperative to train SHG women across various modules to ensure their livelihoods are diversified, wherein they can depend on more than one source of income that is ideally sustainable in the long run. Similarly, their livelihoods need to be intensified, wherein they can earn more per unit of production/sale with the same cost or graduate from informal/unskilled labour to formal employment. Additionally, assets were also provided in the form of goats. Equally important, however, is the role of communitisation and gender empowerment - women anchor families, communities and facilitate rural development. Combining these tenets, the program experimented by facilitating training through subject matter experts (including gender training) to not only all target SHG beneficiaries but also a subset of them, to form community champions who form a network that other SHG women can rely on as need arises (for example, with livestock rearing).

Finally, the program recognised that ensuring the sustainability of the program rests on bridging the gap between the community and the local government. Thus, the program augmented convergence of government schemes and actively enabled Panchayati-Raj Institutions to engage with the community organisations [SHGs and other local governance bodies], thereby leveraging public funds towards Gram Panchayat development.

Thus, over five years, the Rata Khurd model saw the impact at the individual and community level, wherein gross household income increased with intensification and diversification, borrowing was facilitated through formal sources into productive uses, and public funds were leveraged into the development of Rata Khurd. The success of this model led to the second phase, wherein the model was replicated to 5 additional Gram Panchayats [5,000 households] with some core tweaks, including rescinding the passing of assets (goats) since SHGs provide a medium of procuring loans that can then be utilised by individuals (demand-led) to buy livestock assets.

Investigating the causal long-term impact of improved education, health, and women's empowerment outcomes is crucial and is currently underway. A qualitative undertaking was done recently by [Bridgespan](#), which documented and validated the core tenet of [community-driven change](#) - how enabling community power and assets leads to enduring social change and equitable impact.

¹ This program was funded by Veddis Foundation

ILDP Model

Contextualising the brief background of the pilot program allows this section to focus on detailing the key activities, outputs and expected outcomes of ILDP.

Key Activities (step-by-step description)

- 1) **Identification of the target beneficiaries:** Women from a historically marginalised community and families with marginal land-holding (ultra-poor: no land or 1-2 bighas of land; poor: 3-5 bighas of land) are selected as target beneficiaries.
- 2) **SHG Formation:** Women are mobilised into Self-Help Groups [SHGs]
 - a) SPECTRA facilitates credit linkage with formal financial institutions
- 3) **Training and capacity building workshops on the following modules:**

Training Module	Key Activities (list is not exhaustive)
Cornerstone training	Principles of being in an SHG, need for community, need for women's empowerment,
SHG management	Weekly meetings, agenda setting, participation of members, discussions on income-generation, women empowerment, groundwork for understanding the role of PRI-CBO convergence
Financial management	Encouraging borrowing and spending patterns to more effective uses at the SHG and household level; financial literacy on borrowing/repayment, savings, interests, defaults; institutionalising accounting mechanisms
Animal/Livestock management practices	Immunisation, insurance, goatery, hygienic production of milk, cultivation of Azolla for increased fat percentage in milk
Agricultural management practices	System of Wheat/Rice Intensification, seeding strategies, use of vermicomposting, kitchen garden
Community building	Importance of regular engagement with Panchayati Raj institutions, liaising with local governance structures towards GP development, role of support inter/intra community members
Business development planning	Encouraging the set-up of microenterprises and providing knowledge on setting up microenterprises and relevant business acumen; exploring relevant market linkage options
Gender Equality	Role of women in the household and society, importance of involvement in decision-making, unlearning gender norms and expectations, regular participation in local institutions

- a) Trainings are provided by subject matter experts identified by the implementing organisation
- b) These experts train community members [referred to as ‘sakhis’], equipping them with the knowledge to support other community members
- 4) Facilitating market linkages by setting up Farmer Producer Organisations and Livelihood Groups to help women realise better price points for local products and produce
- 5) Enabling demand-led convergence of government schemes for HHs

Key outputs:

- 1) Formation of functional SHGs with strengthened governance mechanisms
 - a) Access to credit from formal institutions
- 2) Regular training and capacity building ensure knowledge sharing and awareness of effective methods for improving household income
 - a) Increased numbers of microenterprises or selling of produce/products in diversified markets
- 3) A larger number of families accessing government schemes
- 4) Increased PRI-CBO convergence, enabling access to local funds for gram panchayat development
- 5) Women unlearning gender norms and recognising their expansion of role and influence in households and communities

Key outcomes:

Economic empowerment

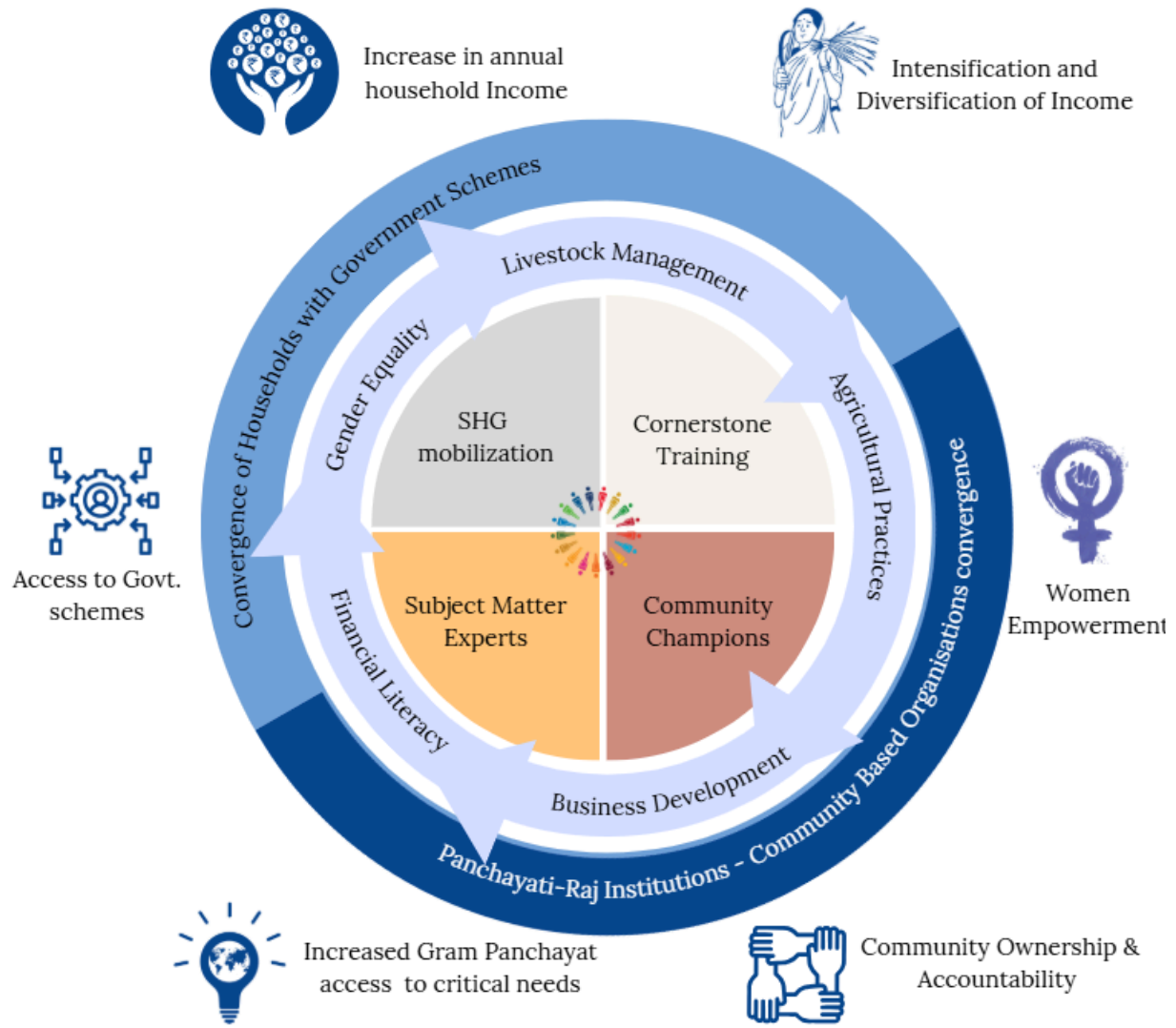
- 1) Increase in household income (gross)
 - a) Diversification and intensification of livelihood-generating activities
- 2) Higher borrowing and sustained access to credit with responsible borrowing and spending patterns
- 3) Enhanced market access and enterprise development

Socio-political empowerment

- 1) Greater role in household and community decisions
- 2) Breaking gender stereotypes and assumptions
- 3) Participation in Panchayati Raj institutions and civic engagement

Institutional Impact

- 1) SHGs become platforms for collective action
- 2) Sustainable credit linkages with formal systems
- 3) Effective convergence with state schemes
- 4) Improved local governance through PRI-CBO linkages



The ILDP Model

Impact Evaluation of the Program

A baseline-endline study was conducted to assess the key outcomes as outlined above; baseline was conducted in 2019, before the program officially commenced and the endline study was conducted between February 2025 - March 2025, three months before the program period formally ends. This section will briefly describe the baseline study before detailing endline study objectives, underlying assumptions of endline objectives, methodology employed, sampling strategy, and logistics of conducting the study.

Baseline Study

Veddis Foundation conducted the baseline assessment in 2019. Identifying control and treatment groups by employing a **stratified, multistage, proportionate random sampling** strategy with elements of **purposive sampling** at the village-selection stage, the baseline assessment was conducted with 750 women using a quantitative household questionnaire. The objective was to assess demographic information, household income, current engagement across primary livelihood activities (agriculture, livestock, other sources of income), and current access to government schemes. Other factors of assessment included access to assets and basic services (including water, electricity, gas for cooking, etc.). The survey design, however, excluded information on loan borrowing behaviour or measures of women's empowerment.

Facilitated by Veddis Foundation, the survey was conducted through community cadres, using pen and paper. The results were stored and analysed and will be referenced where necessary throughout the key findings from this report.

Baseline Questionnaire ([link](#))

Endline study objective

The endline evaluation was conducted to report on the following objectives:

1. Changes in annual household income (gross)
2. Observation in diversification and intensification across livelihood activities
3. Convergence of households with government schemes
4. Increased public fund leverage towards GP development
5. Measures of women's empowerment²
 - a. *Economic*: being involved in key financial household-level decisions regarding asset purchases and other income/planning decisions (conceptualised as “having a say in the household”)
 - b. *Socio-political*: participation in Gram Sabha meetings and standing for Panchayati Raj Institutions elections
 - i. Attendance and participation in School Management Committee Meetings [SMCs] of beneficiaries who have school-going children

² Empowerment is a complex and largely qualitative topic, thus, this conceptualisation of empowerment can be deemed contentious. However, considering the aim of the program and the qualitative observations of the field team at the start of the program, the design of the questionnaire was aimed at understanding the extent to which a woman has a voice within her household and community as the first step towards conceptualizing “women as agents of change”. The role of qualitative data in deepening the insights captured at this stage is noted and is being subsequently planned as a follow-up to this study.

The following are the underlying assumptions of the observed changes in the outcomes

1. Increased and sustained access to credit leads to a sustainable source of disposable income that results in higher annual household income
2. Adopting better agricultural and animal management practices results in sustainable livelihoods, resulting in higher engagement in the number of livelihood activities per family and better income through livelihood sources
3. Facilitating convergences as a key objective of the ILDP program results in an increased number of relevant policies accessed by a household
4. Emphasising PRI-CBO convergence leads to higher leverage of public funds towards GP development by SHGs as they are empowered to liaise with the local government
5. Gender training helps decenter gender roles and instil confidence, enabling a women to find her voice within and outside her household, fostering women's inclusion in daily decision-making, especially pertaining to financial decisions and local governance through increased confidence.

Methodology

The quantitative questionnaire administered at baseline was used as the basis to begin the conceptualisation of the study. Recognising that the MIS collects detailed information on livelihood aspects (including price and quantity of crops, milk, number of livestock owned, etc.), the questionnaire was drastically reworked to optimise for respondent burden and time taken to complete the survey.

The questionnaire was administered via an online survey tool, *KoboToolBox*.³

[\(KoboToolBox | Questionnaire\)](#)

Sampling strategy

Overlap of respondents from baseline/endline is critical to evaluate the longitudinal impact of the program. A **stratified, multistage, proportionate random sampling** strategy with elements of **purposive sampling** at the village-selection stage was employed at the baseline assessment stage.

Specifically,

Total sample size = 750 women (500 treatment group, 250 control group)

Household (HH) Selection Criteria:

- *Ultra-poor households*: No land ownership or less than 2 bighas of land
- *Poor households*: Between 3–5 bighas of land

³ Usage of free and user-friendly online survey tools allow non-profits, non-research organisations like Veddis to collect high-quality data that can generate evidence-backed insights which can be leveraged for informed decision-making; crucial to the functioning of organisations in the development space. Some of the key features of the tool include:

- 1) Ability to administer the questionnaire in Hindi
- 2) Free to use up to 5,000 surveys per month
- 3) Offline data collection in remote areas (internet is required only during upload)
- 4) Use of logic conditions to preventing errors and saving survey time
- 5) Versatile question option types to restrict numeric, alphanumeric and other types of questions to their respective input formats
- 6) Options to track data being collected - GPS, unique device ID etc.
- 7) Multiple download options for data collected allow it to be stored in file formats specific to different statistical software.

- Within selected villages, both categories will be selected randomly from the eligible HHs.

Rationale for sample size (for treated households)

- 10% of targeted HH (5,000) = 500
 - 10% of targeted ultra-poor HH (2,400) = 240
 - 10% of targeted poor HH (2,600) = 260

Rationale for sample size (for control households)

- 5% of targeted HH (5,000) = 250
 - 5% of targeted ultra-poor HH (2,400) = 120
 - 5% of targeted poor HH (2,600) = 130

Geographic distribution

- The sample will be distributed across intervention GPs in proportion to the number of HHs in each GP.
- 50% of villages within each GP will be selected.
 - For GPs with an odd number of villages: number of villages selected = $(n-1)/2$.
- Selected villages will be those with the highest number of HHs in the GP (because the effect of the program would be driven by majority population clusters which adds additional layer of optimisation of field resources)
- Within each selected village, the sample will be equally distributed (to maintain statistical rigour and representativeness).
 - If the total sample size for a GP is odd, the village with the highest HHs receives the extra respondent.

Rationale for control group GPs

1. Similar demographic population proportion of caste groups - 70% of the population from both groups are from SC communities, and about 27% of the population are from OBC communities
2. Land distribution (in bighas) was proportional across both groups
3. Key government coverage of schemes was similar across both groups
 - a. PDS ~96% availability of ration card and at least 80% access to subsidised ration
 - b. ~92% APL cardholders with the rest holding BPL or Antyodaya cards

In addition to demographic and socioeconomic factors, geographic proximity and accessibility were considered - all GPs are located near the Rajasthan-Haryana border and were relatively accessible by highway at baseline data collection.

For the endline, an overlap of ~95% of respondents in the treatment group was recorded, with additional respondents added in some GPs to reflect growing population proportions. There was variation in the control group for one GP with a loss of ~19% of respondents due to changing population proportions and/or unavailability, as is expected in longitudinal surveys. The other control group did see an overlap of ~95% of respondents.⁴

Thus, the final sample consisted of:

Treatment GP sample: 534

Control GP sample: 216

⁴ The relationship between sampling strategy, loss of control group respondents and validity of DID results will be detailed in chapter 2 and, reiterated in chapter 3

Treatment GPs	Sample
Hazipur	107
Jhirindiya	108
Jilota	100
Kasba Dehra	106
Sainthili	113
Control GPs	Sample
Mirka	116
Noor Nagar	100

Logistics of survey administration

Cadre selection

Cadre selection criteria were devised with attention to qualification criteria, including gender, education, previous experience in conducting surveys/social work and digital literacy. A key criterion required that the cadres be from surrounding GPs or from the same GP because it will decrease the likelihood of non-response due to pre-existing community connection and trust.

([Cadre selection criteria](#))

Cadre profiles: [Document](#)

Cadre selection

SPECTRA chose cadres according to the criteria provided. Care was taken to ensure that none of the cadres worked or were associated with SPECTRA to eliminate any program bias influencing data collection.

Cadre training

Training location: Alwar, Rajasthan [date: Mar 21, 2025]

Training facilitated by: HO team, Veddis Foundation

Training manual: ([PPT](#))

Cadre remuneration: INR ~240/hour [~INR 80/survey]

Training process

- 1) Facilitate training through a manual
- 2) Pair cadres and administer the questionnaire to each other and identify:
 - a) Technical errors
 - b) Errors in language
 - c) Errors in validation criteria
 - d) Resolve any confusion about questions (e.g., includes monthly data, yearly data, average data, etc.)

- 3) Resolve all errors/confusions in real-time
- 4) Vett cadres real-time to ensure minimal barriers to efficient data collection (e.g., cadres who were lactating; dysfunctional digital equipment; cautious of cadres taking minimal time for survey completion due to random data filling, among others)
- 5) Verification of the survey sample respondent list in accordance with the study
 - a) The survey list was matched to the cadre list

Pilot & Data collection process [22nd March - 30th March]

- 1) A data vetting manual was prepared ([Manual](#))
- 2) Each cadre surveyed 3 respondents
- 3) Data was reviewed in the backend
- 4) Re-orientation of training was conducted
- 5) Data was reviewed after re-orientation
 - a) Error rate: <5%
- 6) Data collection ensued, and random data checks occurred to ensure high-quality data

Data vetting post-full collection [1st April - 3rd April]

- 1) In accordance with the data vetting manual, data points/rows were flagged
- 2) The field team validated the differences between genuine error points versus those occurring within the range of field realities
- 3) Error rate: ~5%

Final dataset standardisation and preparation

After errors were reviewed and changed, the final dataset was prepared and cleaned for analysis. The baseline dataset required basic cleaning and standardisation.

Chapter 2: Analysis plan

The following differences in outcomes will be investigated between baseline and endline periods + treatment and control groups

1. Changes in annual household income (gross)
2. Observation in diversification and intensification across livelihood activities
3. Convergence of schemes
4. Increased public fund leverage towards GP development
5. Measures of women's empowerment⁵
 - a. *Economic*: being involved in household-level decisions regarding asset purchases and other key decisions (“having a say in the household”)
 - b. *Socio-political*: participation in Gram Sabha meetings and standing for Panchayati Raj Institutions elections
 - i. Those who have school-going children, attendance and participation in School Management Committee Meetings [SMCs]

The following are the underlying assumptions of the observed changes in the outcomes

1. Increased and sustained access to credit leads to a sustainable source of disposable income that results in higher annual household income
2. Adopting better agricultural and animal management practices results in sustainable livelihoods, resulting in higher engagement in the number of livelihood activities per family and better income through livelihood sources
3. Facilitating convergences as a key objective of the ILDP program results in an increased number of relevant policies accessed by a household
4. Emphasising PRI-CBO convergence leads to higher leverage of public funds towards GP development by SHGs as they are empowered to liaise with the local government
5. Gender training helps decenter gender roles and instil confidence, enabling a women to find her voice within and outside her household, fostering women’s inclusion in daily decision-making, especially pertaining to financial decisions and local governance through increased confidence.

Empirical strategy

The most analytically rigorous manner to assess the causal impact of the intervention between endline and baseline periods and between groups is using Difference-in-Differences regression [DID]. For this study, income is the most straightforward outcome that can be measured through a DID model.

Thus, the regression equation is as follows:

$$Y_{it} = \beta_0 + \beta_1 Post_t + \beta_2 Treated_i + \beta_3 (Post_t * Treated_i) + \varepsilon_{it}$$

Where

Y_{it} = average income of respondents for household i at time t [average treatment effect]

⁵ As highlighted in Chapter 1, empowerment is a complex and largely qualitative topic, thus, this conceptualisation of empowerment can be deemed contentious. However, considering the aim of the program and the qualitative observations of the field team at the start of the program, the design of the questionnaire was aimed at understanding the extent to which a woman has a voice within her household and community as the first step towards conceptualizing “women as agents of change”. The role of qualitative data in deepening the insights captured at this stage is noted and is being subsequently planned as a follow-up to this study.

$Post_t$ = dummy variable =1 for post-treatment period [2025], 0 for baseline period (2019)

$Treated_i$ = dummy variable = 1 for treatment group, 0 for control group

$Post_t * Treated_i$ = interaction term; coefficient captures the DID estimate

ε_{it} = error term

β_3 will give the causal impact of the intervention. There are no controls in this equation because most of the standard set of control factors (landholding size, wealth quintiles, education levels, head of households among others) are either directly or indirectly serve as outcomes of the program, and thus including them in the regression equation will introduce bias for the causal estimate, underestimating or overestimating the outcome.

Revised DID equation with GP-level fixed effects

GP-level fixed effects were introduced as a robustness check. Controlling for time-invariant unobserved heterogeneity at the GP level.

Thus, the revised DID estimate to capture this is as follows:

$$\gamma_{it} = \beta_0 + \beta_1 Post_t + \beta_2 (Post_t * Treated_i) + \gamma_g + \varepsilon_{it}$$

The major difference in this equation is that the Treated term is removed to account for perfect collinearity with GP-level fixed effects.

γ_g = GP-level fixed effects, with one GP dropped to compare it relative to that GP

Note on validity of the DID results vis-a-vis sampling strategy and sample size

The sampling technique combines purposive selection of villages, favoring those with larger household populations. However, random sampling of households within those villages balances operational feasibility with representativeness, focusing on major population groups within each GP. Although village selection was not purely random, baseline characteristics – such as landholding patterns, caste demographics and access to key government programs – were comparable across treatment and control groups. This gives credible support to the parallel trends assumption which is critical for the validity of DID models.

Moreover, GP-level fixed effects were included in the analysis to control for unobserved, time-invariant heterogeneity. While one GP experienced 19% attrition at endline, this loss was confined to the original baseline sample and was not systematically related to the treatment exposure – it suggests limited bias in DID estimates. Overall, these design features and analytical controls support credibility and statistical significance of the DID findings. However, the author cautiously acknowledges that the sampling approach limits generalizability strictly primarily to larger village populations within study areas. Considering that the overall target population is 5000 HHs, the generalizability is likely to be conservative. Additional robustness checks can be conducted as a follow-up to further bolster findings.

Chapter 3: Key results

Descriptive statistics

Indicator	Year	Treatment	Control
Median Income	2025	INR 3,25,500	INR 1,87,500
	2019	INR 70,650	INR 75,000
Standard Deviation	2025	INR 1,71,013	INR 1,57,811
	2019	INR 63,518	INR 65,399
Average HH size	2025	4.1	3.8
	2019	4.4	4.2
N	2025	534	216
	2019	500	250

Education level of HHs

Education level	Treatment (2019)	Control (2019)	Treatment (2025)	Control (2019)
Not studied	55%	32%	52%	34%
1st-8th	33%	46%	39%	44%
9th-10th	3%	10%	5%	11%
11th-12th	1%	3%	2%	4%
Graduate	1%	2%	1%	6%
post-graduate	0%	2%	0%	0%

Note: There is no statistically significant effect of differential education levels on the income of HH. This could be most likely due to the low number of observations in categories from 11th to 12th onwards

Average landholding (of those engaged in agriculture)

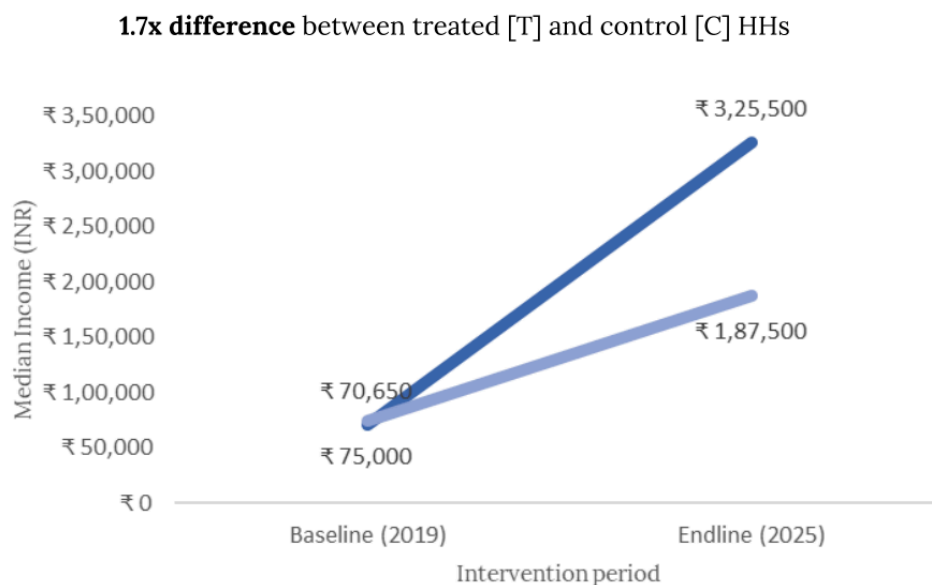
Avg landholding	1-2 Bigha	2-4 Bigha	4-5 Bigha	>5 Bigha
Control	22%	33%	0%	
Treatment	32%	35%	3%	0%

Beneficiaries across both groups engaged in agriculture have a similar distribution of landholding.

Income

Pre-visualisation of the DID trend

The average incomes between the baseline and endline periods and between the treatment and control groups can be visualised in the graph below.



There is a clear difference of ~ INR 1,38,000 between the treatment and control groups between baseline and endline periods, despite both groups starting at similar baseline median incomes of ~ INR 70,650 to INR 75,000

Ideally, when deploying Difference-in-Differences regression, one needs to visualise pre-intervention parallel trends for DID results to hold validity. However, baseline characteristics – such as landholding patterns, caste demographics and access to key government programs – were comparable across treatment and control groups. In particular,

1. Similar demographic population proportion of caste groups - 70% of the population from both groups are from SC communities, and about 27% of the population are from OBC communities
2. Land distribution (in bighas) was proportional across both groups
3. Key coverage of government schemes was similar across both groups
 - a. PDS ~96% availability of ration card and at least 80% access to subsidised ration
 - b. ~92% APL cardholders with the rest holding BPL or Antyodaya cards

Thus, this gives credible support to the parallel trends assumption which is critical for the validity of DID models.

Regression Results

Equation 1

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.6428269							
R Square	0.4132264							
Adjusted R Square	0.4120474							
Standard Error	128700.74							
Observations	1497							
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	104604.65	8139.749316	12.8510899	0.00	88638.0907	120571.209	88638.0907	120571.2093
Treated	-10073.86	9969.116229	-1.0105073	0.31	-29628.82662	9481.09662	-29628.827	9481.096616
Post	123734.19	11955.75791	10.3493391	0.00	100282.3257	147186.06	100282.326	147186.0595
DiD estimate	114822.74	14396.5848	7.97569295	0.00	86583.05882	143062.421	86583.0588	143062.421

Interpretation of results:

On average, the income of treatment beneficiaries is INR 1,14,822 lakhs higher relative to the control group and relative to its pre-intervention levels, all else equal. Given that the p-value is 0.00, this means that the coefficient is **highly statistically significant**.

In other words, the income increase observed in treatment groups is non-random - it can be causally established that the intervention of SPECTRA leads to this increase in the income observed. The generalisability of these results is proportional to the sampling strategy deployed, which while being statistically rigorous, is not purely representative (due to purposive elements). Thus, the author **cautiously** acknowledges that the sampling approach limits generalizability primarily to larger village populations within the study areas. However, considering that the overall target population is approximately 5,000 households, this generalizability is likely conservative.

Equation 2

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.645822685							
R Square	0.417086941							
Adjusted R Square	0.413953							
Standard Error	128491.9982							
Observations	1497							
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	102957.0	10877.2	9.5	0.00	81620.6	124293.3	81620.6	124293.3
Post	123907.1	11960.5	10.4	0.00	100446.0	147368.2	100446.0	147368.2
Post*treated	115342.1	14396.0	8.0	0.00	87103.6	143580.6	87103.6	143580.6
GP_Hazipur	-9435.7	14775.2	-0.6	0.52	-38418.2	19546.7	-38418.2	19546.7
GP_Sainthli	12215.6	14414.7	0.8	0.40	-16059.6	40490.8	-16059.6	40490.8
GP_Jhirindiya	-10542.7	14589.4	-0.7	0.47	-39160.7	18075.3	-39160.7	18075.3
GP_Kasba Dehr	-26212.4	14898.0	-1.8	0.08	-55435.7	3010.8	-55435.7	3010.8
GP_Mirka	2746.1	12050.0	0.2	0.82	-20890.7	26383.0	-20890.7	26383.0
GP_JILOTA	-12805.2	14747.5	-0.9	0.39	-41733.3	16123.0	-41733.3	16123.0

Interpretation of results

On average, the income of treatment beneficiaries is INR 1,15,342 lakhs more relative to a control group and relative to its pre-intervention levels, all else equal. Even after controlling for GP-level fixed effects, the regression estimate is robust. ***This suggests that the baseline differences across GPs did not determine the endline results.***

All outcome variables that are not a direct or indirect result of the intervention have been considered for the regression equation.⁶ Additional robustness checks with clustered standard errors and any feedback is welcome and will be incorporated into the final versions.

Intensification of livelihood activities

	Agriculture	Livestock (w/o goatery)	Goatery	Labour (unskilled)	Labour (skilled)	Private Job	Public Job
Treatment (2025)	70.6%	65.9%	85.6%	93.1%	18.7%	5.4%	0.2%
Treatment (2019)	51.0%	18.0%	0.8%	48.8%		2.6%	0.2%
Control (2025)	55.6%	27.3%	1.4%	82.4%	35.6%	12.5%	0.9%
Control (2019)	68.4%	26.0%	0.4%	50.0%		5.2%	0.4%

- 1) Consistent with the emphasis placed on goat rearing by SPECTRA, it can be observed that 86% of the respondents in the treatment group are now engaged in it compared to <1% of respondents at baseline.
- 2) Proportionally increased engagement in non-goat livestock rearing can plausibly be explained by emphasis on immunisation and insurance drives by SPECTRA, along with livelihood training.
- 3) As for agriculture, it is interesting to note that beneficiaries engaged in it are roughly comparable across both groups, across time. This hints at an organic growth with no distinguishable impact of SPECTRA's interventions.⁷
- 4) Finally, the last four columns describing ***occupation need to be interpreted with caution***. This was captured to understand contributions to household income via different income sources
 - a) In the baseline data, the distinction between unskilled and skilled labour did not exist and hence was not collected differently. Thus, the number reflects those families engaged in both kinds of labour activities (at baseline). Furthermore, it is not clear from the baseline questionnaire how each classification has been defined.
 - b) For the endline period, however, it can be observed that a large number of respondents are engaged in unskilled labour over skilled and private/public sectors. ~17 percentage points more beneficiaries are engaged in skilled labour, compared to the treatment group. While there is extremely minimal penetration of government jobs, at least 5% of beneficiaries are engaged in private jobs, with a slightly higher proportion of control respondents.
- 5) Starting/sustaining microenterprises (not displayed in the table) was actively facilitated upon two conditions: 1) SHG formation, 2) after SHG reached a certain point of maturity with respect to SHG governance and sustained access to credit. Analysis of the data attests these efforts – 12.4% of respondents are engaged in microenterprises in the treatment group, with <1% of respondents in the control group starting/sustaining a microenterprise.

⁶ Any suggestions additional robustness checks are welcome by the author.

⁷ This is an observation; there is no causal or correlational impact being attributed here

Diversification of livelihood activities

	Agriculture	Livestock (w/o goatery)	Goatery	Labour (unskilled)	Labour (skilled)	Private Job	Public Job	Microenterprises
Treatment (2025)	₹ 86,750	₹ 2,04,000	₹ 58,800	₹ 90,000	₹ 1,32,500	₹ 1,44,000	₹ 1,20,000	₹ 72,000
Treatment (2019)	₹ 57,900	₹ 1,20,906	₹ 14,874	₹ 61,800				
Control (2025)	₹ 86,500	₹ 1,70,400	₹ 36,000	₹ 70,000	₹ 1,10,000	₹ 1,44,000	₹ 2,82,000	₹ 88,000
Control (2019)	₹ 59,000	₹ 1,31,400	₹ 13,688	₹ 58,200				

Median income is reported across all modules

- 1) Across all modules, there is a clear difference between the respective groups between the baseline and endline periods.
- 2) There is almost a 1.6x increase in median income for livestock for the treatment group, relative to a 1.3x increase for the control group
- 3) Interestingly, the agricultural median income remains the same across both groups.
- 4) Goatery records a 3.9x increase in median income for the treatment group compared to a 2.6x increase for the control group. Given that only 1.4% of beneficiaries are engaged in goat rearing in the control group, the difference in incomes from goat rearing is to be interpreted cautiously.
- 5) As with intensification, **caution must be exercised in interpreting** income from labour. Since this data was not collected at baseline, the total income earned from labour is grouped under “labour unskilled”.
- 6) Information on private and public jobs was not collected at baseline to yield meaningful insights. Additionally, since a disproportionately small number of beneficiaries have been engaged in private/public sector jobs, this data is for illustrative purposes only.

Borrowing behaviour

Respondents from treatment GPs had higher sustained access to credit, since this is reflected in % of respondents who have borrowed loans in the last two years; atleast 84% of treatment group respondents have borrowed in the last two years, compared to 28% in the control group.

Source of borrowing

	Bank	SHGs	Informal lenders	Friends/relatives
Hazipur	14%	65%	0%	1%
Jhirindiya	7%	61%	0%	2%
JILOTA	56%	97%	2%	0%
Kasba Dehra	4%	93%	1%	0%
Sainthli	98%	99%	17%	18%
Mirka	8%	15%	1%	1%
Noornagar	22%	10%	1%	4%

The following can be inferred from the table above:

- 1) Sainthli is an exception for both formal and informal borrowing
- 2) Borrowing from **SHGs is disproportionately higher for treatment GPs than control GPs**, confirming that sustained access to credit is indeed being facilitated by SHG membership
- 3) Borrowing from banks is disproportionate, with some treatment GPs having higher borrowing from banks than not - the overall average borrowing is 5 percentage points higher for treatment GPs (after removing Sainthli).

- 4) There is *very little informal borrowing in both groups*, but slightly higher borrowing from friends/relatives exists in Noornagar

Loan amount borrowed

Loan amount	Year	Treatment	Control
Median	2025	INR 60,000	INR 15,000
Average	2025	INR 79,777	INR 74,742

There was expected respondent hesitation in answering the loan amount against a specific loan source. Thus, it is not possible to tease out formal borrowing as a percentage of total borrowing (respondents who have taken informal loans have also taken loans from banks and/or SHGs, etc), which would have been interesting to calculate.

Purpose of borrowing

Categorisation of the purpose of borrowing is as follows:

- 1) Education/health of family members
- 2) Household-related purchases (including livestock/agri)
- 3) Starting/sustaining microenterprises
- 4) Repaying other loans
- 5) Others

Banks

Respondents (treatment group) have borrowed from banks for household-related purchases, including for livestock or agriculture, followed by education or health-related expenses. Minimal percentage of respondents cited “others” as a reason for borrowing.

The control group has borrowed either minimally for household-related purchases, including for livestock or agriculture, or it is concentrated in “others.” Since the field team did not work in these GPs, it is not possible to nuance it further.

Bank	Education/health	Household related purchases	Microenterprises	Repay other loan	Others
Hazipur	0.0%	1.9%	0.0%	0.0%	12.1%
Jhirindiya	0.0%	2.8%	0.9%	0.0%	3.7%
JILOTA	2.0%	48.0%	0.0%	0.0%	6.0%
Kasba Dehra	2.8%	0.0%	0.0%	0.0%	0.9%
Sainthli	34.5%	52.2%	11.5%	0.0%	0.0%
Mirka	0.0%	2.6%	0.0%	0.9%	4.3%
Noornagar	0.0%	2.0%	0.0%	1.0%	19.0%

SHGs

SHG borrowing is centred around household-related purchases, with loans for agricultural and livestock livelihoods largely driving these numbers, compared to the control group, where a minimal percentage of respondents have borrowed for the same. A small but important proportion of treatment respondents have borrowed for starting/sustaining microenterprises relative to the control group, which has not borrowed

loans for microenterprises at all. Education and healthcare-related expenses closely follow those of household-related purchases. A significant portion of respondents have cited “others” as a reason for borrowing. Investigating SHG record books reveals reasons such as marriage/religious purposes and building out-of-house infrastructure to support livestock.

Overall, this suggests and validates that SHG loans are versatile and credibly provide sustained access to credit to finance smaller-term, higher-risk expenses that might otherwise be difficult. While overall, starting/sustaining microenterprises as a percentage of total livelihood activities that respondents are engaged in is low, it is still revealing to note that respondents actively prefer SHGs to finance the same, validating the low-risk trust-based community premise of SHGs.

SHG	Education/health	Household related purchases	Microenterprises	Repay other loan	Others
Hazipur	3.7%	32.7%	4.7%	0.0%	24.3%
Jhirindiya	16.7%	25.9%	5.6%	1.9%	11.1%
JILOTA	3.0%	80.0%	7.0%	1.0%	6.0%
Kasba Dehra	69.8%	12.3%	2.8%	0.9%	7.5%
Sainthli	31.9%	61.9%	3.5%	0.9%	0.9%
Mirka	1.7%	0.9%	0.0%	0.9%	11.2%
Noornagar	0.0%	2.0%	0.0%	0.0%	8.0%

Convergence with schemes

In the baseline survey, convergence with 25 schemes was collected. However, SPECTRA later facilitated the convergence of 11 schemes over the years as per its MIS tracker. This section was not asked in the endline questionnaire since convergence is based on family structure and eligibility, with each household having unique eligibility.

Hence, for the purpose of the report, it suffices to note that the field team corroborated the active involvement of the agency in enabling convergence with schemes. For example, the Mukhaymantri Chiranjivi Swasthy Bima Scheme is a scheme that can be accessed by all households. SPECTRA records 100% of convergence with all 3,971 HHs it records in its MIS.

Surveys with the field team will add value to understand how demand-led convergence was facilitated by SPECTRA over the years.⁸

Women’s empowerment

A core tenet of the program was imparting gender training to empower women. Specific modules involved teaching gender equality, expanding conceptualisation of the role of women in her household and in the community, instilling financial literacy and independence, and leveraging a woman’s voice to influence decision making at the household and community level.

Thus, the survey captured quantitative data to first understand two aspects:

- Socio-economic empowerment - does the woman take part in major household decisions that pertain to financial asset control and ownership?
- Political empowerment - to what extent do women participate in their local government

⁸ Details of other schemes can be found in their [MIS](#).

Empowerment is a complex and largely qualitative topic, thus, this method of collecting data on empowerment can be deemed contentious. However, considering the aim of the program and the qualitative observations of the field team at the start of the program, the design of the questionnaire was aimed at understanding the extent to which a woman has a voice within her household and community as the first step towards conceptualizing “women as agents of change”. The role of qualitative data in deepening the insights captured at this stage is noted and is being subsequently planned as a follow-up to this study.

Socio-economic empowerment

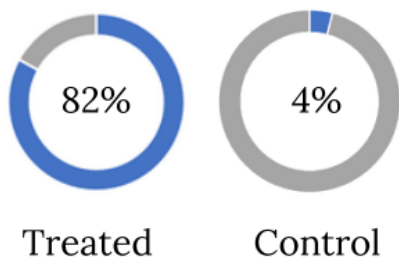
Decision-making	Treatment	Control
Loan borrowing	88%	6%
Major household expenses	60%	3%
Minor household expenses	86%	97%
Agriculture asset purchase	50%	4%
Livestock asset purchase	67%	1%
Using earnings from livelihood activities	42%	7%

At least 50% of women (in the treatment group) are involved in all major household decisions relating to asset purchases, financial planning, and income-related decisions, barring the use of earnings from livelihood activities. Most notably, 88% of respondents are actively involved in loan borrowing decisions. In stark contrast, a minimal % of control group respondents are involved in these HH decisions. Both groups are involved in majorly in minor household decision-making.

Another question pertaining to socio-economic empowerment was, “Are women in the family allowed to work outside the home?” 91% of respondents from the treatment answered affirmatively, relative to the 4% of women from the control group.

While correlational at best, it is interesting to note the relationship between income and women’s empowerment - both are higher relative to a control group and positively correlated. The follow-up study will aim to causally investigate the relationship between this.

Political empowerment



Has the woman attended any Gram Sabha meetings in the last one year?

82% of the women in the treatment group have relative to 4% in the control group

Has the woman stood for any PRI elections?

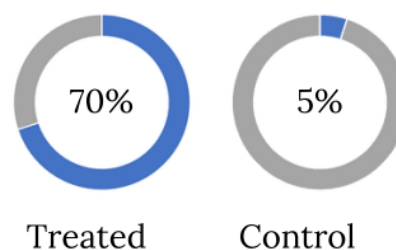
5.4% of respondents have contested elections relative to 0.5% of respondents in the control group

Overall, there is a strong and positive relationship between women’s empowerment and the intervention.

For families with children, is the woman part of the school management committees?

70% of respondents in the treatment group are compared to 5% of women in the control group

As for their attendance in SMC meetings, 58% responded affirmatively in the treatment group relative to 4% in the control group



Public funds leveraged as a part of the intervention: INR 23.3 crores over the intervention period.

Return on investment - INR 37 for every INR 1⁹

Inflation-adjusted: INR 26

⁹ Program cost: ~INR 3.2 cr over 5 years

Program benefit: INR 238563 * 5000. For the purposes of the report, it is assumed that the net benefit extends to all beneficiaries, given that the current sampling validity constraints are conservative and do not allow for precise extrapolation based on the sample estimate.

Conclusion

The Integrated Livelihood Development Program (ILDP) demonstrates a compelling model for rural poverty reduction rooted in women-led communitisation, sustained credit access, and livelihood diversification. Over the program period, households in treatment areas experienced a statistically significant income increase of INR 1.15 lakhs, driven largely by a shift from single to multiple livelihood sources and higher engagement in goat and livestock rearing.

Beyond income gains, the program catalysed structural shifts in household and community dynamics. Women in the treatment group were 15 times more likely to participate in financial decision-making and dramatically more active in local governance processes—attending Gram Sabha meetings, participating in School Management Committees, and contesting Panchayati Raj elections. Credit access was not only sustained but repurposed for productive investments such as agriculture, healthcare, education, and microenterprise development.

Importantly, these results are achieved through low-cost, community-rooted mechanisms—most notably, the use of Self-Help Groups (SHGs) as platforms for access, agency, and accountability. The comparison with control groups, already part of government SHGs, highlights the added value of community-led and capacitated models.

While generalizability is cautiously limited to larger villages within the study area, the rigorous design, high response continuity (~95% overlap), and use of difference-in-differences methodology lend confidence to the findings.

This study underscores the transformative potential of integrated, gender-sensitive rural interventions. It provides a strong foundation for:

- Scaling the ILDP model in similar geographies.
- Investigating the causal relationship between income and empowerment.
- Comparing community-led vs. government SHG models.
- Strengthening qualitative insights into empowerment pathways and social norm shifts.

A forthcoming qualitative companion study will deepen these insights and help chart pathways for inclusive, scalable, and resilient rural development.

Any feedback, suggestions or comments are welcome at info@veddis.org