International Initiative for Impact Evaluation

Briefing note 3

Changes in farm-based activities since the implementation of the National Rural Livelihoods Project

Group-based livelihoods programmes have been implemented in many parts of the world to meet development goals (primarily poverty reduction). In India – a country with a long history of groups working towards a common economic cause – the Ministry of Rural Development launched the Deen Dayal Antyodaya Yojana - National Rural Livelihoods Mission (DAY-NRLM) in 2012 with similar objectives. Within the scope of this mission, the National Rural Livelihoods Project (NRLP) was formed to build capacity and foster an enabling environment to support scale-up. Women's self-help groups (SHGs) were formed in select blocks of 100 high-poverty districts across 13 states, and efforts are underway to reach the remaining districts and states.

The uniqueness and strength of the programme lies in its federation of grassroots SHGs into higher-order organisations, namely village organisations and cluster-level federations. A 'community cadre' of SHG members also participates in running and scaling up the programme in order to overcome scarce human resources. Government support structures, or 'missions', at the national, state, district and block levels are responsible for building these institutions and local capacities.

A team of researchers from Stanford, 3ie and Vrutti interviewed 27,000 respondents from 5,000 SHGs across nine states to evaluate the NRLP. This brief summarises key findings about farm-based activities since its implementation.

Highlights

- Large-scale evaluation spanned nine states, 5,000 SHGs and 27,000 respondents.
- The sample was composed of significantly poorer households than the national average. Households that owned land were mostly small farm holders.
- Households typically had multiple sources of income, mostly non-agrarian. Unskilled labour was the primary income source for the majority.
- Few livelihoods trainings were imparted to SHGs, and few loans were provided by SHGs for agricultural activities.
- Under three per cent of household enterprises dealt with agriculture, most of which were started by households where the NRLP was initially implemented.
- Households with longer programme exposure were more engaged in agriculture but did not earn significantly more from farm-based activities.
- While agriculture was not a significant income source, domestic consumption slightly improved food diversity and reduced the number of households reporting going hungry.
- Households that earned significantly from agriculture were usually located in villages far from markets.

Methodology

The evaluation gathered data on household-level outcomes and gauged the effect of intervention by surveying respondents in households, SHGs (including non-members), village organisations, cluster-level federations and villages. It covered the nine states of Rajasthan, Uttar Pradesh, Jharkhand, Odisha, Chhattisgarh, Madhya Pradesh, Maharashtra, West Bengal and Bihar.[1]

Data from the national and state programme-management information system were combined with in-depth interviews with block officials to select a representative sample of villages for the survey. The programme was implemented incrementally. Initially, certain blocks were identified in chosen districts; within these, the programme was implemented in select villages. It was then scaled up to all other blocks and villages in later phases. The areas in which the NRLP was initially implemented in 2011–2012 are called early households, villages or blocks, and those in which implementation occurred last (after four or more years) are called late households, villages or blocks.

The evaluation team used a difference-in-difference methodology, exploiting differential timing of programme implementation across blocks, and across villages within blocks, to assess the programme's effect on household-level outcomes. Impact was calculated by comparing differences in outcomes between early and late villages. Adequate measures were applied to ensure results were not affected by the variation in timing of initiation and the stage of programme implementation across geographies.

Respondents were asked about various farm-based activities for the agricultural year of 2018–2019, including: their income from agriculture and livestock; type and number of crops cultivated across seasons; crop outputs; type and number of livestock raised; expenses incurred for agriculture and livestock rearing; household members engaged in agriculture and livestock rearing; loans taken for agriculture; farm-based enterprises started using loans under SHGs in the NRLP; and livelihoods-related training received by SHG members.

Sample profile

The 27,257 survey respondents were spread across 18,895 households in 1,052 villages.

Surveyed villages had limited access to formal financial institutions and markets. Less than half of them reported a bank branch within the village (46%), and less than one quarter reported a market or bazaar (22%).

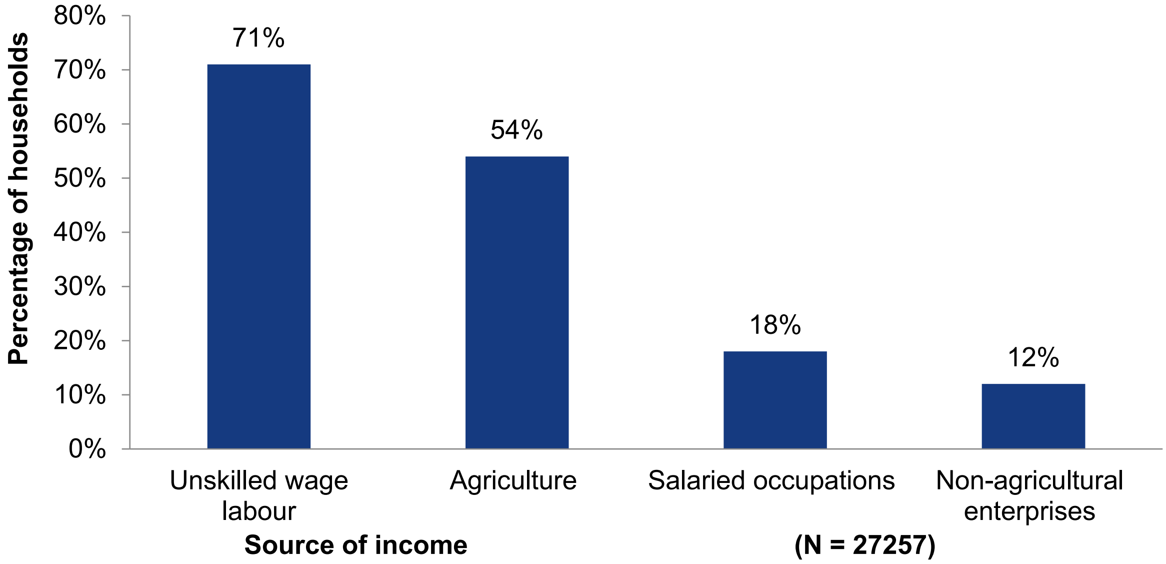
Sampled SHGs had been functional for over four years (51.5 months), on average. A typical SHG had 11 members, with an average of 2.8 years of schooling.

Sampled households were poorer than the national average, had low savings and incomes and high levels of indebtedness; 32% of households belonged to scheduled castes and 31% to scheduled tribes (63% in total), compared to national averages of 16.6% and 8.6%, respectively.[2] Most of the sample consisted of small farm holders with an average of less than one hectare, if the household owned any land at all.

Findings

Sources of household income: The typical household had multiple sources of income, mostly non-agrarian, averaging 2.4 income-generating occupations per unit. Unskilled labour was reported as the main source of income followed by agriculture, salaried occupations and non-agricultural enterprises (Figure 1). Early villages had approximately 12 per cent more households reporting income earned from agricultural activities than late villages.

Figure 1: Percentage of households relying on various sources of income



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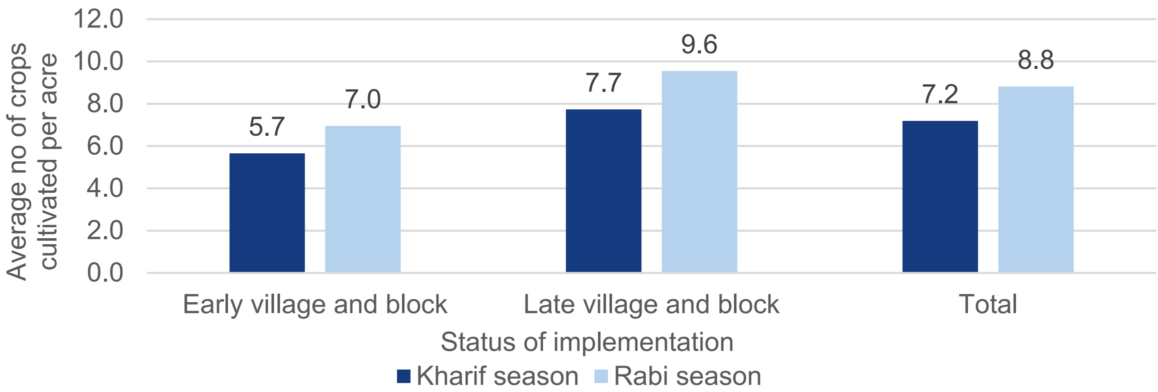
Farming patterns: While a greater number of early households are engaged in agriculture, late households reported more crop diversity, or a greater average number of crops cultivated per acre (Figure 2). However, the difference is not statistically significant.

Figure 2: Average number of crops cultivated per acre by households



Agricultural enterprises: Approximately 4,000 households had started enterprises, of which 117 (under three per cent) were engaged in agriculture, hunting, forestry and fishing. Among these, the vast majority (91 of 117 enterprises) were started in early blocks (Table 1). Nearly nine per cent of enterprises in Odisha were agricultural, which is over three times the national average. These accounted for about 37 per cent of all agricultural enterprises reported in the survey (Table 2).

Table 1: Types of enterprises started by households

	Early block	Late block	Total
Agriculture, hunting, forestry and fishing enterprises	91	26	**117**
as % of total	3.4%	2.0%	**2.9%**
Non-agricultural enterprises	2,588	1,278	**3,866**
as % of total	96.6%	98.0%	**97.1%**
Total	**2,679**	**1,304**	**3,983**

Table 2: Types of enterprises started by households (by state)

State	Non-agricultural enterprises	Agricultural enterprises	Total
Bihar	677	15	692
Chhattisgarh	242	5	247
Jharkhand	400	8	408
Madhya Pradesh	497	14	511
Maharashtra	396	2	398
Odisha	448	43	491
Rajasthan	329	3	332
Uttar Pradesh	388	9	397
West Bengal	489	18	507

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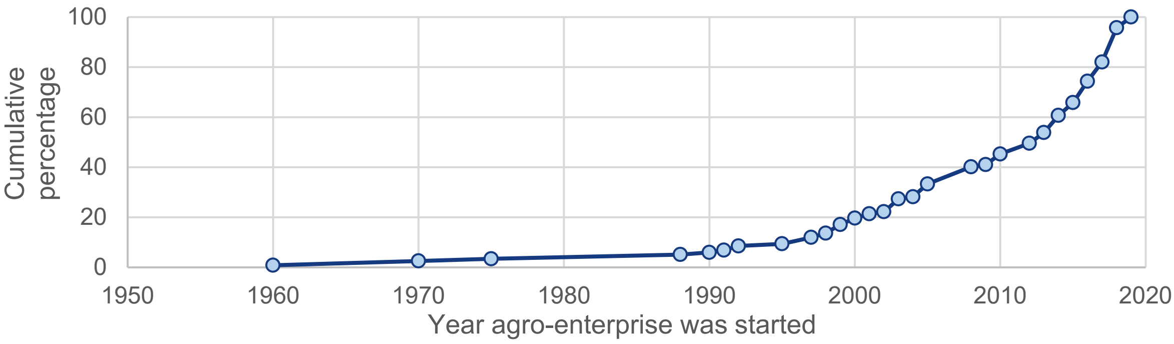
More than 50% of the existing agricultural enterprises were started in the last decade (Figure 3), roughly corresponding to the start of the NRLP rollout.

Figure 3: Commencement year of agricultural enterprises (cumulative)



Agricultural activities catalysed by SHGs: SHGs primarily support agricultural activities in two ways: capacity building and loans. Overall, few livelihood trainings were imparted, with 13 per cent of early SHGs and 10 per cent of late SHGs reporting receiving such trainings (Figure 4). Of all loans from SHGs, just over 11 per cent were used for agriculture-related activities. Early SHGs disbursed under 16 per cent of loans for such activities, and late SHGs disbursed under 11 per cent (Table 3).

Figure 4: Livelihoods training received by SHGs (tailoring, goat rearing, etc.)

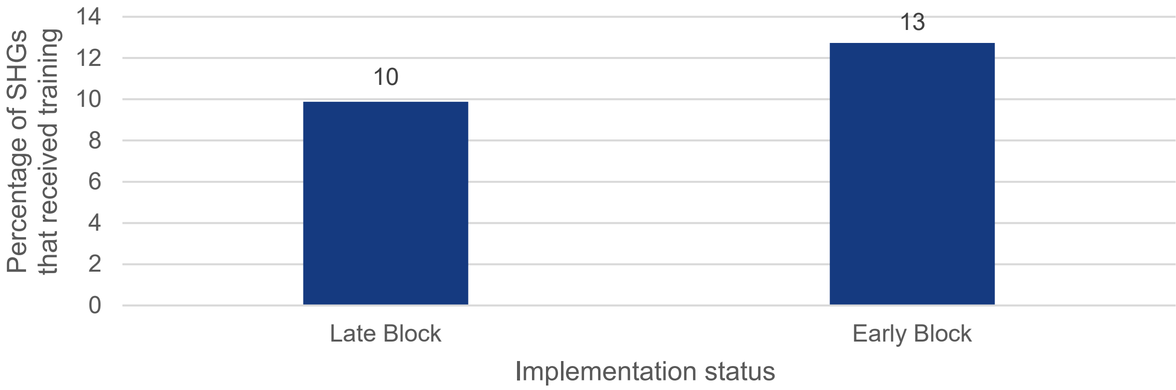


Table 3: Loan purpose

Implementation status	Loan purpose			
	Agriculture-related[3]	Enterprise-related[4]	Others	Total
Late implementation	3,580	1,133	28,574	33,287
	10.75%	3.4%	85.84%	100%
Early implementation	673	326	3,217	4,216
	15.96%	7.73%	76.3%	100%
Total	4,253	1,459	31,791	37,503
	11.34%	3.89%	84.77%	100%

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Changes in household income: The impact assessment finds that the total income of SHG households in treatment villages was 19% higher than that in control villages; this was driven by non-farm activities, particularly wage incomes.

While many households were engaged in agriculture and livestock rearing, the overall difference in incomes from these activities was not statistically significant between early and late households. Households that did benefit significantly from the programme were located far from markets. This could be the result of fewer non-farm options restricting diversification of income from other sources.

Changes in household welfare due to farm-based activities: Longer programme exposure did not have any significant effect on overall average household expenditure, suggesting little impact on household welfare measures. However, there was a small but statistically significant improvement in the household food diversity index and a decline in the proportion of households reporting going hungry due to a lack of resources.

This improvement in nutrition indices but insubstantial change in agricultural incomes can be attributed to households prioritising consumption over sale of produce. Early households (more of whom were engaged in agricultural activities) reported consuming 70 per cent more from home-produced cereals, including rice, wheat and pulses, than late households. However, as most of the sample comprised small farm holders, their efforts to sell in the open market might be disproportionately higher than their income from small yields.

About this note

This brief was authored by Harsh Vardhan Sahni with inputs from Bidisha Barooah. The author is solely responsible for all content, errors and omissions. This note was commissioned by the Ministry of Rural Development to provide an overview of outcomes for farm-based activities from 3ie's multistate impact evaluation. It is being made available as produced for wider use.

For more details on the context and results, we recommend referring to the full report: Impact Evaluation of the National Rural Livelihoods Project (October 2020) by Anjini Kochar, Bidisha Barooah, Chandan Jain, Geeta Singh, Nagabhushana Closepet, Raghunathan Narayanan, Ritwik Sarkar and Rohan Shah.

Acknowledgements

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For more details, queries or clarifications please contact bbarooah@3ieimpact.org.

Endnotes

[1] Unless specified, findings are drawn from seven states, with the exclusions being Bihar and West Bengal.
[2] Office of the Registrar General and Census Commissioner of India, 2011. Census of India 2011: Primary Census Abstract. New Delhi: Ministry of Home Affairs, Government of India.
[3] Agriculture-related loan purposes include buying lands for farming, purchase of farm assets or inputs (e.g. seeds), purchasing livestock and spending on livestock health.
[4] Enterprise-related loan purposes include starting a new business, purchasing business assets for an existing business, and paying the operating expenses for an existing business.