

Multi-state evaluation of National Rural Livelihoods Project

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Acknowledgements

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National Rural Livelihoods Mission- Project

NRLP: An incredibly innovative and carefully thought out programme



Addresses the failures of earlier livelihood programs
(SGSY, Radhakrishna Report)



“Institutions of the poor are nothing but poor institutions”
NRLP correction: Federation of institutions



Capacity constraints that arise as programs scale.

Addressed by programme scale

- “External drivers”: allows expanded horizontal coverage over villages and regions
- “Internal drivers”: ensures capacity of all levels of the federation within a village



Convergence with other institutions/programmes

- Market enhancing institutions: banks
- Social welfare enhancing institutions: Gram Panchayats, other government departments

Strong link to economic theory

“

Small, homogenous community institutions can overcome problems of default and commitment using social sanctions
(Stiglitz 1990; Besley and Levenson 1996)

“

Even then, commitment – and hence sustainability – remains an issue. SHGs require capacity building, monitoring.
(GOI 2009; Planning Commission 2005)

“

Without strong SHGs, the wealthy will always have better access to credit.
(Kocherlakota 1996; Coate and Ravallion 1993; Thomas and Worall 1998)

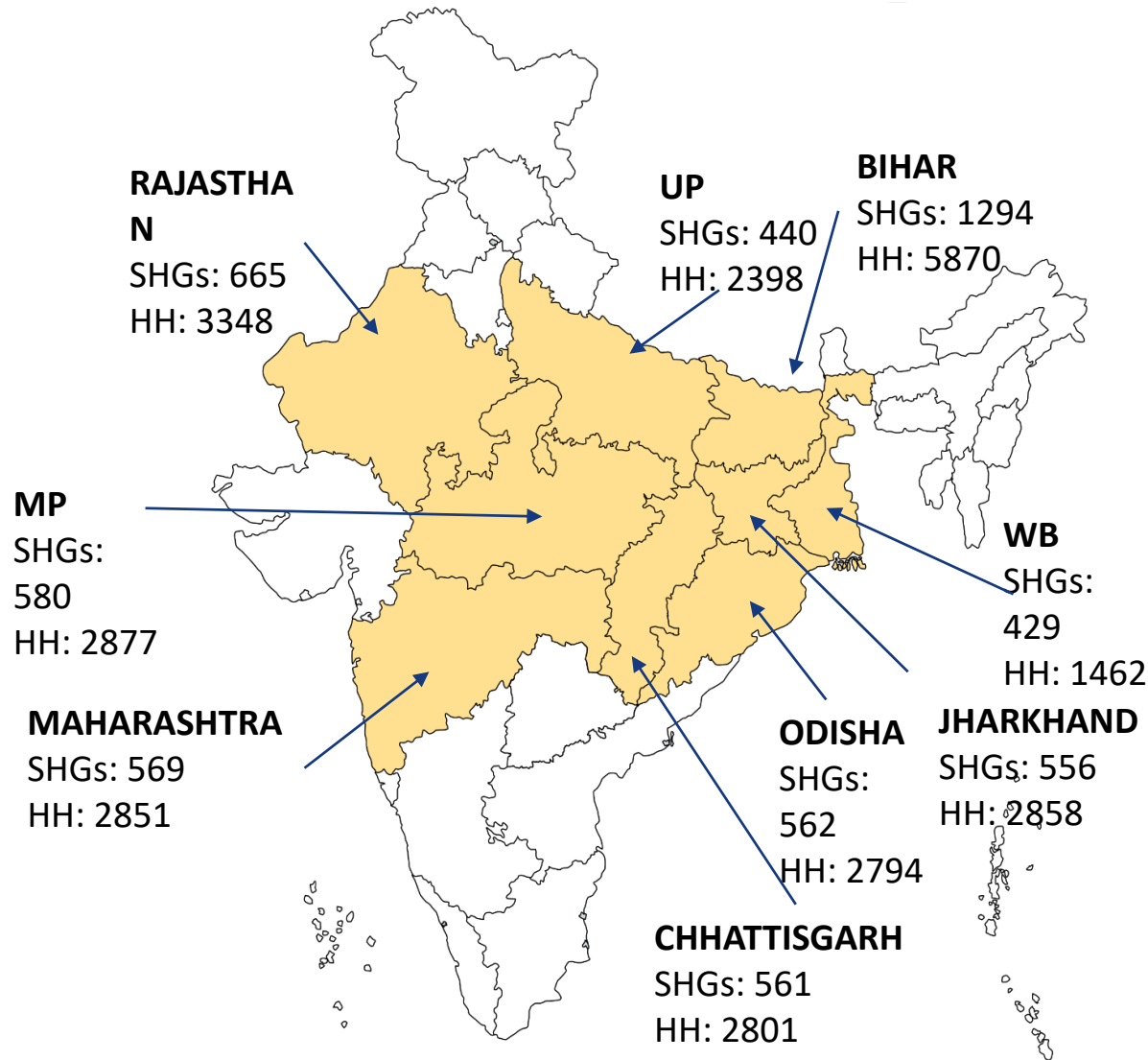
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Improving incomes requires scale and links to markets
(Greif 2005; Granovetter 1973; Gagnon and Goyal, 2017)

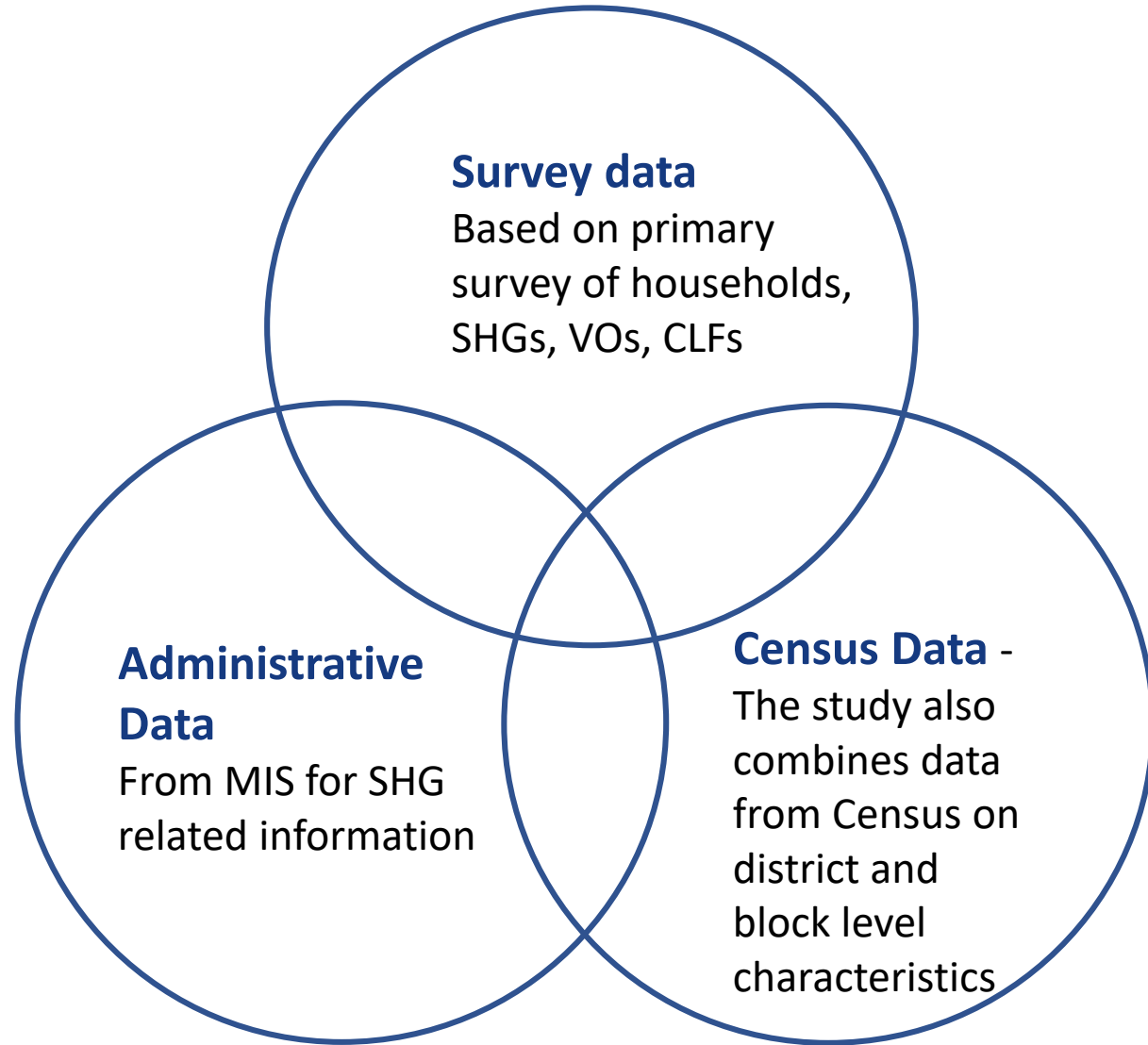
- Dynamic effects: Value of SHGs to households may fall over time
- Declining demand for credit/insurance, particularly as social programs improve
- Suggests that adherence to SHG norms may decline as the SHG ages

Our study covered nine states and used three data sets

Study sample: SHGs (5,257) and households (27,257)



Created with mapchart.net ©



The study combines administrative data with survey data

Unique nature of NRLP is ill-suited to traditional impact evaluations that:

1

Identify treatment and control samples prior to program start

Makes it impossible to link households to SHGs

2

Identify program effects at a given point in time (time of endline survey)

Limits variation in SHG age, and hence the ability to assess whether returns to SHG membership vary over time

3

Bundles effects of all program interventions

Inhibits learning from the evaluation: Are any identified differences between NRLP and SGSY a consequence of federation?

4

Bundle “program effect” with impact of scale

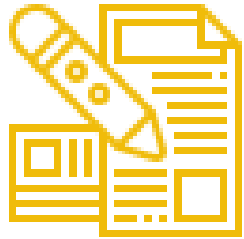
- Lack of attention to scale: conventional analyses utilize the same approach for identifying pilot programs and programs at scale.
- But, in programs that operate at scale, the control sample will always be affected by the program

Programs that operate at scale require a different type of evaluation study



Our study: No baseline survey

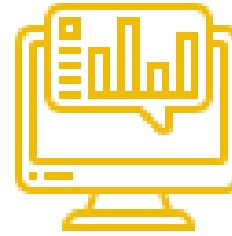
- Can therefore link households to SHGs
- Purposive selection of Villages – enables identification from just one survey



Intensive data collection to identify pathways (SHG, women's, village, VO modules)

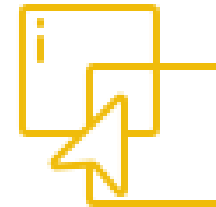


Selection of households: enables additional insights into SHGs, heterogeneity effects

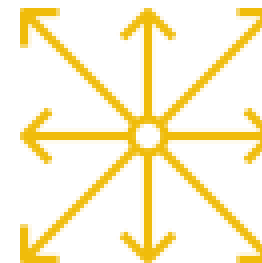


Intensive use of MIS (census of SHGs in survey districts) / Census data

- Identification of sample
- Controlling for scale
- Disentangling pathways



Combines a number of evaluation approaches

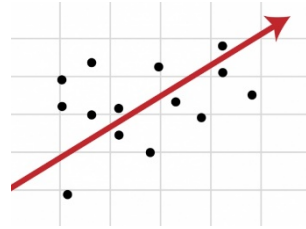


Large scale of study

(9 states; 27,000 households) provides a large amount of variation that we exploit to allow for scale effects, identification of effects of SHG and VO age.

Descriptive (summary statistics) and regression evidence of effect of programme on a set of SHG and household outcomes

Regression evidence



“Overall results”

Reduced form estimates of overall effect of program



Focus on one pathway

VOs / federation



Three sets of results:

1. **Overall SHG effect**
(difference-in-difference estimates)
2. **Overall SHG effect + VO effect**
(difference-in-difference)
3. **Effects of SHG age, square of SHG age and VO age**
(instrumental variables)

Basic building block for regression analysis

Difference-in-difference that exploits variation in SHG formation dates across and within blocks

1st difference

Across blocks, between early and late blocks identified by NRLP

- Used in earlier evaluations that compare matched villages in early and late blocks
- This assumes that “matched” villages in early and late blocks are similar

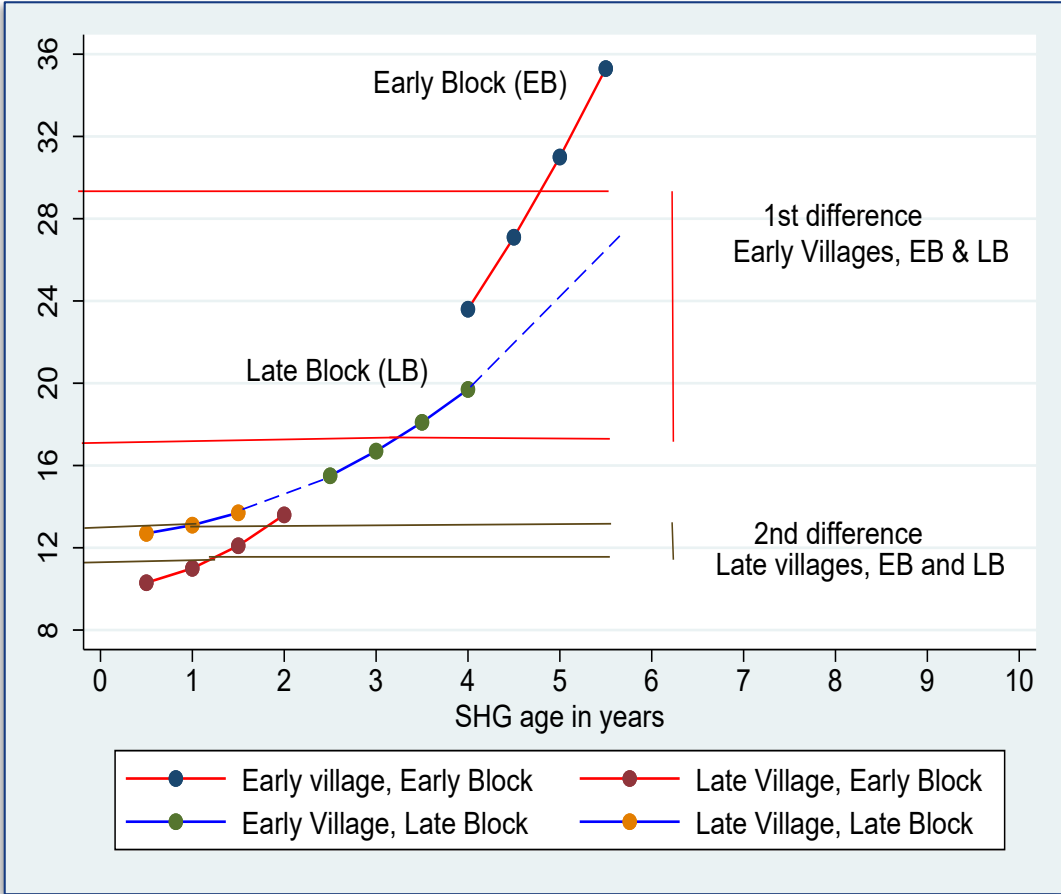
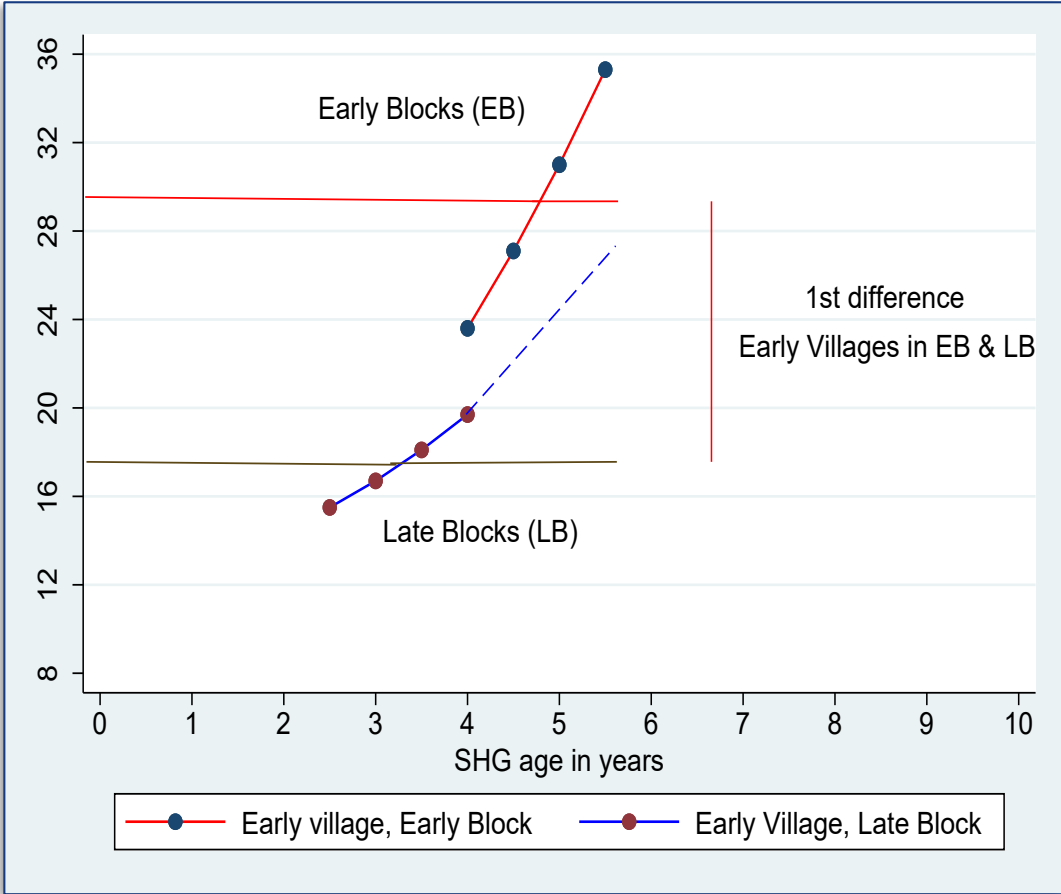
2nd difference

Within a block, between early and late villages

- Early Village = villages entered at start of SHG formation rounds
- Late Village = villages entered at the end of SHG round

Program effect: Effect of increased exposure to the Program (SHG age)
(First difference) – (Second difference)

Difference-in-difference: identifies effect of 2 ½ years of programme

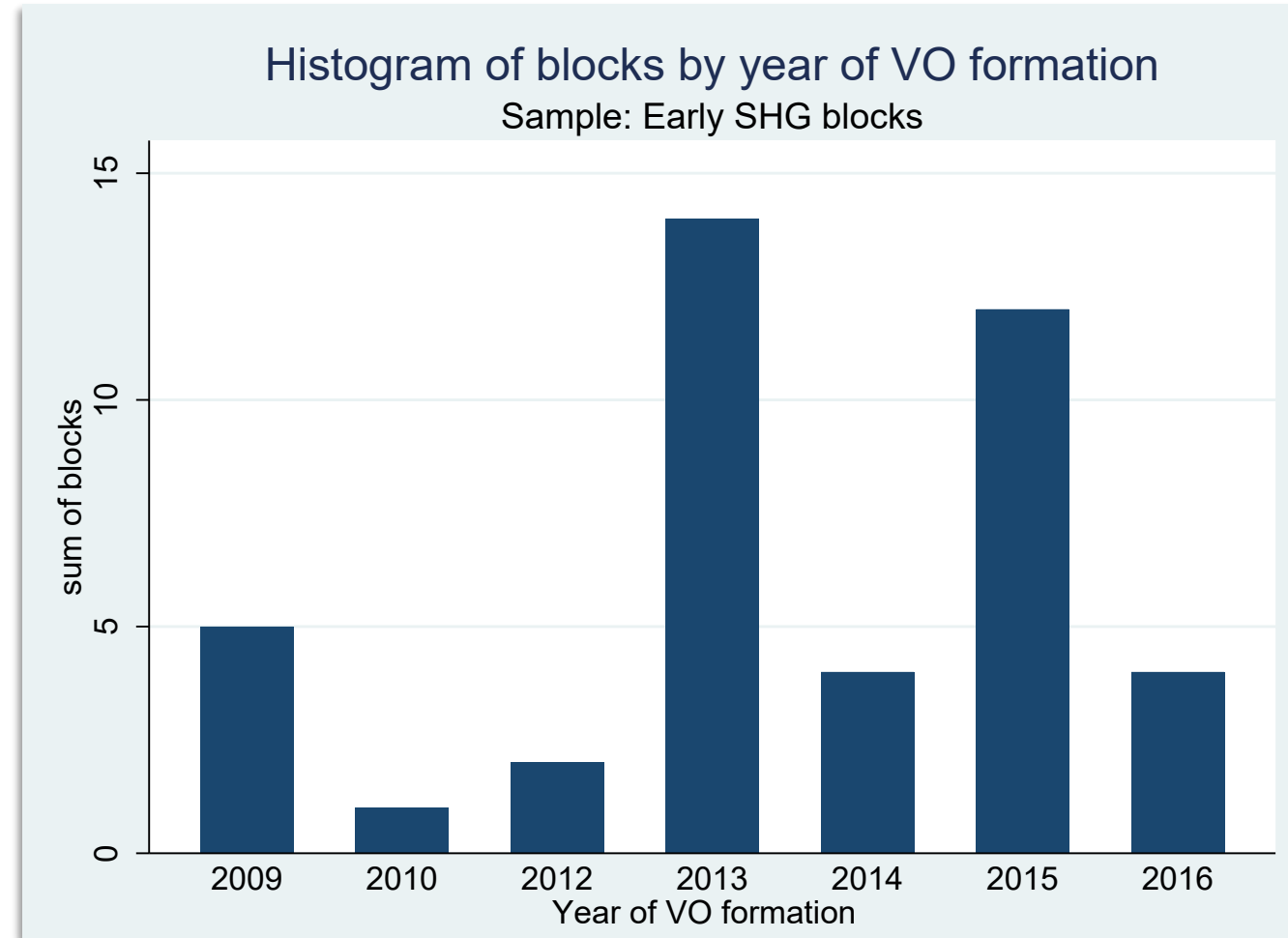


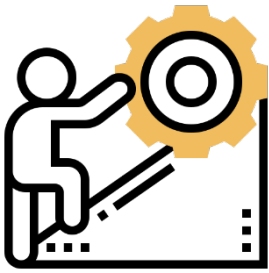
Regression format: $y = a * (EV * EB) + b * EV + c * EB$

a = program effect

Same broad approach also identifies the second level of federation (Village organisation-VO)

- VO formation followed model of SHG formation
- We identify “early VO blocks” using MIS data for all SHGs
- Use similar interactions of EV with early / late VO blocks
- Identification from variation in VO block entry year, within early (SHG) blocks





Challenge

Simple EV-early VO block interactions may be capturing declining or increasing returns as a SHG ages (“dynamic” effects)

Third set of results

Effects of SHG age, square of SHG age and VO age (enabled by ability to link households to SHGs)

Including square of SHG age allows for declining / increasing returns

Instrumental variable regressions

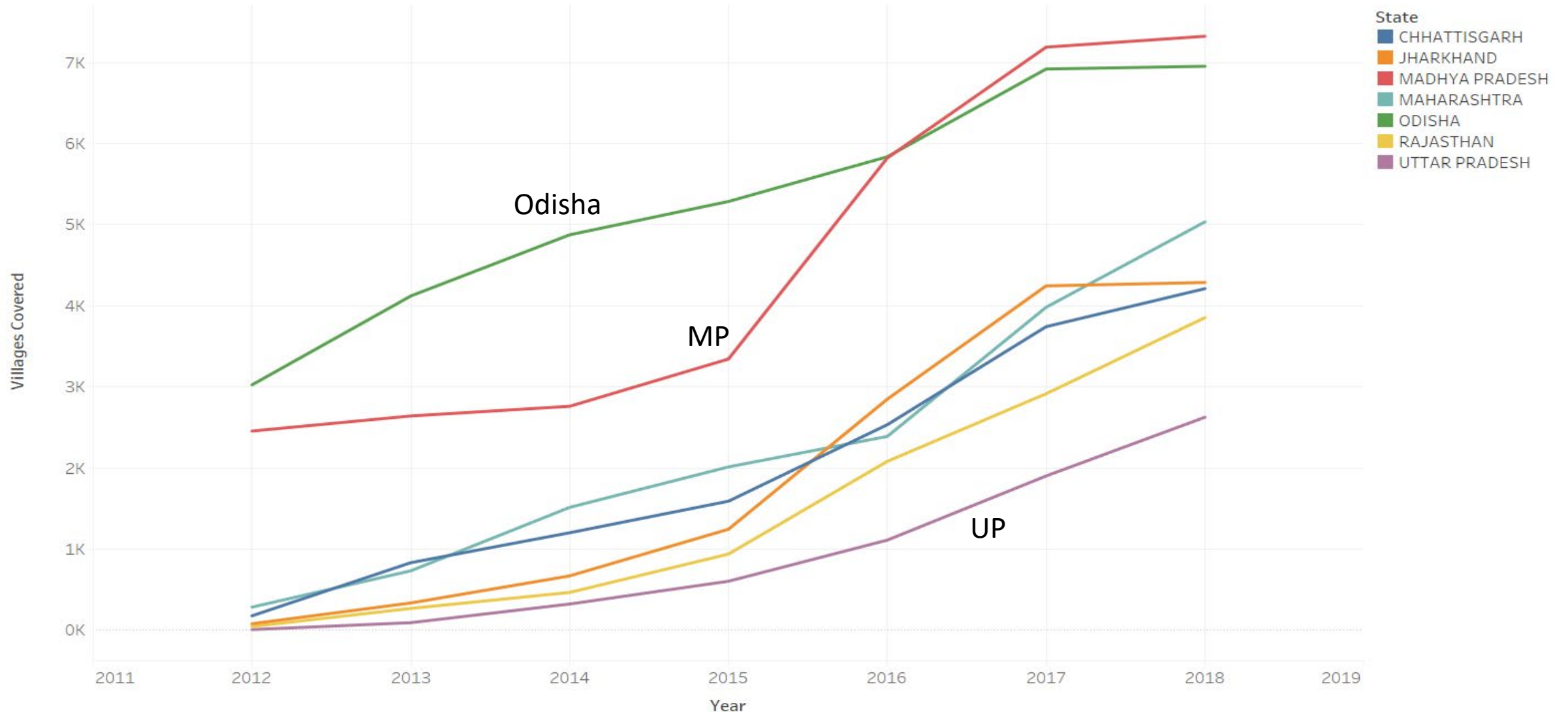
Predict effect of SHG and VO age using EV*EB and EV*VO block interactions

Interpretation: Coefficients on VO estimate the value of the federation

Coefficients on SHG age and square of age identify the impact of programs that lack federations

Conventional program estimates bundle effects of age with those of scale

Growth in number of villages covered in survey districts, by state

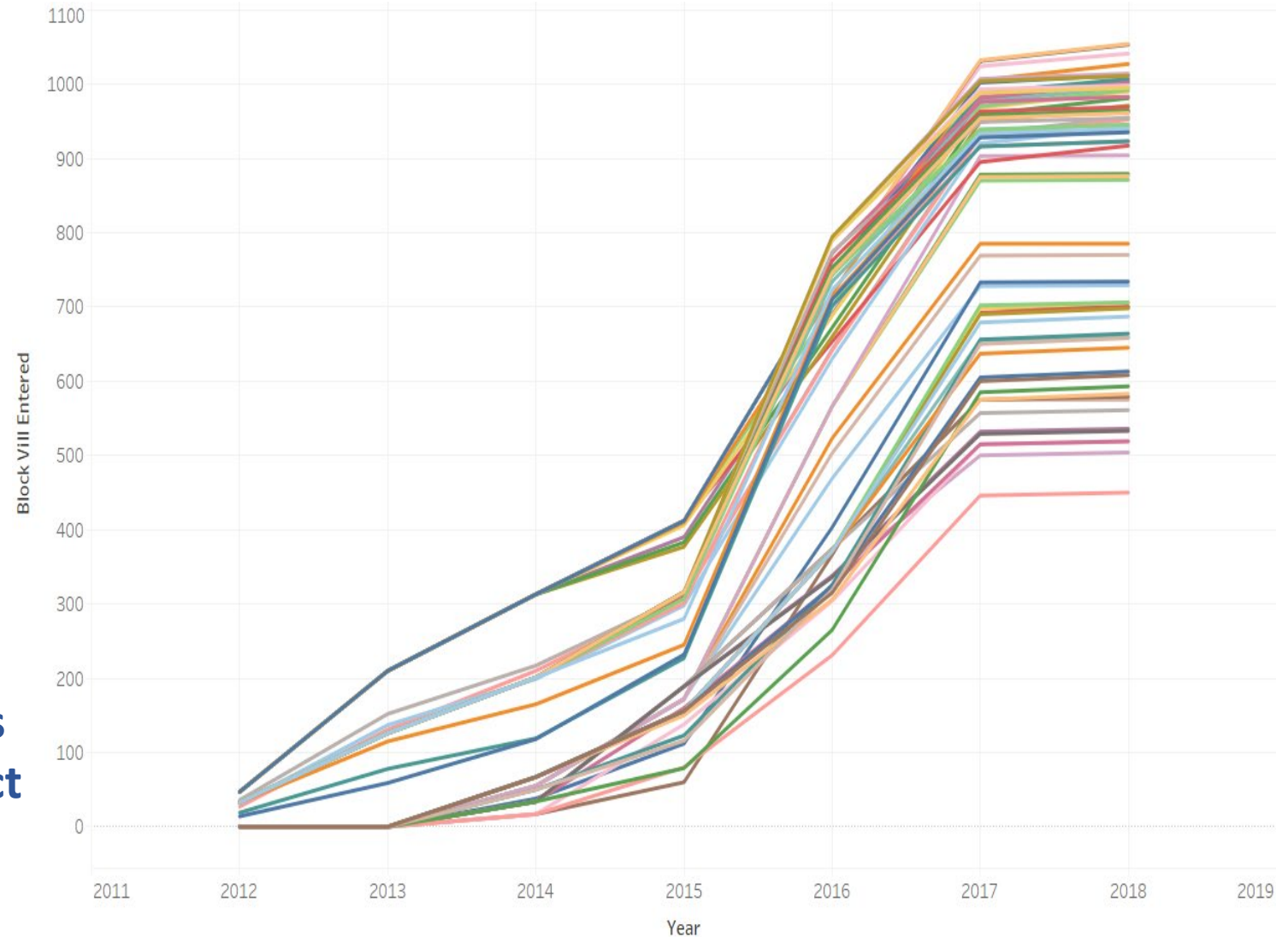


Controlling for program scale at time of SHG formation

All our estimates include measures of program scale at the time of SHG formation and hence isolate the effect of SHG age

- Number of villages entered in block and district at the time of SHG formation (from MIS data)

Identified by variation in scale across and within blocks of any given district



Jharkhand: Block-level variation in number of villages covered, by year

Overview of Results

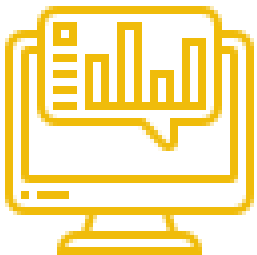


Strong effects of VO federations on loans / financial inclusion

This has translated into an improvement in household welfare, in the form of improved quality of homes and improvements in food diversity



Improvements in incomes from sources other than wage income are yet to materialize



Analysis of SHG data confirms these household results, suggesting that SHGs still need to transition from institutions that promote lending and saving to those that enhance incomes



Impact on household and individual outcomes

Summary Statistics: Household Characteristics

	N	Mean	Standard Deviation
Female Headed HH	25,795	0.17	0.38
Religion-Hindu	25,795	0.92	0.27
Religion-Muslim	25,795	0.03	0.17
Religion-Other	25,795	0.05	0.21
Caste-General	25,795	0.06	0.24
Caste-OBC	25,795	0.29	0.45
Caste-SC/ST	25,795	0.65	0.48
Ration Card	25,795	0.89	0.31
MNREGS Card	25,795	0.40	0.49
HH Size	25,795	5.22	2.14
Prop. Women in HH	25,795	0.51	0.17
HH Head Literate	25,795	0.53	0.50

Note - All variables (except for HH Size and Proportion of Women) takes a value 1 if Yes and 0 otherwise

Summary Statistics: Household Characteristics

	MEANS				
	All Blocks	Early village in early block (6 years)	Late village in early block (3 years)	Early village in late block (3 years)	Late village in late block (2 years)
Proportion of households with any savings	0.67	0.65	0.67	0.67	0.63
Amount of savings in formal sources by males (in Rs '000)	3.22	3.20	3.18	3.51	3.02
Amount of savings in formal sources by females (in Rs '000)	1.77	1.80	1.73	1.85	1.85
Amount of savings in SHGs (Females)	1.85	2.39	1.36	1.46	1.22
Proportion of households with any loan in the past 5 years	0.74	0.75	0.71	0.72	0.74
Total loan amount from formal sources (in Rs '000)	8.32	6.75	6.38	10.48	8.600
Total loan amount from SHG (in Rs '000)	6.74	7.03	3.95	4.06	4.15
Total amount of formal loans by males (in Rs '000)	7.08	6.00	6.68	8.22	6.33
Total amount of formal loans by females (in Rs '000)	8.44	10.43	6.41	8.55	8.28
Number of income sources per household	2.47	2.58	2.58	2.38	2.48
Total household income (in Rs '000)	90.33	87.33	83.93	91.89	95.11
Woman's hours in productive activities (Annual)	918.3	879.80	946.11	832.69	929.18

Regression results: Household savings

	Institutional (Bank) savings (in Rs '000)			Institutional (Bank) savings – Female (in Rs '000)			SHG Savings (in Rs '000)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Early Village * Early SHG Block	0.31 (0.29)	-0.45 (0.62)	-	0.10 (0.15)	-0.10 (0.26)	-	0.52*** (0.07)	0.48*** (0.10)	-
Early Village * VO Block	-	-0.96 (0.67)	-	-	-0.18 (0.24)	-	-	-0.06 (0.13)	-
SHG age (in months)	-	-	-0.17 (0.12)	-	-	-0.05 (0.04)	-	-	-0.0466** (0.0230)
(SHG age)2	-	-	0.001 (0.001)	-	-	0.0004 (0.0003)	-	-	0.0003** (0.00015)
VO age (in months)	-	-	-0.06 (0.04)	-	-	-0.02* (0.01)	-	-	0.0156* (0.0087)
Percentage change over sample mean							28.01%		

Note: All specifications control for scale and state fixed effects. Robust standard errors in parentheses.

Regression results: Savings and Borrowings

	Model 1	Model 3		
	Early Block*Early Village	SHG age	SHG age squared	VO age
Institutional (Bank) savings	x	x	x	x
Institutional (Bank) savings - Female	x	x	x	√ (-ve)
SHG Savings	√ (+ve)	√ (-ve)	√ (+ve)	√ (+ve)
Total loan amount	x	x	√ (-ve)	√ (+ve)
Total formal loan amount	x	x	√ (-ve)	√ (+ve)
Total informal loan amount	x	x	√ (-ve)	√ (+ve)
Total SHG loan amount	√ (+ve)	x	√ (-ve)	√ (+ve)
Female formal loan amount	√ (+ve)	x	x	√ (+ve)

Regression results: Household income

	Model 1	Model 3		
	Early Block*Early Village	SHG age	SHG age squared	VO age
Income sources	√ (+ve)	√ (+ve)	√ (-ve)	√ (+ve)
Total household income	√ (+ve)	√ (+ve)	√ (-ve)	√ (+ve)
Household MGNREGS income	√ (+ve)	x	x	x
Household labour market income	√ (+ve)	√ (+ve)	√ (-ve)	x
Hours of work on own agri/non-agri enterprises - female aged 15-50	x	√ (+ve)	√ (-ve)	√ (+ve)
Hours of work in labour market - female aged 15-50	x	√ (+ve)	√ (-ve)	√ (+ve)
Hours of work on own agri/non-agri enterprises - male aged 15-50	x	x	x	x
Hours of work in labour market - male aged 15-50	x	√ (+ve)	√ (-ve)	√ (+ve)

Regression results: Welfare, empowerment and convergence

	Model 1	Model 3		
	Early Block*Early Village	SHG age	SHG age squared	VO age
Separate Kitchen in the household	x	x	x	√ (+ve)
Food diversity	√ (+ve)	√ (+ve)	√ (-ve)	√ (+ve)
House quality	√ (-ve)	x	√ (-ve)	√ (+ve)
Household decision making index	x	x	x	√ (+ve)
Confidence index	x	√ (+ve)	√ (-ve)	x
Number of social security schemes availed	x	√ (+ve)	x	x

Summary of results on household outcomes



Federating SHGs into VO leads to better financial access

- Significantly increases formal and SHG borrowings
- Savings in SHG increase

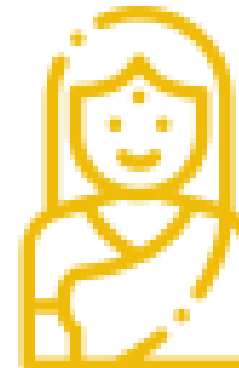


NRLP had significant impact on total household income (8.8%) driven majorly by increase in wage income

These impacts are significantly enhanced by federations



Federation increases household welfare reflected by increase in house quality and food diversity (about 15%)



Federation empowers women in intra-household decision making but does not impact their confidence to interact outside the household

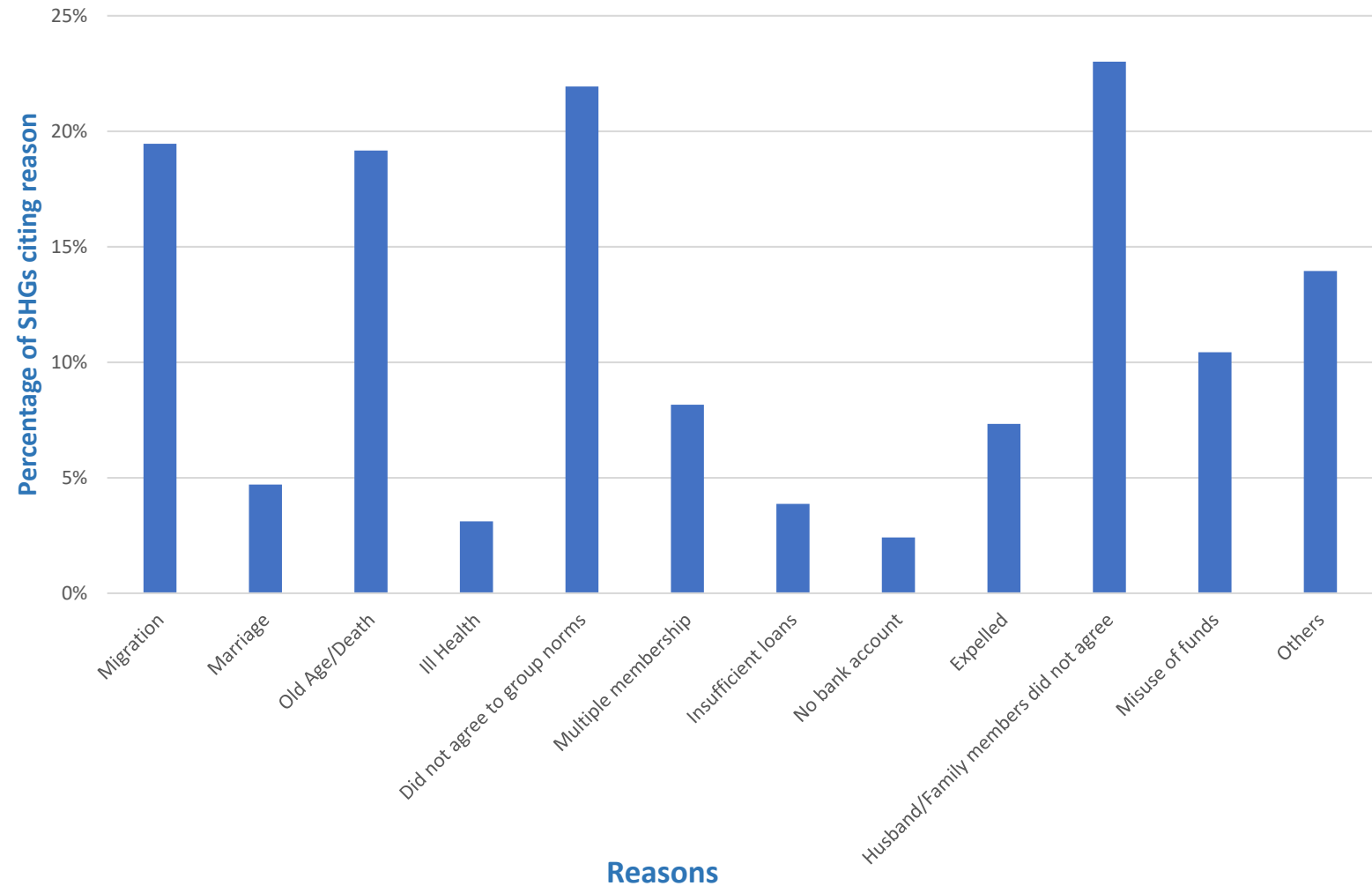


Household outcomes are supported by analysis of SHG outcomes

SHG sample

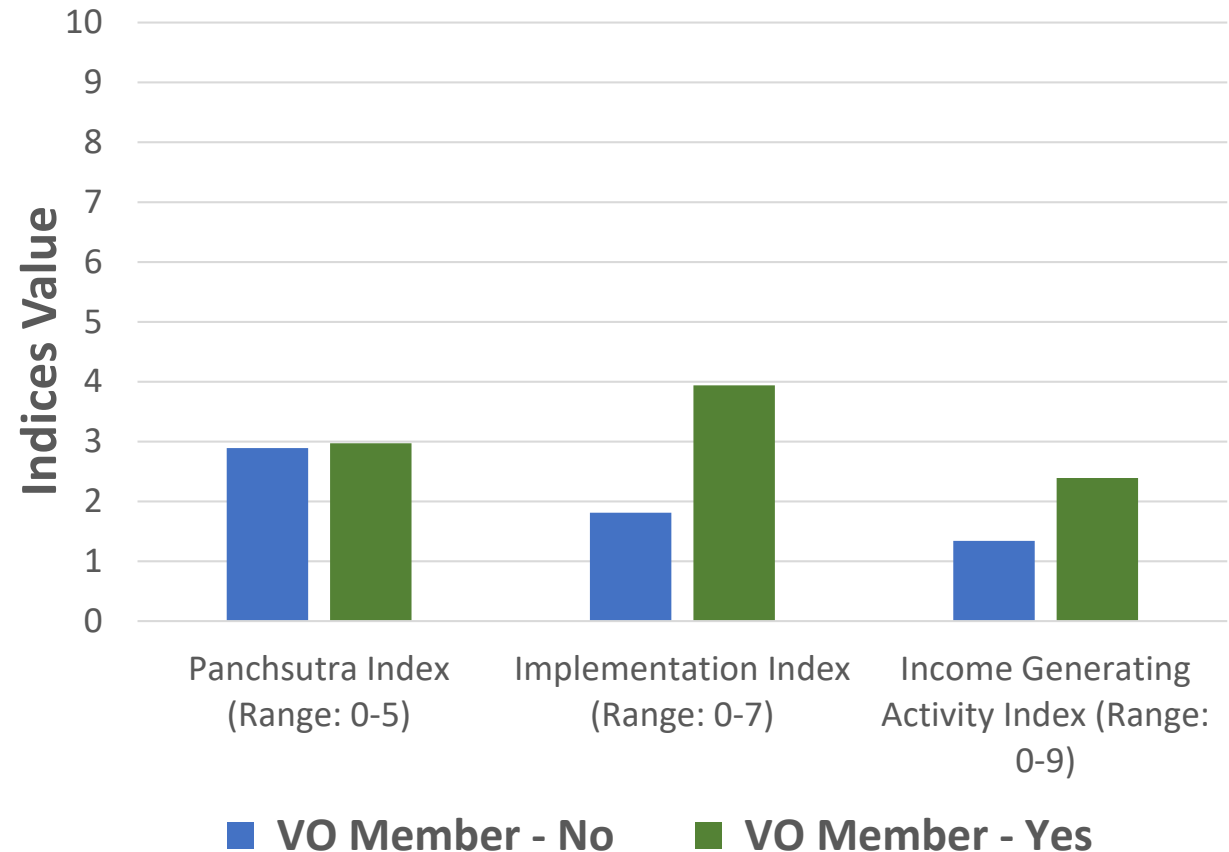
SHG sample	
Total SHGs	5227
Percentage defunct SHGs	17%
Number of functional SHGs	4329
Percentage of VO linked SHGs	84%
Percentage of SHGs with Bank Accounts	93%
Percentage CLF member if VO linked	74%
Average size of SHG	11
Percentage SC/ST members	57%
Percentage of SHGs where atleast 1 office bearer is SC/ST	70%
Percentage of SHGs where all the office bearers are SC/ST	23%
Average Number of Meetings held last year (out of 52 weeks)	41
Average Savings (Rs.) in Last Year	7256
Average Age of Members	38
Average years of education of members	2.63
% of Members of Community Cadre	2.6%

Main reasons for leaving SHGs



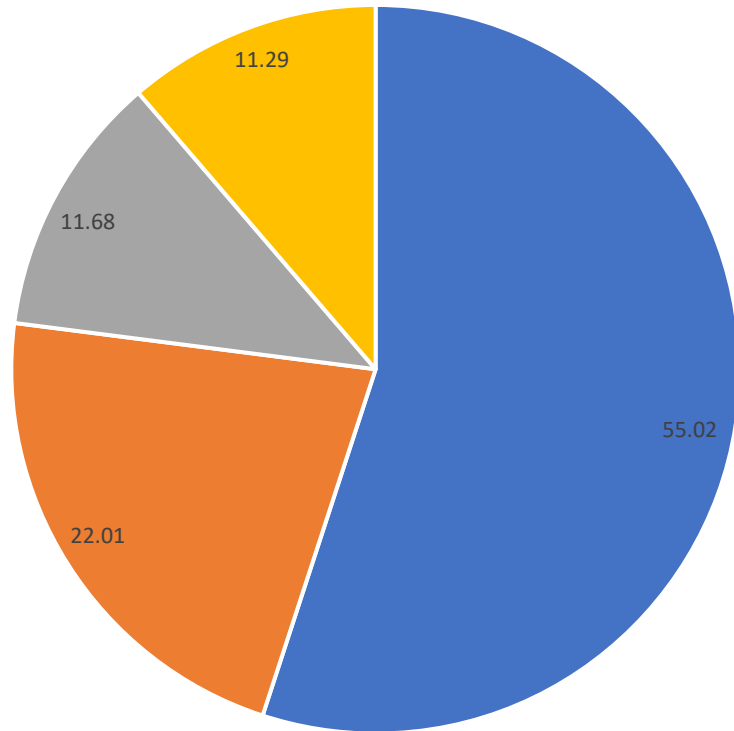
SHG quality indices by age and VO membership

Index	Variables Used
SHG Panchsutra Index	a) Whether there is weekly meeting, b) Whether there is weekly savings, c) Regular Inter loaning, d) Whether any action has been taken against repeated loan defaulters, e) Are the Books of Records being updated
SHG Implementation Index	a) Whether SHG Received RF, b) Whether SHG Received CIF, c) MIP exists, d) SHG has a Bank Account, e) SHG is a VO Member, f) Any training given to members, g) SHG has Regular Savings
SHG Index for Income Generating Activity	a) Whether any member started an enterprise, b) Any member a part of CC, c) Any member received wages/salary, d) Whether SHG Received CIF, e) Whether received bank loan, f) Whether received subsidy on bank loan, g) Whether there exists MIP, h) Regular inter loaning, i) SHG took any action on social issues



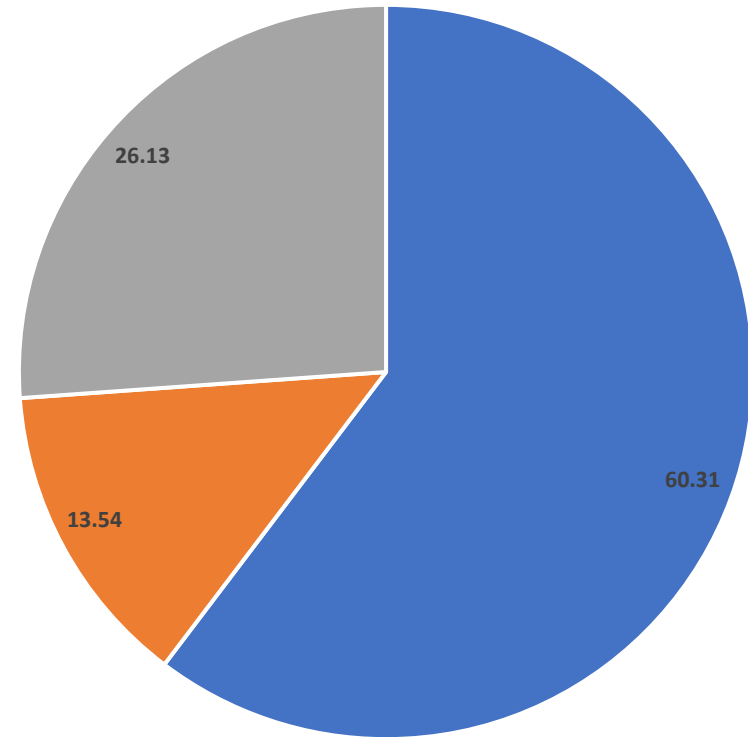
Perceived benefits and future expectations

Major Benefit perceived by members



■ Regular Meetings ■ Regular Savings ■ Regular Borrowing & Repayment ■ Others

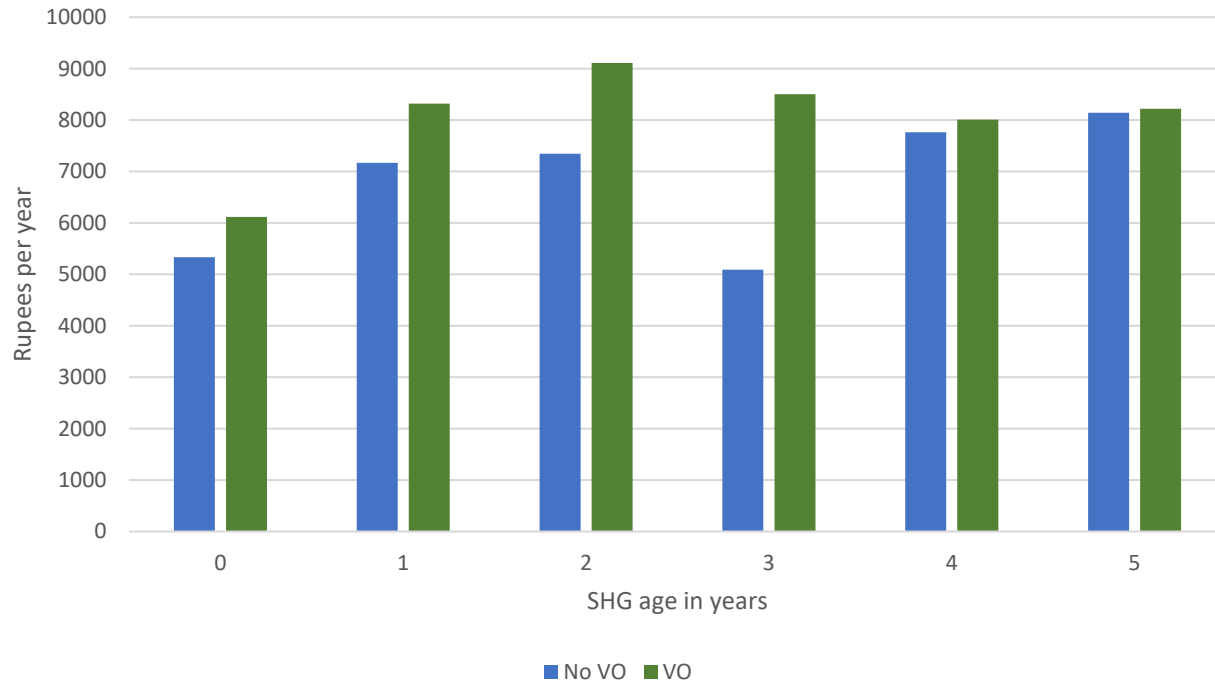
Expectations from SHGs



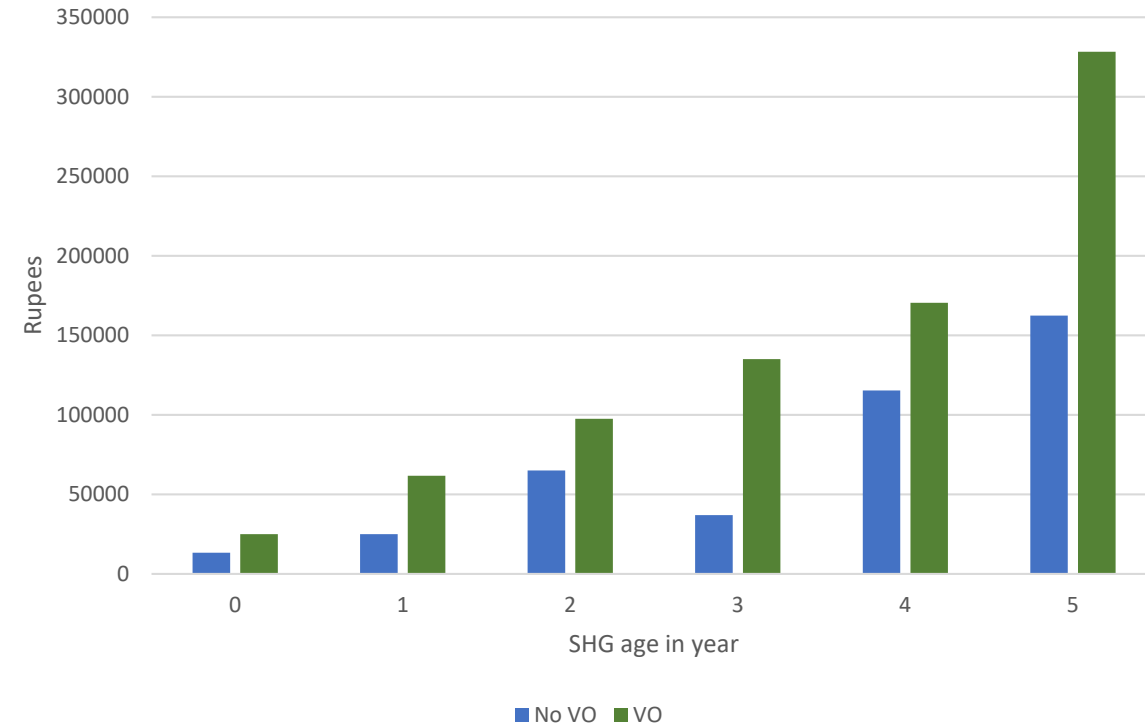
■ Continuation or Improvement of credit ■ Actions to improve economic lives ■ Others

SHG's performance

Amount of savings by members



Total loans till date to members



- **Federating SHGs strengthens their performance in households' financial inclusion**

Regression results on SHG outcomes

	SHG Panchsutra		Whether bank loan		SHG convergence	
	Model 1	Model 3	Model 1	Model 3	Model 1	Model 3
Early Village *						
Early SHG Block	-0.308***		0.105***		-0.038	
	(0.077)		(0.03)		(0.032)	
SHG age (in months)		-0.04*		0.006		-0.001600
		(0.02)		(0.008)		(0.007)
(SHG age)²		0.00007		-0.00007		-0.00003
		(0.0001)		(0.00004)		(0.00004)
VO age (in months)		0.01		0.009**		0.00728**
		(0.01)		(0.004)		(0.004)
Constant	1.60**	5.62***	-0.46*	-0.74	-0.30	1.47**

VOs improve SHG financial and convergence activities but not income generating activities



Conclusion and recommendations

Conclusions

 **NRLP approach of federating SHGs has generated significant returns**

Federations lead to:

- Improvement in financial inclusion and welfare of households
- Increase in wage income
- Improvement in women's participation in household decision making

 **SHGs are functioning far from norms, yet we see impacts**

 **Without federations impacts are muted or non-existent**

Recommendations



Policy efforts should continue to promote and strengthen federations



Performance may improve with increased adherence to norms

This can be achieved through better monitoring such as improving and using the MIS data



Ensure capacity of SHGs as they age through better monitoring and incorporating their dynamic requirements

Conclusions



There is no impact on agriculture and enterprise incomes



No improvement in women's empowerment outside household and utilisation of social schemes



Recommendations

Greater focus needed on income enhancing interventions

- Building a community cadre for livelihoods support
- Capacity building of livelihood institutions
- Role of markets need to be explored

Separate set of intervention needed to promote women's empowerment outside the household and convergence

Thank you

Stanford
King Center on
Global Development

