



Impact Review of Walmart Foundation's Market Access Program in India

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Table of Contents

List of Figures	3
List of Tables	4
List of Abbreviations	5
1 Landscape of Small and Marginal Farmers in India	6
2 The Market Access Program	6
3 The Impact Review	7
3.1. Contours of the Impact Review	7
4 Unpacking Findings on FPO sustainability	8
4.1 FPO Profile	9
4.2 Organizational Capacity of FPOs	9
4.3 Service Provision by FPOs	11
4.3.1 Pre-harvest support	11
4.3.2 Post-harvest support.....	12
4.3.3 Sale of produce.....	13
4.3.4 Training and capacity building	13
4.4 Financial Viability of FPOs.....	14
5 Unpacking Findings on SMF Livelihoods.....	16
5.1 Demographic and Socio-Economic Profile	17
5.2 Sources of Household Income	17
5.3 SMF Engagement with FPOs	18
5.4 Advisory and service provision	18
5.5 Farm metrics	20
6 Unpacking Findings from the Impact Review: Gender Outcomes.....	23
6.1 Engagement in FPOs	24
6.2 Decoding Key Farm Metrics	26
7 Learnings and Recommendations	28
7.1 FPO Sustainability	29
7.2 SMF Livelihoods	30
7.3 Women's Empowerment.....	31
7.4 Portfolio Strategy	31
8 Annexure 1.....	33
9 Annexure 2.....	36

List of Figures

Figure 1: Stages in a Funder Portfolio Review	7
Figure 2: Distribution of Managing Committee Members in FPOs	10
Figure 3: Use of Digital Technology	11
Figure 4: Input Procurement Services	12
Figure 5: Post Harvest Services	13
Figure 6: Crop Dealings of FPOs	14
Figure 7: FPO Profitability.....	15
Figure 8: Contribution of Cultivation to Household Income	17
Figure 9: Services Provided by the FPO	18
Figure 10: SMF Advisory Services	19
Figure 11: Cultivation Patterns on Own Land.....	20
Figure 12: Loans Accessed by SMFs.....	22
Figure 13: SMF Access to Processing Services	23
Figure 14: Women's Decision Making – Activities and Income.....	25
Figure 15: Women's Access to Training.....	26
Figure 16: Women's Cropping Intensity	27
Figure 17: Access to Credit (Women and Men)	28



List of Tables

Table 1 Contours of the Impact Review	8
Table 2 FPO Capitalization.....	15
Table 3 FPO profit sharing.....	16
Table 4: Volumes cultivated and harvested.....	21
Table 5 Mix of Cash and Food Crops for Women and Men Respondent Households	27



List of Abbreviations

AP	Andhra Pradesh
BoD	Board of Directors
CSR	Corporate Social Responsibility
FAO	Food and Agriculture Organization
FPO	Farmer Producer Organization
FY	Financial year
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IFDC	International Fertilizer Development Center
JH	Jharkhand
KA	Karnataka
MC	Management Committee
MERL	Monitoring, Evaluation, Research and Learning
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Scheme
MIS	Management Information System
NABARD	National Bank for Agriculture and Rural Development
NBFC	Non-Banking Financial Company
OD	Odisha
PRADAN	Professional Assistance for Development Action
SFAC	Small Farmers Agribusiness Consortium
SMF	Small and marginal farmer
ToC	Theory of change
TS	Telangana
UP	Uttar Pradesh
WB	West Bengal



1 Landscape of Small and Marginal Farmers in India

Small and marginal farmers (SMFs) constitute 86 percent of all farmers in India¹. Owning 47 percent of total operated area, the average landholding of this segment is just 1.48 acres²³. Such a tiny parcel of land does not allow for generation of surplus, rendering agriculture unviable beyond subsistence. The fragility of SMF livelihoods is exacerbated by risks of climate change, absence of timely crop advisory, limited access to inputs, credit, post-harvest services and market linkages. Within the SMF segment, women farmers face additional constraints. Gendered norms limit their access to and control over land, information, finance, and markets, reducing their participation in agriculture to “drudgery” activities⁴.

Aggregation of farmers into cooperatives, commodity groups and interest groups has emerged as a model to mitigate challenges of SMFs and improve women’s participation in agri-value chains⁵. An aggregation model that has gained traction is the farmer producer organisation (FPO). Reflective of a shift in understanding farming as a “value-led enterprise”, it is believed that FPOs, through the provision of services such as bulk procurement of inputs, marketing of outputs, primary and secondary processing, and facilitating access to credit, can help SMFs avail of benefits of scale, thereby improving their incomes⁶⁷. The central government’s “*Formation and Promotion of 10,000 Farmer Producer Organisations (FPOs)*” and specific policies initiated in Karnataka, Odisha and Telangana have provided further impetus to the formation of FPOs⁸.

2 The Market Access Program

The Walmart Foundation’s Market Access Program, launched in 2017, supports SMFs in India, Mexico and Central America. The objective is to drive the income of smallholder farmers and producers. Improvements in income are actuated by supporting programs that seek to increase **volume** and **time in market** (production, cropping cycles), **value** (crop diversification, primary processing, digital adoption, access to finance, markets); and **quality** (secondary processing, packaging, certification, branding). Walmart Foundation supports initiatives for smallholder farmers and entrepreneurs in emerging markets to help improve their skills, market access and to build resilience. For farmers, the priority is to help Farmer Producer Organizations (FPOs) boost their capacity and reach, invest in sustainable practices and develop infrastructure to add value to crop production.

The program architecture rests on three design principles. First, is the **capacity development of FPOs**. Strengthening capacities aids greater reach, helping FPOs perform more effectively, their role as aggregators in terms of service provision and capacity building, keeping in mind the regional context. Contiguous focus is on making FPOs market-ready, so that they can effectively interact with market stakeholders to ensure profitability in transactions. Second, is the focus on **aligned levers of income and growth**, such as training on sustainable agricultural practices, infrastructure provision and facilitation of access to credit. Third, is the focus on **empowering women farmers** – deepening their engagement across the agri-value chain and in FPOs.

In India, since its inception in 2018, the Foundation has invested over USD 39 million designed to reach 500 FPOs/FPGs targeting 800,000 farmers, of which more than half are women. The market access program can be viewed as a portfolio of 13 programs. These programs are deployed by grantee organizations at the farm and FPO level in 7 states, viz., Andhra Pradesh, Odisha, Jharkhand, Karnataka, Telangana, West Bengal and Uttar Pradesh.⁹ Programs traverse the agri-value chain – strengthening FPO capacities, ensuring access to credit and markets and providing processing services and training on good agricultural practices. Gender sensitive programming is a key ingredient across several programs; and includes creation of women-only FPOs, provision of bundled services like crop insurance and advisory and income diversification through livestock and poultry. The Tata Cornell Institute for Agriculture and Nutrition (TCI), the research partner of the market access program, has put together a FPO database for ecosystem stakeholders and is undertaking

¹ Marginal and small farmers are those with less than 1 hectare (2.47 acres) and between 1 and 2 hectares (2.47 to 4.94 acres) of land respectively.

² Dept of Agriculture and Farmers Welfare, Gol. 10th Agricultural Census 2015-16 (provisional estimates)

³ Operated area includes both cultivated and uncultivated area, provided part of it is put to Agricultural production during the reference period.

⁴ IFAD (2015). Promoting the leadership of women in producers’ organizations. Lessons from the experience of FAO and IFAD

⁵ National Association of Farmer Producer Organisations (<https://www.nafpo.in/wp-content/uploads/2021/12/NAFPO-Gender-Equitable-Transformation-of-Agriculture-FPO-Guidelines.pdf>)

⁶ Ministry of Agriculture and Farmer’s Welfare. Gol. (2019) Report of the Committee on Doubling Farmers’ Income

⁷ NABARD (2015). Farmer Producer Organisation. Frequently Asked Questions FAQs. Available at (<https://www.nabard.org/demo/auth/writereaddata/File/FARMER%20PRODUCER%20ORGANISATIONS.pdf>)

⁸ Ministry of Agriculture & Farmers Welfare, *Farmer Producer Organisations* (2021) <<https://pib.gov.in/PressReleasePage.aspx?PRID=1739593>> [accessed 3 February 2023]

⁹ More recently, Walmart Foundation has announced 3 grants in Madhya Pradesh and will be announcing 2 more grants in Maharashtra and West Bengal. These do not form part of this impact review exercise.

research on the experiences and challenges of FPOs in different contexts to unearth actionable evidence-based insights by ecosystem actors. Additional details are provided in Annexure 1.

3 The Impact Review

The Impact Review assesses the collective impact made by the portfolio in improving SMF incomes. It highlights achievements and gaps to meet goals and consolidates learnings to strengthen future programming and the contours of the portfolio’s monitoring, evaluation, research and learning (MERL) architecture. Additionally, the review serves as a repository of good practices to inform the community of practitioners and sharpen ongoing and future philanthropic initiatives in the SMF livelihoods space.

The overarching framework used for the impact review is a funder portfolio review. A funder portfolio review assesses the collective impact of efforts and resources spent on all programmes within a portfolio. What this means is that findings from the review **do not answer** whether a specific programme undertaken by a grantee in a state has achieved envisaged outcomes. Instead, it **answers** whether collectively, all programmes in the portfolio have made progress or achieved the stated objectives of strengthened FPOs and improved SMF incomes. Through this, the impact review fulfils the two purposes of *accountability* (summative assessment on progress/achievement of the portfolio) and *learning* (insights to inform reorientation of portfolio direction, strategy and design).

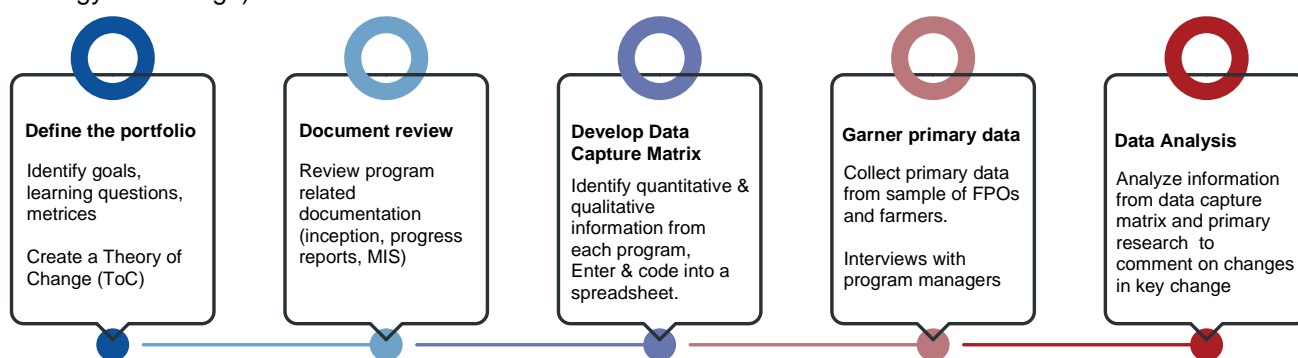


Figure 1: Stages in a Funder Portfolio Review

*Key metrics at the FPO level include organisational capacity, service provision and financial sustainability. At the farmer level, metrics include volume, time in market, crop diversification, primary and secondary processing, provision of services and income.

3.1. Contours of the Impact Review

The impact review draws on an analysis of data from a desk review and primary research. Across all 13 organisations, desk review of relevant documentation was undertaken¹⁰, coupled with guided interviews with program managers from the supported organisations to understand implementation pathways, successes and challenges. Within the 13 organisations, there are 7 organisations whose programs are ending or have ended. These include, Digital Green, Grameen Foundation, Heifer International, ICRISAT, PRADAN and Tanager, who work in 5 states, viz., Andhra Pradesh, Jharkhand, Odisha, Uttar Pradesh, and West Bengal. For these organisations, coupled with the desk review and guided interviews, primary data collection through semi-structured interviews with management committee (MC) members¹¹ of FPOs and member farmers of the FPO was undertaken.

Primary research with the afore-mentioned 7 organisations was undertaken to ascertain the causal impact of the supported programs on FPOs and farmers. For this, a quasi-experimental design (i.e., program-comparison) was adopted¹². Given the lack of baseline data, change in key metrics was estimated between program and comparison groups at a particular point in time (i.e., a one-point estimation approach). In order to ensure statistical robustness¹³, a total of 47 program FPOs were randomly selected, and proportionately distributed across the 7 organizations. A similar approach was followed for comparison FPOs (i.e., FPOs located in proximate areas, with similar agro-ecological, socio-eco-political-cultural contexts, with no intervention by grantee organizations under the aegis of the market access program). Within each FPO, 1 male and 1 female MC member was interviewed based on their availability. Additionally, 20 farmers randomly selected from the

¹⁰ These include grant inception reports, progress and annual reports, MIS data, evaluation studies etc.

¹¹ MC members include those who hold positions in office. These include board of directors (BoD), chief executive officer (CEO), president, accountant, godown operator

¹² Comparison FPOs, are FPOs proximate to the selected program FPOs, with similar agroecological, socio-eco-pol-cultural contexts, with the only difference being that they are not supported by the grantee organisation under the market access program.

¹³ Powered to detect a change of 23 percent in household income of program farmer households.

farmer register maintained by the FPO were selected¹⁴. Therefore, the proposed sample for primary data is 94 FPOs - 188 MC members and 1880 member farmers across program and comparison areas.

Table 1 Contours of the Impact Review

Grantee	State	Program FPOs	Program MC members	Program farmers	Comparison FPOs	Comparison MC members	Comparison farmers
Tanager	AP	4	8	80	3	6	80
Pradan	JH	4	8	80	0	0	80
	OD						
Heifer	WB	3	6	60	3	6	60
	AP						
ICRISAT	AP	1	2	20	1	2	20
TechnoServe	AP	9	18	180	6	12	180
	UP						
Digital Green	AP	12	24	240	10	20	240
Grameen	UP	14	28	280	14	28	280
Total		47	94	940	37	74	940

IFDC, Mercy Corps, Precision Development, Sehgal Foundation, Trickle Up, Tata Cornell Institute: Desk review & guided interviews with program managers

4 Unpacking Findings on FPO sustainability

Findings

1. Greater ability of program FPOs to onboard farmers as members

While year on year, membership data is not available, data over FY 2021-22, 2022-23 suggests a larger increase in shareholders in program FPOs, indicative of their ability to connect with and bring onboard more farmers.

2. Smaller gender gaps in terms of representation and decision making in program FPOs.

FPOs had more filled in positions for office-bearers. Critically, there were more women in the MC and smaller gender gaps in decision making, potentially indicating early results of gender mainstreaming efforts by grantee organizations.

3. Grantees' organizational capacity efforts have contributed to strengthened systems and processes.

With regards to administration, a higher proportion of program FPOs had separate departments for various business functions, prepared business plans and had accountants to conduct financial audits. A significantly higher proportion of MC members used digital technology to connect with farmers, operations and financial management. However, greater support is needed in terms of provision and use of hardware/software.

4. Program FPOs outperform their counterparts in providing services across the agri-value chain.

A greater proportion of program FPOs provide pre-harvest support services viz., input procurement, rent/sale of agri-machinery, transportation of inputs, access to credit and benefitted on average a larger number of farmers. However, while a higher proportion of program FPOs provide post-harvest support such as aggregation of produce, storage and value addition, comparison FPOs were able to provide benefits to a larger number of both member and non-member farmers. Also, more program FPOs sold produce to wholesale, retail and private markets.

5. No difference in the areas of training provided, but differences in recipients of training.

Top three areas of training by program and comparison FPOs were good agricultural practices, new technologies and use of inputs. However, comparison FPOs provided more training to member farmers (as opposed to office bearers in program FPOs) who were able to apply the training in their day-to-day

¹⁴ There was difficulty in creating a 'true' comparison FPO cohort. While a request for comparison FPOs was made to grantee organizations, several were not able to furnish this detail and either provided names of FPOs they were aware of, or of 'comparison' villages where FPOs could be located. In the latter case, the Sambodhi team could not access FPOs to interview either MC member or member farmers.

work. This points to the need for greater democratization in training provided, checks to ensure content relevance and support for adoption.

6. Program FPOs exhibit greater financial viability.

By providing a spectrum of support services to farmers who are engaged in cultivation across agricultural seasons, program FPOs are able to diversify their income sources and fuel higher revenue generation through the year. Overall, program FPOs have greater paid-up capital; more program FPOs rake in profits and larger profits.

Sustainability of FPOs is viewed as the ability to extend the scope and scale of their operations. It is dependent on three axes – (a) organizational capacity; (b) service provision to farmers; and (c) financial viability or adequate capital to initiate and sustain operations. Data on the three axes was garnered from 82 and 59 MC members in program and comparison FPOs respectively.

4.1 FPO Profile

At the time of the impact review in January 2023, program FPOs had existed for 3.7 years, and comparison FPOs for 2.6 years. That is, program FPOs were incorporated between January 2019 – 2020 and comparison FPOs, between January 2020 – 2021. More program FPOs owned assets such as machinery, primary and secondary processing units, transportation units and collection and distribution centres¹⁵. Also, program FPOs had a higher number of member farmers (853 vs 537 in comparison FPOs)¹⁶. While data on the year-on-year membership data since inception of the FPO is not known, data for FY 2021-2022 and FY 2022-2023 indicates a larger increase in shareholders in program FPOs (13% vs. 4% in comparison), potentially indicative of their ability to connect with and bring on board farmers. While majority of farmers in the program FPOs fell within the semi-medium category (average landholding size of 5.6 acres), majority in comparison FPOs were small farmers (average landholding size of 4.2 acres)¹⁷.

4.2 Organizational Capacity of FPOs

Grantees' organisational capacity building efforts have contributed to strengthened systems and processes, and representation of women. It is suggested that grantees conduct periodic assessment of awareness/adoption of technology and provide handholding support for the same.

Grantee organizations have deployed various interventions to bolster robust governance and administration systems and processes. Both Heifer International and TechnoServe for example, have developed proprietary FPO assessment tools to gauge progress on key parameters, and tailor further training content¹⁸. They report improvement in scores on key parameters for 50% - 90% of FPOs. Grameen Foundation conducted a needs assessment of their supported FPOs which informed preparation and administration of training modules for office members. ICRISAT has trained office bearers to make key business decisions such as post-harvest management and negotiations with institutional buyers. Sehgal Foundation has trained its supported FPO office bearers on transparent and participatory decision making.

In terms of governance, a higher proportion of program FPOs have positions filled in the MC (see Fig 2). Critically, a significantly higher number women in program FPOs held MC positions. For instance, there were no women in comparison FPOs who held the position of president, CEO, accountant or godown keeper. This finding perhaps shows early results of the gender mainstreaming efforts of the program. No difference was seen with respect to awareness of respondents across both cohorts on roles and responsibilities of MC members or the frequency of board meetings. However, a higher number of office bearers (CEOs, accountants, godown keepers) in program FPOs reported receiving their salaries on time, indicating stricter adherence to rules/regulations.

¹⁵ Comparison FPOs owned more land and storage/godown units

¹⁶ The national statistic for average number of member farmers in the FPO is 582. Govil R et al (2020). Farmer Producer Companies. Past, Present and Future. Azim Premji University Press

¹⁷ Note that this data does not corroborate with farmer survey data, wherein both program and comparison farmers stated that they were marginal farmers. This discrepancy is likely because of sample size and that farmers in comparison areas may not have been members of FPOs.

¹⁸They report improvement in score on key parameters for 50-90% of FPOs

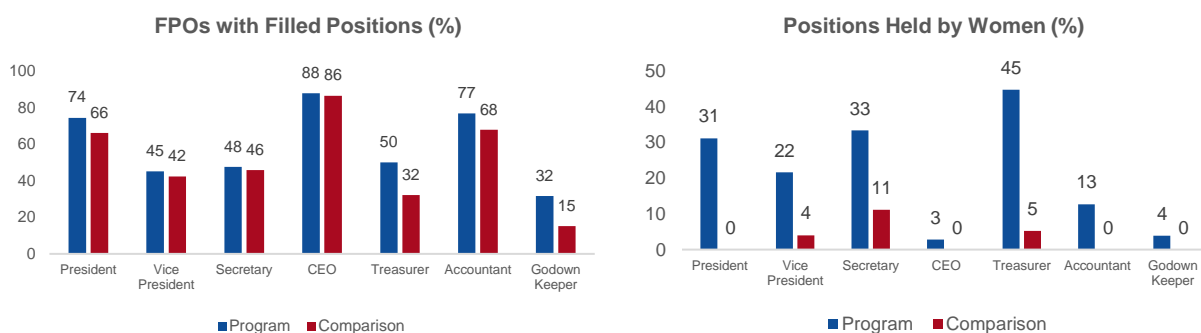


Figure 2: Distribution of Managing Committee Members in FPOs

In terms of administration, while overall a higher percent of program FPOs (58% vs 46% comparison) had separate departments or sub-committees to oversee various functions; a slightly higher proportion of comparison FPOs had separate departments for human resources, account and training/capacity building. More program FPOs had prepared a business plan for the FY 2022-2023 (85% program vs. 63% for comparison FPOs). 88% of program FPOs (83% in comparison) had employed an accountant, with audits being conducted primarily on an annual basis. **In terms of decision making**, the BoDs was found to be the key decision maker in both groups (across areas such as resource allocation amongst members, general operations, inventory and equipment etc.). The extent to which the MC members felt they impacted decision making in these matters was higher on average in program FPOs (64% vs. 55% in comparison). Importantly, a smaller proportion of program respondents (29% vs 38% comparison) stated that there were differences in decision making powers between men and women, alluding to smaller gender gaps in program FPOs. This, coupled with a higher number of women in program FPOs, show early results of gender mainstreaming efforts of the market access program.

Another key channel used by grantees in bolstering organizational capacity and connecting with farmers is to improve the **technological capabilities of FPOs**. Digital Green for example has established a knowledge platform which can be accessed by farmers, extension agents and state departments for localized advisories. They have also conducted training sessions on a tech application intended to streamline FPO business planning and aggregation efforts which has impacted 116,000 farmers. Precision Development has designed advisory content tailored to farmers' needs, timed to their cropping cycle, and delivered in the local language and has provided advisories to 52,500 farmers on adoption of sustainable agronomic practices and market information. Grameen Foundation has onboarded crop and farm details of 36,000 farmers onto a digital platform which will help FPOs with knowledge management, aggregation, and market linkage. TechnoServe have enabled cashless mechanisms for 65% of their FPOs and are aiming to introduce digital farm management solutions in at least 2 value chains. Sehgal Foundation is helping their FPOs digitize farmer records and transactions by working with companies such as Kalgudi and DeHaat. IFDC has trained 30 FPOs on scientific storage and electronic trading techniques.

Findings show that a higher percentage of program FPOs (80%) use digital technology compared to comparison FPOs (64%). As Figure 3 shows, top uses of technology by program FPOs were for management of books, financial auditing, consolidating member information, and recording business transactions. However, about 40 percent of MC members continue to struggle using technology – with lack of network connectivity, paucity of appropriate hardware and insufficient knowledge on how to operate hardware and software being some of the challenges they faced.

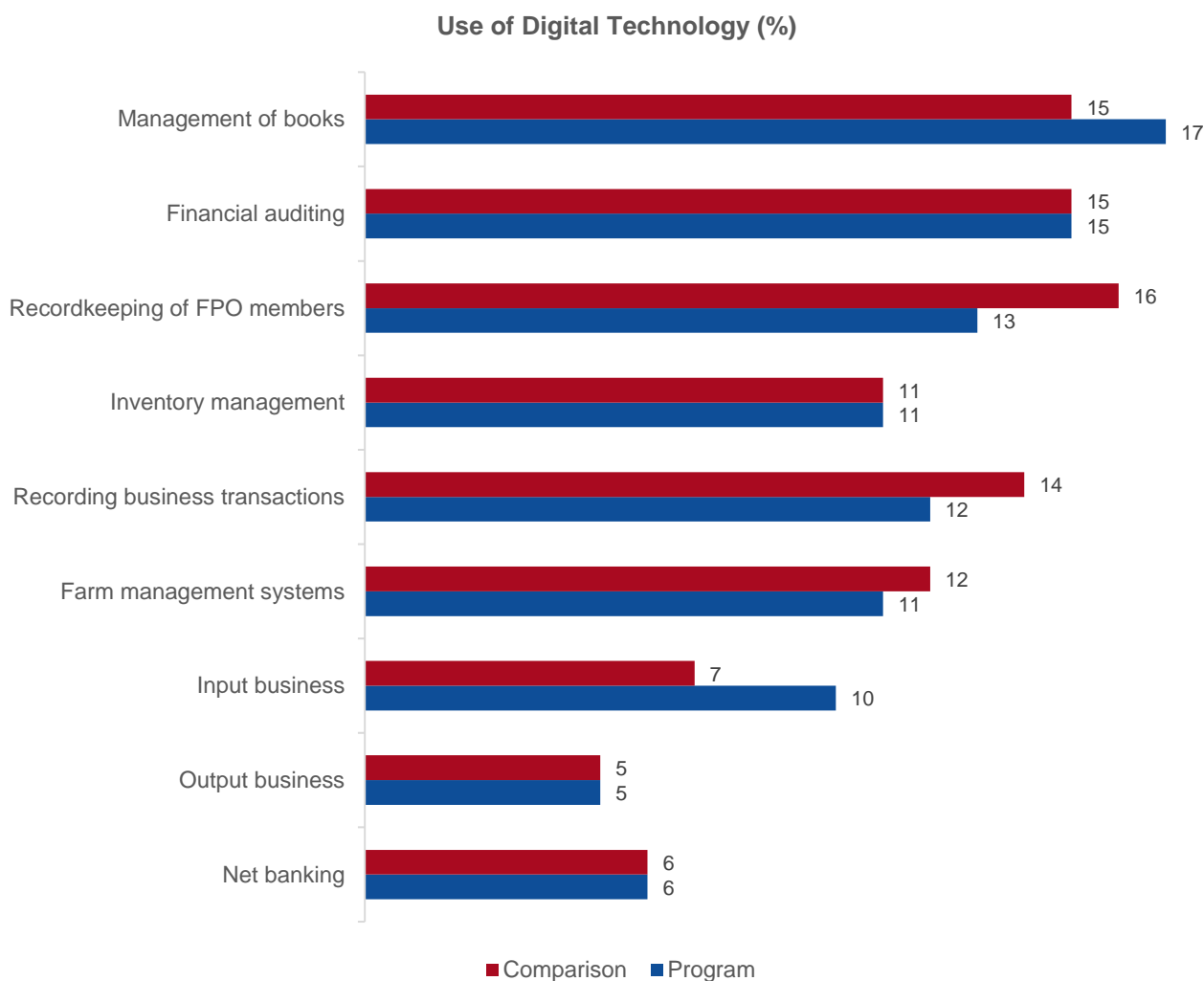


Figure 3: Use of Digital Technology

4.3 Service Provision by FPOs

Program FPOs outperform their counterparts in service process across the agri-value chain. There is a need for greater outreach to members, and updating of relevance and applicability of training content.

Services provided by FPOs were tracked across the continuum of pre-harvest, harvest and sale of produce. In addition, information on training and capacity building provided by FPOs to MC members and farmers was also captured.

4.3.1 Pre-harvest support

Crop advisory, input procurement and facilitating access to credit are key pre-harvest support areas by grantee organizations. Grameen Foundation has created a cadre of local resource persons to provide inputs to farmers; Heifer International obtained fertilizer licenses for 3 of their supported FPOs enabling them to set up an input shop; ICRISAT set up 8 custom hiring centres for farmers to access farm implements; IFDC increased clientele and income of 25 input-based enterprises; PRADAN ensured that their 12 agricultural FPOs act as nodal centres to enable farmer access to improved inputs and Sehgal Foundation has capacitated 9 of their 10 FPOs to establish and operationalize input shops.

With regards to crop advisory, comparison FPOs outperform their program counterparts by a slim margin (17% vs 5% program). The opposite holds true for **input procurement**. Disaggregated data (figure 4) shows that on average 39% of program FPOs were engaged in provision of seeds/saplings, fertilizers, pesticides, weedicides, rent/sale of agri-machinery and transportation of inputs. Program FPOs were able to provide input services an average of 276 farmers (254 comparison).

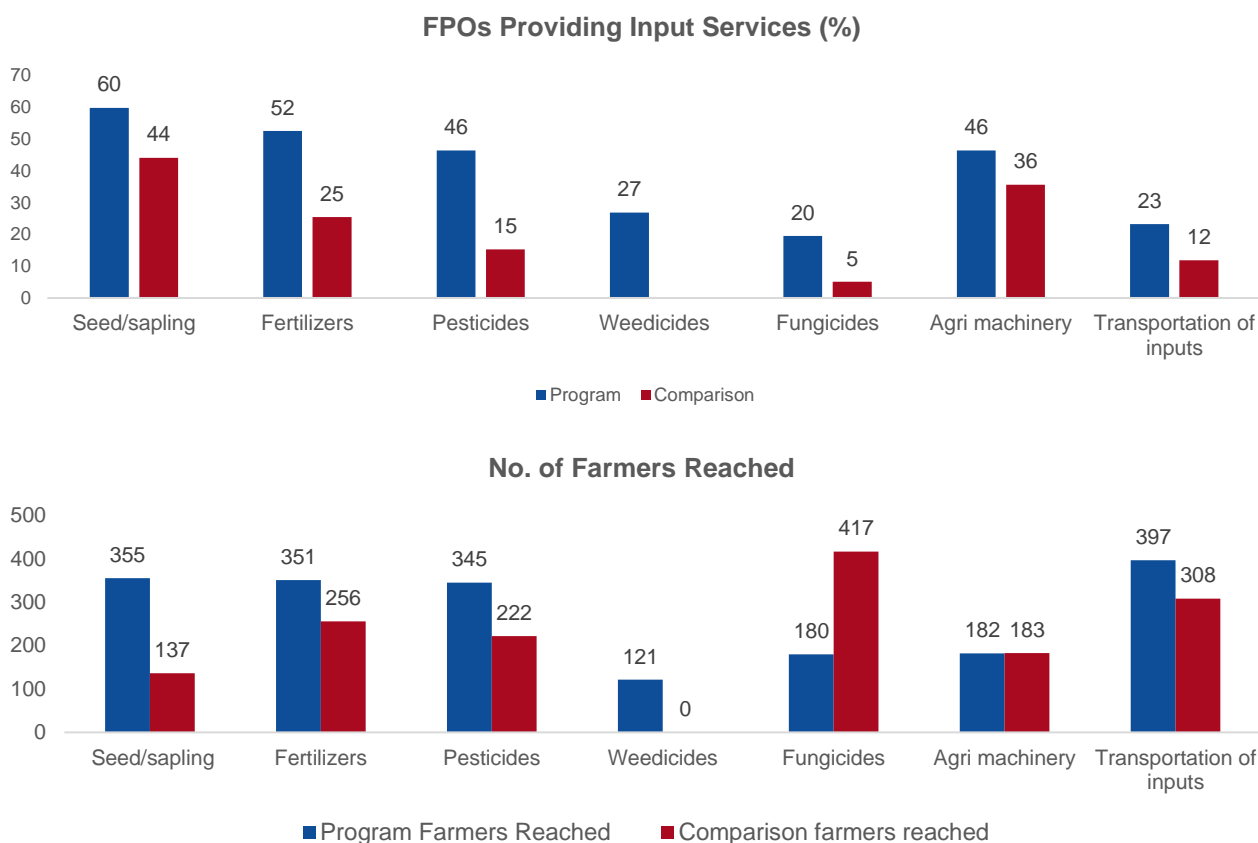


Figure 4: Input Procurement Services

FPOs facilitate and/or provide loans to their member farmers to either meet short-term working capital requirement or long-term investment loans to augment the productive base of farmers. Data shows that on average, a higher proportion of program FPOs (15% vs 7% comparison) were engaged in providing credit (long-term loans, consumption loans, provision of inputs on credit). Both groups lent more to male members (56% average across groups) when compared to female members (28%) Comparison FPOs seem to have a better saturation, reaching out to more male and female members (50% vs 33% program) Post-harvest support

Post-harvest support, i.e., activities of aggregation, storage and transport of produce and value-addition through processing is a strategic focus of several grantee organizations. ICRISAT for example is enabling FPOs capture a larger portion of the agricultural value chain through the establishment of primary processing centres, impacting 5000 member farmers, and creating a price premium of 10-15% on the processed produce. A secondary processing unit was also set up in August 2022 – while this is yet to commence operations, it is expected to benefit 6000 farmers. 6 of IFDC’s program FPOs finalized plans to procure solar dryers to be set-up at the collection centres for drying and selling vegetables. TechnoServe has established processing infrastructure such as seed processing unit, coffee wet mill, pulper, and tamarind cake pressing machine. 77% of their program FPOs have developed post-harvest management infrastructures for coffee, wheat and mentha (mint) crops. Sehgal Foundation has set up seed processing and oil extraction units associated with their FPOs, enabling 3200 farmers to have access to these post-harvest processing facilities.

Disaggregated data demonstrate that a significantly higher percentage of program FPOs were engaged in the provision of each activity, except secondary processing (average 28% program FPOs vs 14% comparison) (figure 5).

However, despite a lesser number being engaged in service provision, on average comparison FPOs were able to provide benefits to a much larger number of member (average 337 vs 308 program) and non-member farmers (average 432 vs 182 program).

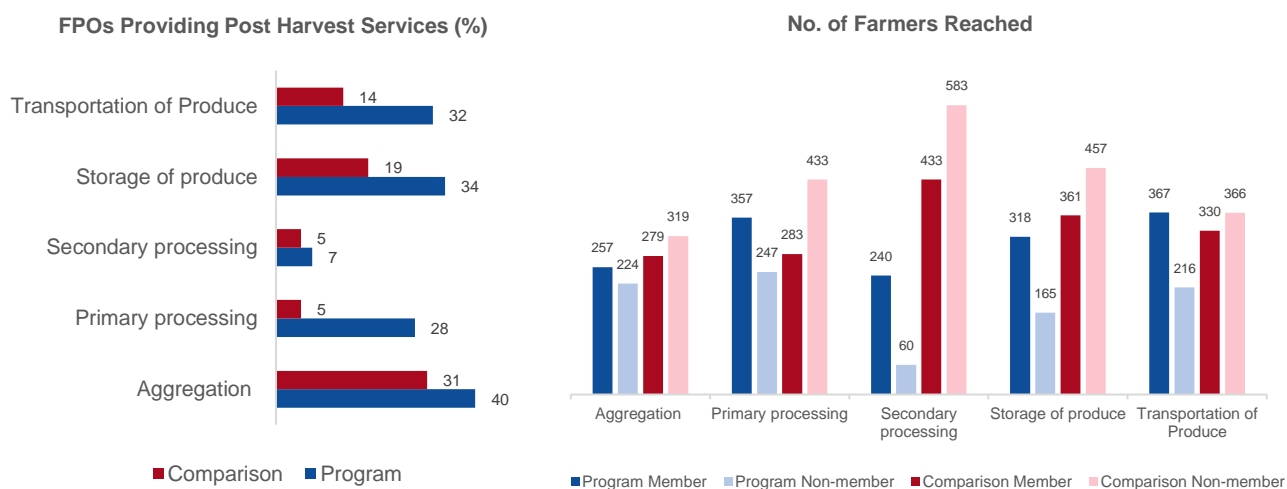


Figure 5: Post Harvest Services

4.3.2 Sale of produce

Market linkage is an important pillar of the program, and therefore an area of deep focus for grantee organizations. Some examples include, Digital Green’s streamlining of aggregation efforts and increasing access to market information through digital platforms. 83% of the transactions of Grameen Foundation supported FPOs are with institutional actors such as ITC. Their intervention has also facilitated export licenses for 26 FPOs thus opening access to new markets. Heifer International have incorporated 3600 farmer households into the market system by establishing linkages at the FPO level. IFDC and Sehgal Foundation organized seminars bringing together representatives from FPOs, knowledge partners, traders, processing units, marketing agencies to establish market linkages. IFDC has created 604 program ‘champions’ in 292 villages, who are a local cadre of resource persons trained to provide market knowledge and connections to their fellow farmers. TechnoServe has established market linkages with 94 institutional buyers to date. ICRISAT have entered MoUs with market buyers such as WayCool and AgriBazaar for their FPO.

Data shows that an average of 30% of program FPOs sold produce to wholesale markets, retail markets and private buyers. This number was 15% for comparison FPOs. For example, 42% and 27% of program FPOs reached out to wholesale and retail markers respectively, as opposed to 15% and 8% respectively for the comparison FPOs. Having said this, it is important to keep in mind that place of sale depends on the type of crops marketed by the FPOs. On average, program FPOs, earned 10% higher income from sale of produce.

Challenges faced in service provision across the agri-value continuum.

38% and 33% of program and comparison FPOs reported challenges in provision of services. Insufficient working capital was cited as a major challenge by program FPOs, followed by lack of linkages/contacts and infrastructure. For comparison FPOs, the greatest challenge was lack of linkages/contacts, followed by inadequate working capital and lack of infrastructure. A higher number of program FPOs (16% vs.7% comparison) cited that farmers do not meet quality requirements vis-à-vis their outputs, indicating the need for additional training of farmers on quality requirements.

4.3.3 Training and capacity building

Both program and comparison FPOs provided training and capacity development programs for their member farmers. Majority of sessions were conducted on a monthly basis, with classroom trainings being the most frequently used format. Other methods included seminars, demo plot visits, and exposure visits. There were no significant differences in the areas of training provided by program and non-program FPOs – top three areas were good agricultural practices (15% both groups), new technologies (13% both groups) and use of inputs (12% both groups).

However, there were differences in the recipients of the training – while on average 71% of program FPOs trained office bearers (63% comparison); more comparison FPOs (64% vs 52% program) trained member farmers. In terms of attendance and adoption of training, a slightly higher proportion of comparison members (66%) attended at least one training session compared to the program group (60%). More comparison attendees applied the training in their day-to-day work (86% vs. 75% program). Overall, the data suggests that while both program FPOs conduct training and capacity development sessions, there is room for improvement in terms of directing more training towards member farmers and ensuring the adoption of the training provided.

4.4 Financial Viability of FPOs

Providing a spectrum of services to member farmers fuels diversity of income and capacity of program FPOs to earn revenue through the year. A significantly higher number of program FPOs registered profits (and higher profits) in the previous financial year. However, profit sharing is more equitable in comparison FPOs.

The financial viability of FPOs is dependent on two main factors – operating model and capitalization. **Operating model** is dependent on produce/commodity and services/activities provided to support farmers in cultivating the produce. Both these in turn affects diversity of income sources of the FPO. As figure 6 demonstrates, a higher proportion of member farmers in program FPOs are engaged in the cultivation of multiple/3 crops across agricultural seasons. Greater “time in market” by farmers, potentially increases their demand for pre-harvest, post-harvest and marketing support services. As highlighted in the afore-mentioned section on service provision, a higher proportion of program FPOs cater to these demands, thereby fuelling their ability to earn revenue through the year. Program FPOs earned, on average, 29% higher revenue than the comparison group.

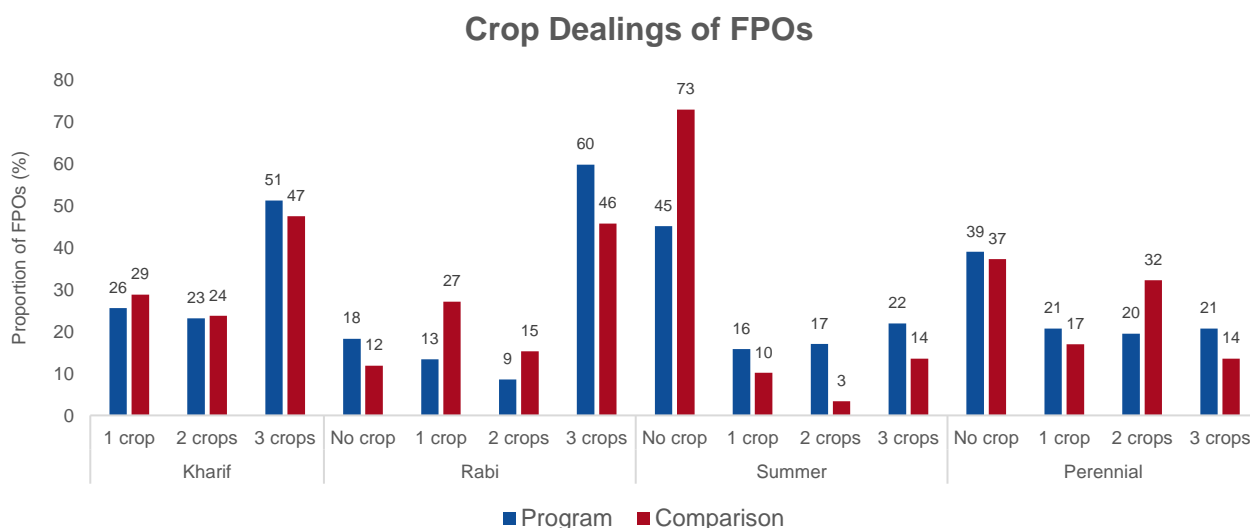


Figure 6: Crop Dealings of FPOs

Capitalization is critical for financial viability with FPOs requiring at least INR 3-5 lakh in equity to start trading and value-addition operations. As of May 2021, only 10% of all FPOs registered nationally had crossed the INR 5 lakh threshold¹⁹. However, the surveyed program FPOs had an average paid-up capital of INR 16.25 lakh (8 times that of comparison FPOs) (table 2). This finding may be aligned with grantees’ interventions to provide FPOs with capital to sustain and expand their operations. For example, Sehgal Foundation provided seed funding to support the establishment of FPOs, while Tanager provided FPOs with access to capital and technical support to help them become viable businesses. 72.5% of Grameen Foundation program FPOs were linked with at least one source of finance. Consequently, they were able to access a total of INR 5 crore. TechnoServe has linked its program FPOs with institutional sources of finance engaging with a total of 26 financial institutions. Sehgal Foundation has helped its supported FPOs unlock over USD 100,000 in grants and subsidies.

¹⁹ Govil et al 2021 ‘Farmer Producer Companies: From Quantity to Quality’ *State of India’s Livelihood Report 2021* (<https://livelihoods-india.org/wp-content/uploads/2022/08/soil-report-2021-1.pdf>)

Table 2 FPO Capitalization

Parameters	Program		Comparison	
	Current FY	Previous FY	Current FY	Previous FY
Shareholders	789	684	412	396
Shares per farmer	316	286	148	100
Shares per Director	7862	8532	301	457
Paid up Capital ²⁰ (INR)	16,25,544	13,55,089	2,15,619	1,86,047

At the time of the review, program FPOs had access to a more diverse range of finances and borrowed larger amounts, plausibly indicative of the support provided by grantees. For example, while both program and comparison FPOs received support from NABARD and SFAC, data shows that program FPOs also accessed capital from NBFCs and CSR. Also 22 program FPOs as against 12 comparison FPOs were able to access finance from private banks.

With regards to profitability, FPOs across both groups were asked whether they made a profit or loss in the previous finance year, and to report corresponding amounts. It is important to note that 58% of comparison FPOs refused to and/or did not have the necessary data. As figure 7 shows, a greater proportion of program FPOs were profitable (72% vs 42% comparison) and earned on average higher profits (INR 195229 vs INR 141,114 comparison). That is, program FPOs on average made 38% more profit than their counterparts in the comparison group.

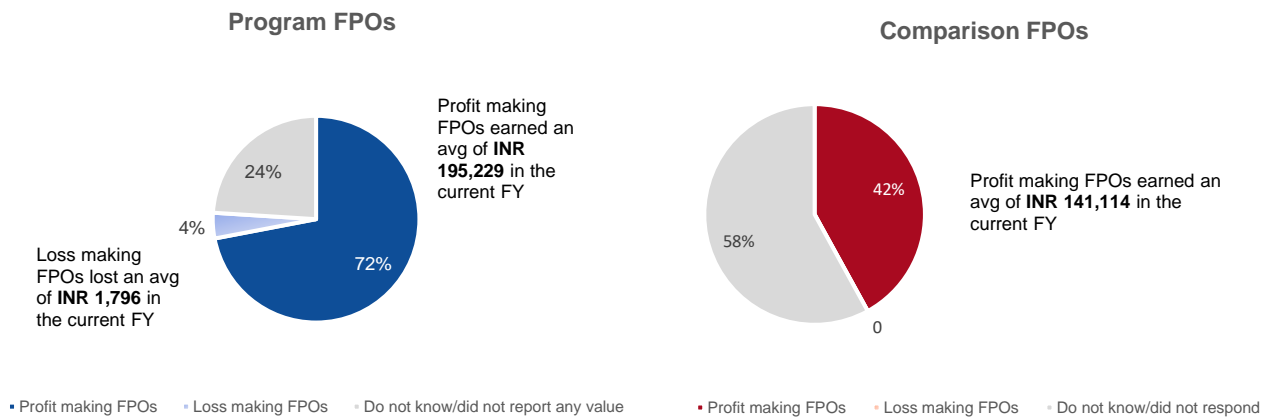


Figure 7: FPO Profitability

With regards to distribution of profits, it is interesting to note that a smaller proportion of program FPOs report equal profit sharing among members (7% vs. 19% comparison). This is aligned with the table above which shows increased concentration of shareholding with the directors in program FPOs. What also stands out is that a quarter of program FPOs are yet to distribute profits amongst members. This corroborates research²¹ which suggests that farmers are not clear about their role as business owners in FPOs, view their contribution as service fee instead of share capital share capital and thus may not anticipate or ask for profits.

²⁰ The average exchange rate during the year 2022 was 1USD = 79INR

²¹ Neti et al 2018, Questions of Ownership and Organisational Sustainability: Preliminary Findings from a study of Farmer Producer Organisations

Table 3 FPO profit sharing

Basis for Profit Sharing (%)	Program	Comparison
Proportionate to the share invested	59	46
Shared equally amongst the members	7	19
Shared as per role/position in the FPO	4	2
Not yet done	26	31
Does not happen	2	0
Do not know	2	3

5 Unpacking Findings on SMF Livelihoods

Findings:

1. **Farmer households in program areas are more marginalized across socio-economic parameters.**
 Respondents in program areas exhibit multiple interactional axes of vulnerability such as caste, literacy, access to basic amenities and dependence on social security schemes. This may affect awareness, adoption of new practices, risk taking and benefits of development programs. Effects of the program on farm metrics should be interpreted with greater appreciation keeping this in mind.
2. **Corroborating data from the FPO, there is greater engagement of program farmers in FPOs, with benefits derived from a wider spectrum of services. This underscores the raison d'être of the market access program of strengthening the role of FPOs as aggregators.**
 While program and comparison farmers cited farm input provision, aggregation of produce and non-farm inputs as the top three services provided by their FPOs, program farmers reported accessing a wider range of services such as marketing of produce, linkages to buyers and value addition.
3. **As program FPOs perform more effectively the role of aggregators (source of information, provider of services), trickle-down positive effects on farm metrics are just beginning to unfold.**
 - a. While a larger number of program households cultivate rabi and perennial crops, overall, they exhibit marginally higher time in market or cropping intensity. However, data points to an overall upward trajectory, indicating adoption of good agricultural practices.
 - b. While there are no differences in the crop mix during the rabi season across both cohorts of households, a higher percent of program households grew high value/cash crops during the kharif season (cotton, groundnut)
 - c. While a higher number of program FPOs provide loans, comparison FPOs provide credit to a larger proportion of their members, i.e. have higher saturation
 - d. Critically, program households accessed further away markets for a higher proportion of their crops, indicative potentially of the market linkage activities of FPOs supported by grantee organizations.
 - e. A significantly higher number of program farmers reported FPOs providing primary processing services, the difference is marginal for secondary processing.

As Section 4 highlighted, drawing on the support provided by grantee organizations, a higher proportion of program FPOs are engaged in the provision of pre-and-post harvest services, advisory and training to farmers. This section presents evidence on whether the support provided by the FPOs has resulted in changes in key farm metrics such as **volume** (production), **time in market** (cropping intensity), **value** (crop diversification, access to credit, markets) and **quality** (primary and secondary processing²²). Evidence is presented for farmers in program and comparison areas. Where relevant, responses from the FPO survey regarding provision of services (previously described in the FPO section) have been restated and contrasted with farmer responses. Such triangulation serves two purposes: firstly, where farmer data corroborates FPO responses - it enhances

²² Primary processing is the basic cleaning, sorting, grading of produce. Secondary processing involves transformation of the produce – e.g. extraction of oil from oilseeds, or manufacture of flour from cereals.

the credibility of the impact review; and secondly where the two sets of data differ - it highlights interesting nuances and areas for further study.

5.1 Demographic and Socio-Economic Profile

The study findings show that households in the program areas are more socio-economically marginalized compared to households in the comparison areas. While the program households were found to be similar in terms of home assets (e.g. consumer and durable goods) and marginally better in terms of owning farms assets, it was seen that program households had lower levels of literacy, access to basic amenities like drinking water and toilets, and higher dependence on social security schemes, such as MGNREGA²³ for daily wage labour income. A larger proportion of program farmers also belonged to disadvantaged groups (such as Other Backward Castes, Scheduled Caste and Scheduled Tribes). Research points to how intersecting circles of vulnerability impacts awareness, risk-taking ability, access to development programmes and adoption of new practices. Accounting for this, effects of the program should be seen positively or with more appreciation than what is presented by the numbers as comparison between program and non-program.

5.2 Sources of Household Income

Cultivation income: Majority of farmers (77% program vs 74% comparison) engaged in cultivation activities over 2021-2022. On average farmers across both cohorts owned 3 acres of land²⁴. A key finding is that a higher percent of program households leased in land for cultivation (6% vs 3% in comparison). This possibly points to the fact that a higher number of program respondents felt that cultivation is profitable, and that they could move further up the value chain. The fact that this is seen in comparison to a group that may be better off socio-economically, may reflect early success for the program.

Both program and comparison households rely heavily on cultivation as their primary source of income, with slightly more than half of the households reporting that cultivation contributes between 40-80% of total income. However, program households exhibit a greater dependence on cultivation income, with 25% reporting that cultivation contributed between 60-80% of their household income, compared to 19% in the comparison group.

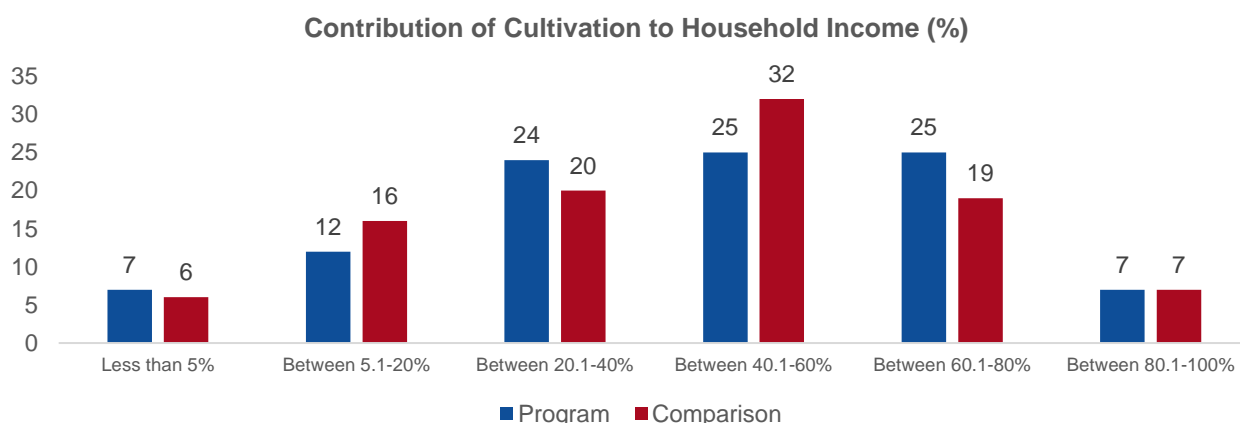


Figure 8: Contribution of Cultivation to Household Income

Diversification of income: Diversification is key to hedging risks inherent to agriculture. This posed a problem for both sets of households – average number of livelihoods per household was 1.8 for program and 1.6 for comparison households. A key source of diversification for farm households is **income from livestock**. Comparison households owned more large ruminants, resulting in higher income from sale of milk and milk products. Program households exhibit greater ownership of poultry, sheep and goat. A possible explanation is the focus of grantee organisations such as Heifer International and PRADAN in supporting income diversification through livestock (sheep and goat) and poultry activities. Heifer International provides training to FPOs and SMFs in backyard poultry practices and supports establishment of hatcheries and feed mills. To date 4 out of their 8 supported FPOs have reached a mature economic state incorporating these activities. PRADAN is working on a three-pronged strategy to introduce rearing of goats and poultry as a livelihood activity –

²³ Mahatma Gandhi National Rural Employment Guarantee Scheme, an Indian labour law and social security measure that aims to guarantee the 'right to work' to rural populations.

²⁴ Please note that This data does not align with responses from MC members, who reported that program farmers owned on average, 5.6 acres and comparison farmers on average 4.2 acres of land. One possible reason for this, is the joint ownership of land. In India, land is often jointly owned with family members, with inputs and outputs being shared. While the survey, specifically asked the farmer acreage for land exclusively owned by his/her household, it is possible that the FPO records land that is jointly owned. Another reason is that only a sample of 20 farmers were selected from the FPO, which on average had upwards of 500 members.

provision of trainers to build technical capacity; awareness and channelizing of vaccines and feed management and construction/renovation of sheds. **Other key sources of income** for both groups include agricultural labour, MGNREGA and non-agricultural labour. While contribution from non-agricultural labour to total income is similar for both groups, program households exhibit a higher dependence on agricultural labour and MGNREGA. Gender disaggregated data shows that men in comparison households engage in agricultural and non-agricultural labour and salaried employment to a greater extent than men in program households, Women in program households engage in agricultural and non-agricultural work to a greater extent than women in comparison households.

5.3 SMF Engagement with FPOs

In terms of *membership*, a significantly larger percent of program households (94% vs 79% comparison) were members of FPOs. There was no difference in the amount of time program and non-program farmers had been members in the FPO. Program farmers belonged to FPOs with a higher number of members (on average 551 vs 418 in comparison).

In terms of *FPO engagement*, responses from FPOs regarding **provision** of services were triangulated against the farmer responses regarding **access** to services. Almost an equal number of program and comparison farmers listed aggregation of produce, farm inputs and non-farm inputs as top three services, aligned with data received from the FPO. A higher proportion of program farmers reported accessing a spectrum of services, such as marketing of produce, linkage to buyers, trading, and processing or value addition. This data corroborates findings in the FPO section, which shows that program FPOs perform better than their counterparts in providing services across the agri-value chain. It also underscores the key design principle of the market access program of capacity building FPOs to ensure that they perform their roles as aggregators more effectively. Having said this, 17% and 21% of program and comparison farmers respectively did not use the services of the FPO – either because they did not need the FPO services or that they were receiving the required information or training.

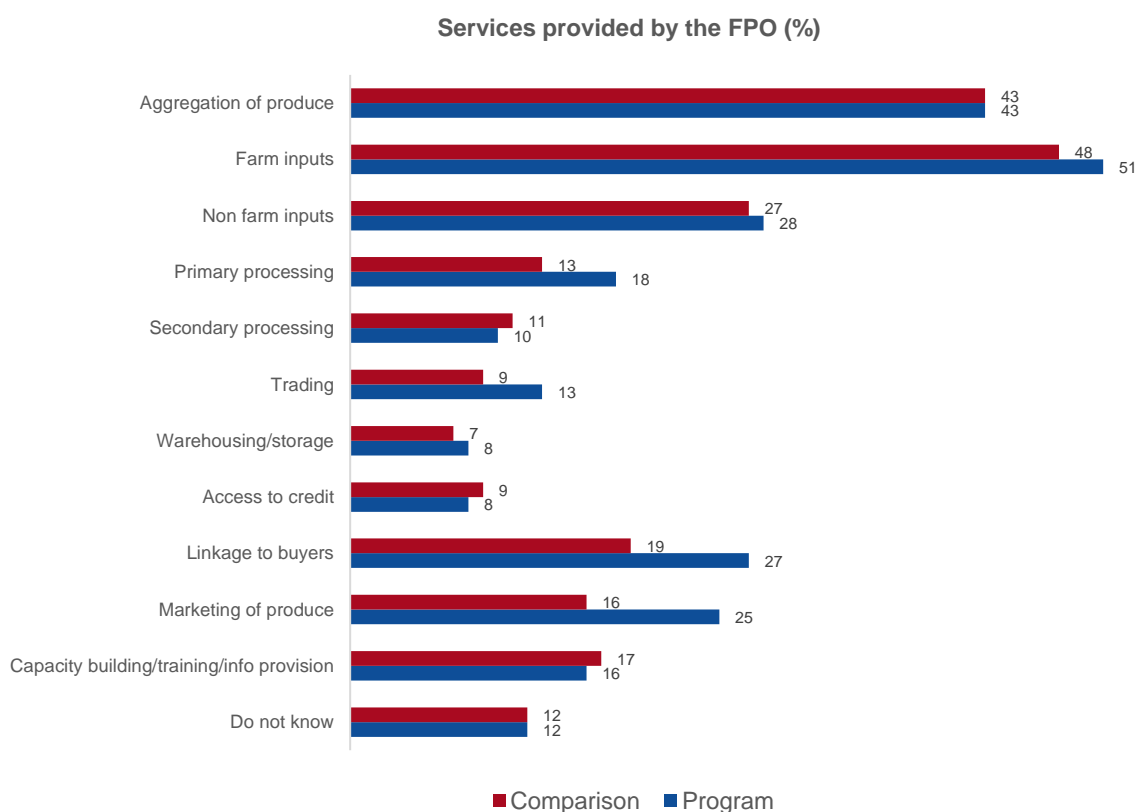


Figure 9: Services Provided by the FPO

5.4 Advisory and service provision

Before unpacking changes in key farm metrics, it is important to understand advisory services and training provided to farmers on farm practices and marketing of outputs. Equipping farmers in this respect, has the potential to improve yield, reduce losses and improve resilience to adverse events, including extreme weather events. Several grantee organizations have devoted their attention to providing advisory and training to farmers. Digital Green for example, uses technology to provide such services to 116,000 farmers. Heifer International has trained four master trainers in social capital, poultry, gender and justice, who then provided extension

services to 2,555 FPO farmers. ICRISAT has conducted demonstration of farm pond lining in 7 farmer fields through which farmers stored rainwater and protected crops during dry spells. PRADAN trained women farmers on adoption of sustainable agriculture practices and modern animal husbandry. Tanager has trained farmers on good agricultural practices, of whom 99% adopted at least one recommended practice. Techno Serve has trained 1,313 smallholder coffee-growing farmers across 29 villages on better agronomic practices to improve yield and quality of produce. Precision Development also set up a digital technology solution with the aim to provide customised digital extension services such as timely information on coffee cultivation. Trickle Up targeted women and with smartphones and developed a Package of Practices app in five local languages that helps participants access information related to crop selection.

No significant difference was seen with respect to the percent of program and comparison farmers receiving advisory services. Top three advisory services reported by farmers over the last 12 months was crop advisory, integrated pest management and input advisory. This is broadly aligned with the responses provided by the FPOs, who reported the top three areas of training they provided were good agricultural practices, use of new technologies, and use of inputs. In terms of sources of information on agrarian practices, strong peer and social capital effects were seen, with other farmers and friends/family as key sources (61% program vs 64% farmers). Program farmers cited FPO representatives as a key source (32% vs 26% comparison). Other sources include the media (31% program vs 29% comparison) and private agencies (26% across both cohorts). A slightly higher percent of comparison farmers (28% vs 24 % program) reported receiving information from government extension officers. 31% of program and 35% of comparison farmers also used internet, digital media and the smartphone to access information. This relatively low statistic can be useful for grantee organizations designing and deploying digital interventions.

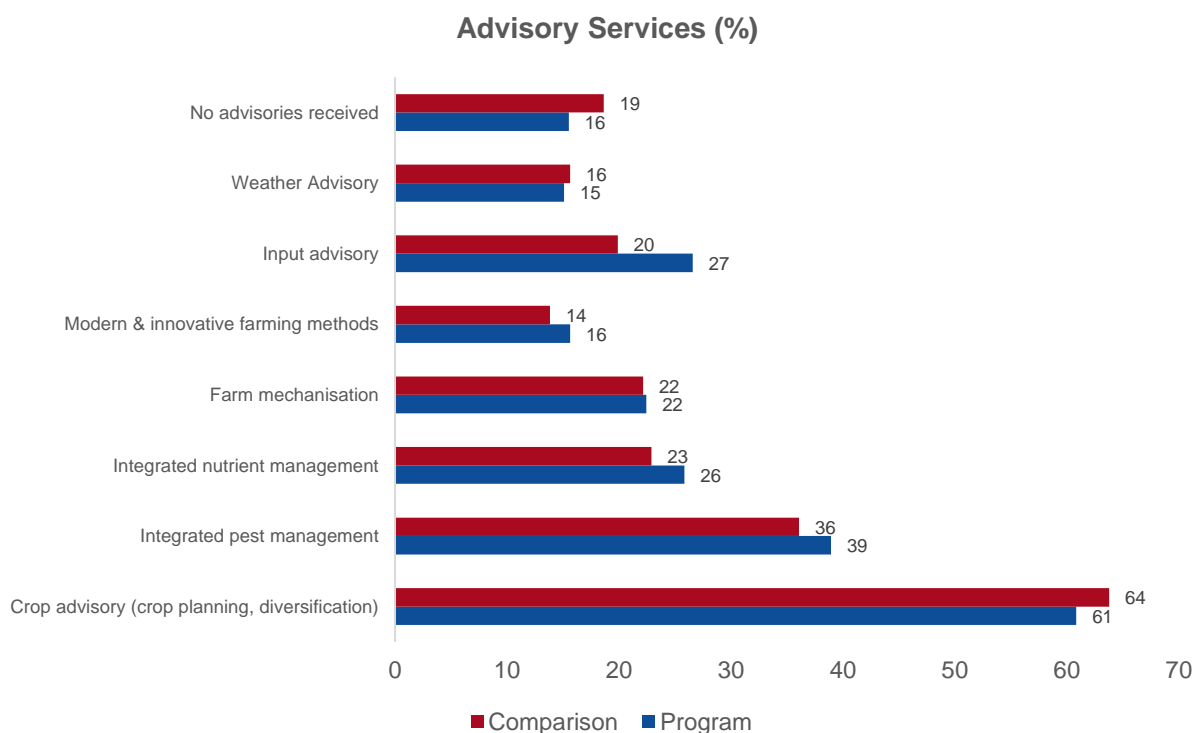


Figure 10: SMF Advisory Services

5.5 Farm metrics

This section explores whether farmer use of support services and advisory provided by the FPO led to changes in farm metrics. First is the metric, *time in market* or cropping intensity²⁵, which captures cultivation by the farmer across multiple cropping seasons. As figure 11 shows, a slightly higher percent of program farmers cultivated land during the kharif season (86% vs 83% comparison), and summer season (7% program vs 5% comparison). However, a larger number of program households (by 7% points) cultivated during the rabi season and cultivated perennial crops (by 4% points). Overall, program households had a slightly higher cropping intensity (215% vs 213% comparison). Albeit the difference is marginal, a greater cropping intensity is indicative of adoption of a panoply of good agricultural practices in tandem – superior cropping patterns, enhanced used of inputs and irrigation, conservation of water and soil, integrated pest management etc. Given that for program farmers, FPOs serve as a key information source and provider of advisory and services, it is fair to assume that FPOs and direct interventions by grantees have played, and will continue to play a positive role in improved cultivation outcomes.

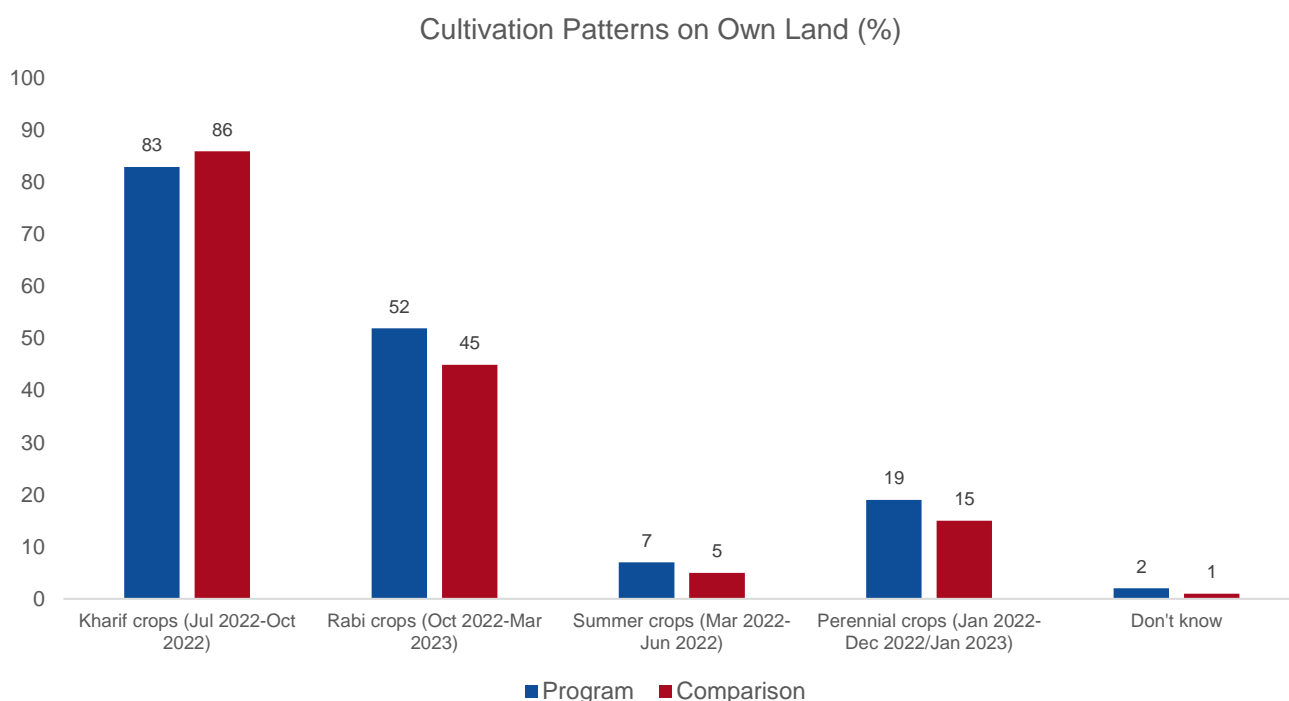


Figure 11: Cultivation Patterns on Own Land

The second set of metrics relate to *volume (production)*. Data shows that majority of farmers in both program and comparison areas in the kharif season grow paddy (33% program vs 38% comparison) and in the rabi season grew wheat (18% program vs 22% comparison). About 39% and 37% percent of farmers from program and comparison groups respectively did not cultivate perennial crops, but in cases where it was grown, mangoes were the top choice for program farmers (17%) and cashew nuts for comparison farmers (15%). For the summer season, we observe that a substantial portion again did not grow any crops. Given the relatively smaller number of farmers cultivating summer and perennial crops, data on volumes harvested and marketed (sold) was undertaken for top three crops cultivated during kharif 2022 and rabi 2021. Table 4 provides details. Major crops grown by program farmers in kharif were paddy, cotton and groundnut; with chillies replacing groundnut for the comparison group. In rabi, program farmers grew more food crops. With respect to volume of production, in kharif 2022, similar quantum of paddy was harvested by both program and comparison farmers. Program farmers harvested lesser quantities of cotton compared to their counterparts. In rabi 2021, comparison farmers harvested higher quantities of wheat and slightly lesser quantities of groundnut. With respect to sales, as is known, 100% of cash crops are sold. Interestingly, program farmers sold lesser quantities of food crop such as paddy and wheat.

²⁵ Cropping intensity is the total land cultivated across all seasons as a percent of total land owned by the household.

Table 4: Volumes cultivated and harvested.

Season	Program farmers			Comparison farmers		
	Volume harvested (kgs)	Volume marketed (kgs)	% marketed	Volume harvested (kgs)	Volume marketed (kgs)	% marketed
<i>Kharif 2022</i>						
Paddy	3593	2534	71	3568	2708	76
Cotton	1743	1667	96	2411	2405	100
Groundnut	3653	3623	99			
Chillies				2756	2720	99
<i>Rabi 2021</i>						
Wheat	3664	1619	44	4355	2237	51
Paddy	2698	2436	90			
Groundnut	3604	3596	100	2749	2742	100
Chillies				1907	1907	100

The third set of metrics are located within the bucket of value, and include crop diversification, access to credit, markets. With regards to crop diversification, or mix of crops grown, the program sought to initiate a shift towards high-value or cash crops. Data (table 5) shows that overall, both groups produced a similar mix of high-value and low-value/food crops across rabi, with a larger percent of program households (8% points) growing cash crops during the kharif season (cotton and groundnut). What is key is that program households receive requisite support from their FPOs for their cultivated produce (only 4% stated that their FPOs does not deal in the crops that they grow). Examples of FPO support include work done by IFDC who set up 6 collection centres to assist with aggregation and sale of crops grown by program farmers (i.e., paddy, groundnut, and maize.). Similarly, Sehgal Foundation also provided support to marginal farmers cultivating primarily wheat, paddy, and vegetables in Prayagraj district of UP.

Table 5 Crop Diversification

Season	Type of crop	Program (%)	Comparison (%)
Rabi 2022	Food crop/staples	78	74
	Cash crop/high value	33	31
Kharif 2022	Food crop/staples	73	78
	Cash crop/high value	34	26
Rabi 2021	Food crop/staples	80	79
	Cash crop/high value	29	28

With regards to *access to credit*, there are several program interventions that enable credit provision to farmers. For example, Digital Green supported FPOs provide advance credit for cultivation to tribal belts in Andhra Pradesh, and Heifer International have ensured financial linkages for 7576 farmer households (1352 of whom have used these linkages to access credit). As seen in the FPO section, a higher proportion of program FPOs (15%) provided credit in relation to comparison FPOs (7%). But comparison FPOs seem to have a better saturation, reaching out to more male and female members (50% vs 33% comparison). The latter finding is corroborated by farmer responses, wherein a higher percentage of comparison farmer members reported that their FPOs provided loans (21% vs 17% in program FPOs). Therefore, while a higher *number* of program FPOs provide loans, comparison FPOs provide credit to a larger *proportion* of their members. One reason for this could be that program FPOs are currently in the process of being capacitated by the program - so while these FPOs have started adding credit provision to their list of services, the corresponding uptake from member farmers may be yet to commence. As figure 12 demonstrates, crop loans (cash or in kind) are the predominant type of loan provided, followed by investment loans. Interestingly, 15% of program farmers stated that the FPO provided and/or facilitated access to consumption loans, while very few comparison farmers (3%) reported the same. However, overall, there is scope for improvement in facilitating access to credit to farmers.

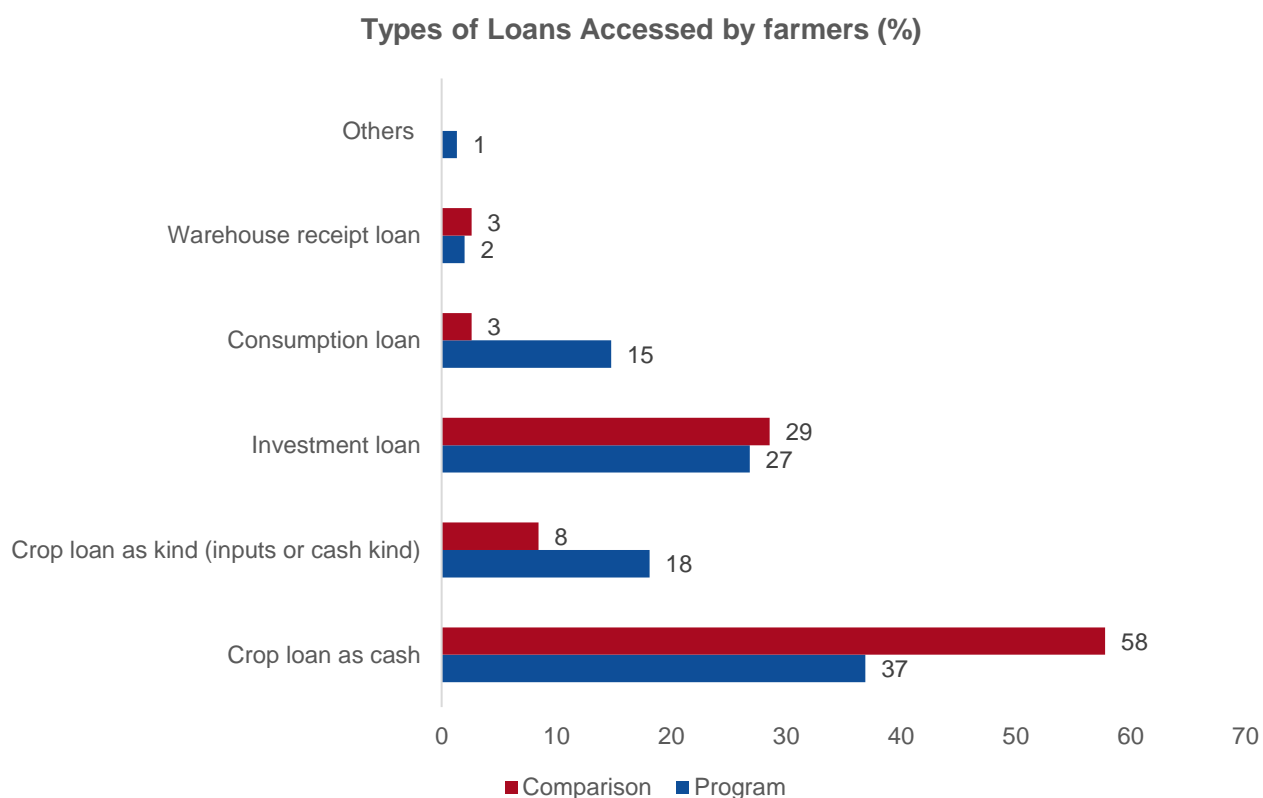


Figure 12: Loans Accessed by SMFs

With regards to *access to markets*, program households accessed further away markets for a higher proportion of their crops (60% vs. 50% for comparison). Improved access to different and far away markets have a positive impact on farmers income as it enables diversification of risks. This improves the probability of securing a steady income for the farmer. This data aligns with the efforts of the program with respect to improving market linkage activities of FPOs.

The fourth bucket of *farm metrics, related to value addition, through primary and secondary processing*. As seen in the previous section, a significantly higher percent of program FPOs reported provision of primary processing (28% vs 5% comparison) and a slightly higher percent for secondary processing (7% vs 5% comparison). Akin to the trend seen in provision of credit, however, comparison FPOs reported larger reach of farmers. This latter point is corroborated by responses from the farmer survey which show that while more program farmers access primary processing services, there is no difference between the program and non-program groups for secondary processing. This could be because a large proportion of program FPOs have added processing facilities as a new activity over the last year and member farmers are yet to avail these facilities at scale.

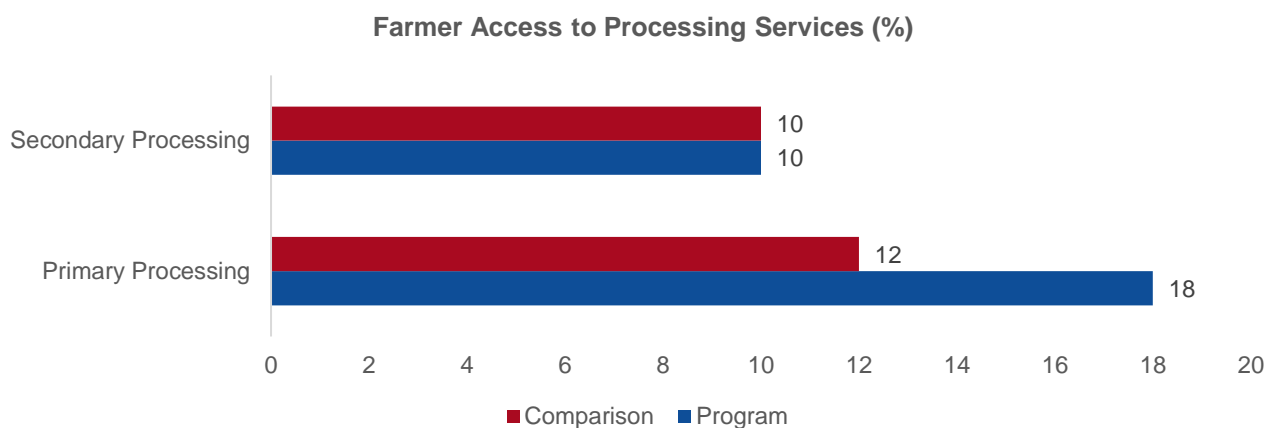


Figure 13: SMF Access to Processing Services

6 Unpacking Findings from the Impact Review: Gender Outcomes

Findings:

- 1. Women office-bearers perceive that they have limited decision making power in FPOs.**
While a larger number of women held positions in the management committee of program FPOs, women feel that their opinions on key decisions related to governance, finance and administration are not taken as seriously as compared to men. This points to the fact that while program FPOs have been successful in promoting women in leadership roles, the wider normative context circumscribes the exercising of this leadership.
- 2. Limited decision making of women farmers with respect to cultivation activities.**
Finding corroborates research that women often viewed (and treated) as laborers on the farm (and not entrepreneurs), with cropping decisions and market interface being the domain of men.
- 3. Greater decision-making power seen with respect to livestock rearing and non-farm enterprises among women farmers in program FPOs.**
While livestock rearing is the domain of women, differences between the two cohorts possible because of grantees' focused attention on income diversification through livestock. Larger number of women in program areas take decisions on non-farm enterprises, potentially because of the focus of the market access program portfolio on supporting women to become market-ready and entrepreneurial.
- 4. Women farmers in program areas exhibit higher cropping intensity and crop diversification as compared with both women farmers in comparison areas and men farmers in general.**
FPO is a key source of information and provider of advisory and services to women in program areas. Evidence shows that women farmers in program areas cultivate more intensely, exhibit greater crop diversification (mix of high-value and low-value crops) compared with women farmers in comparison areas and men farmers per se. Women farmers in program areas also access a wider spectrum of markets as compared to women farmers in comparison areas. What may be occurring is a higher assimilation and adoption of good agricultural and marketing practices provided by the FPO (among other sources) by women respondent households, resulting in improved farm metrics.
- 5. Gendered differences in agri-value chains**
Women farmers in both program and comparison areas are not engaged in cultivation of coffee, a key cash crop, promoted by program FPOs and grantee organizations. Coffee cultivation is traditionally a male dominated enterprise, with relatively high barriers to entry for women farmers. As the data shows,

women farmers are engaged in cultivation of food crops (paddy, wheat, maize), vegetables, fruits and in floriculture.

A significant proportion of the rural workforce in agriculture are women²⁶. With escalating rural-urban migration by men, women now play multiple roles as cultivators, laborers and entrepreneurs. Despite their immense contribution, research shows that women are not equipped with what is needed for profitable farming such as access to inputs, services and organised markets. Additionally, gendered norms restrict women's ownership of productive assets, and participation in decision making. The Food and Agriculture Organisation (FAO) estimates that if women were to have the same access to productive resources as men, they could increase farm yields by 20-30%, adding 2.5 to 4% to total agricultural output in developing countries²⁷.

Almost all grantee organizations focus on gender-sensitive programming to bridge the gender gap, help women cope with challenges and take advantage of opportunities. PRADAN's intervention for example is entirely focused on women farmers – to date, they have mobilized 41,880 women them into agri-value groups to build value chains of select crops, and trained 15,891 women on livestock practices. Mercy Corps also focuses exclusively on women through their interventions. Their goal is financial inclusion and development of product bundles to deliver digitally enabled services to over 100,000 women farmers. Digital Green's work focuses on training producer group representatives to use mobile application built on FarmStack. All extension agents trained are women. All FPOs supported by Grameen Foundation have taken at least one gender mainstreaming effort to enhance women's participation, representation, and agency in the FPO ecosystem. Half of their supported FPOs have achieved the benchmark of 40% female membership. Additionally, Grameen facilitated community level gender dialogues for 1,540 male and female participants. Tanager has trained 4400 women farmers on good agricultural practices, conducted 815 gender outreach activities, and mobilized 82% of female members to participate in at least one FPO activity. TechnoServe provided training on kitchen garden establishment to 1,082 women across 27 villages in Andhra Pradesh. ICRISAT has staffed its primary processing centre with 60% women employees, training them to operationalize and run the centre.

This section focuses on two areas. First, is to understand engagement of women office bearers in FPOs. Second, is to ascertain whether there are differences in farm metrics (volume, value, quality) between women farmers in program and comparison areas.

6.1 Engagement in FPOs

Participation and awareness

41 and 25 women office bearers in 47 program and 37 comparison FPOs respectively were interviewed²⁸. Majority of women interviewed were part of the BoD of their FPOs. The number of BoD members interviewed was greater in comparison FPOs (80% vs 73% project). Across both cohorts, women stated that they had received family support to become members and participate in FPO activities. Having said this, a greater proportion of women in the comparison group cited that they borrowed money from their spouse or another household member to pay the share capital (40% comparison vs 22% project), indicative of greater dependence (economic or otherwise).

A slightly lower percent of women in program FPOs reported regular attendance of meetings (general body, BoD) (88% project vs 92% comparison). Awareness levels of women vis-à-vis *roles and responsibilities of office bearers*, such as themselves was garnered. Two points were noted. First, there were no differences in awareness levels between the interviewed men and women office bearers. Second, a slightly larger number of women in program FPOs identified a diverse set of responsibilities of the BoD, (especially financial management and admission of new members). This is an important finding. As mentioned above, a greater number of BoDs interviewed were in fact in comparison FPOs. The finding therefore, plausibly indicates the positive effects of the grantees' capacity building exercises on governance, administration and financial systems in program FPOs

Decision making

The extent of women's participation in decision making was understood at the FPO and farmer level.

At the FPO level, women office bearers were asked to comment on the extent to which they impacted decision making in areas such as member eligibility, resource allocation, inventory management, profit distribution and general operations. Answers were garnered on a likert scale (*"to a great extent"*, *"some extent"*, *"to no extent"*). Across both cohorts, a lesser proportion of women located their responses within the *"to a great extent"* category

²⁶ Estimates range between 70-85%. Mehta, P (March 2022). Empowering India's women farmers: Bridge the gap. Hindustan Times. Available at <https://www.hindustantimes.com/ht-insight/economy/empowering-india-s-women-farmers-bridge-the-gap-101647511783243.html#:~:text=In%20rural%20India%2C%20the%20percentage,work%20is%20done%20by%20women.>

²⁷ FAO (2011). The State of Food and Agriculture. Women in Agriculture. Closing the gender gap for development.

²⁸ 4 out of the 47 sample program FPOs were women-only (set up by PRADAN). While ICRISAT has set up 1 women-only FPO, this FPO was not part of the study sample

as compared to men. While the use of likert scale are open to numerous biases, the finding still points to the fact that women feel that their opinions may not be taken as seriously as compared to men. So, while collectives are important mechanisms for promoting women’s leadership, the wider normative context and socialization of women circumscribes perception of self and capabilities²⁹. Are there differences across cohorts? Data shows that a greater proportion of women in program FPOs felt that men and women could equally benefit from membership in FPO (by 5% points), and that as office-bearers they could impact decisions “to a great extent” (by 7% points) as compared to their counterparts. These data points reflects a smaller gender gap in program FPOs. However, note that 4 out of the 47 program FPOs in the sample were women-only FPOs, and this may be activating this finding. It is suggested that a comparative analysis of women’s engagement be undertaken between women only and mixed gender FPOs.

At the farmer level, women farmers to asked to comment on the extent to which they took decisions on livelihood activities (cultivation, livestock rearing and non-farm enterprises) and the way in which income generated from these activities was utilised. Data³⁰ showed, across all women farmers, only 35% and 28% in program and comparison areas respectively, took decisions on livelihood activities. There were no differences between the two cohorts with regards to cultivation. A higher number of program respondents reported taking decisions on livestock rearing (by 10% points). While in developing countries, livestock rearing is the domain of women³¹, accounting for a larger number of taking decisions *per se*, the difference seen may be because of the programmes undertaken on income diversification. Interestingly, a larger number of women in program areas (by 12% points) reported taking decisions on non-farm enterprises. This may potentially be because of the focus of all programs in supporting women to become more ‘market-ready’ and entrepreneurial. It is suggested that an investigation of the multiplier effects of the portfolio be undertaken.

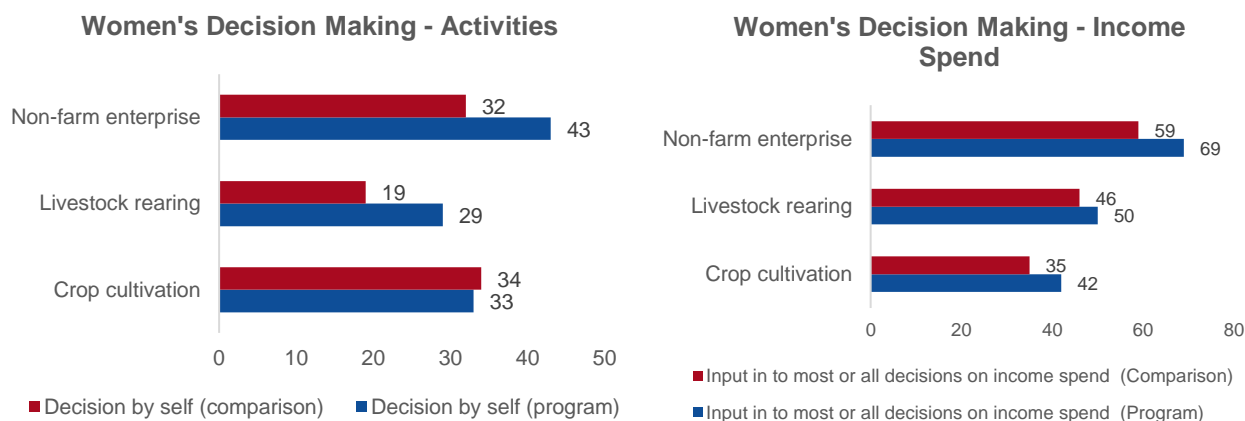


Figure 14: Women's Decision Making – Activities and Income

On average 53% and 47% of women in program and comparison areas reported having a say in the manner of income utilisation. While approximately 30% of women reported taking decisions with regards to cultivation, about 35-40% of women reported having a say in how this income was spent – the lowest among the three productive activities. What is seen, is that across cohorts, decision making was poor with regards to cultivation, even in households which were women headed³². This corroborates research that demonstrates that women in cultivation are often engaged as ‘laborers’, with little or no say in cropping decisions, or interface with the market (procurement and sale). Even when men migrate, they often do so cyclically – coinciding with sowing and

²⁹ World Bank 2013 ‘Collective Action and Women’s Agency: A background paper. *Women’s Voice, Agency, & Participation Research Series* (<https://openknowledge.worldbank.org/bitstream/handle/10986/21032/927580NWP0Wome00Box385358B00PUBLIC0.pdf?sequence=1&isAllowed=y>)

³⁰ Data from 288 program and 151 comparison women farmers. 47% and 41% of women farmers within the total sample in program and comparison were head of the household. d

³¹ NAFPO 2021 ‘Case of Women FPOs: Engendering Farmer Producer Organisations (FPOs) Initiative of the Govt. of India’ (<https://www.nafpo.in/wp-content/uploads/2021/12/NAFPO-Gender-Equitable-Transformation-of-Agriculture-FPO-Guidelines.pdf>)

³² While decision making on the livelihood activity was higher in women headed households, decision making on income spends was poor

harvesting seasons. Studies point to ‘crowding-out’ of women as the livelihood activity becomes more profitable³³.

6.2 Decoding Key Farm Metrics

Majority of women were marginal farmers with close to 1 acre of land. Akin to data from the total cohort, a higher number of program households leased in land, while more comparison households reported an increase in acreage of land owned from 2020.

The first step in decoding farm metrics, is to understand awareness and adoption of good farm practices and post-harvest practices by farmers. To ascertain this, two aspects were probed – sources of information and training received on farm and post-harvest practices. With regards to information, a strong peer and social capital effect was seen, with other farmers, friends and family cited as key sources by both cohorts. The FPO was cited as a key source by 44% of program respondents (30% comparison). With regards to training, as figure 16 shows, a significantly higher proportion of program respondents received training across a spectrum of topics over the period January 2022 – January 2023. Both these data points corroborate the market access program’s raison d’être of investing in FPOs to perform more effectively their role as aggregators in terms of information and service provision.



Figure 15: Women's Access to Training

Has information and advisory services provided by program FPOs translated to women farmers adopting better farm practices, leading to improved farm metrics? *Evidence shows that women farmers in program areas cultivate more intensely, exhibit greater crop diversification (mix of high-value and low-value crops) as opposed to women farmers in comparison areas and men farmers in both program and comparison areas. These farmers also access a wider spectrum of markets as compared to their counterparts. What may be occurring is higher assimilation and adoption of good agricultural and marketing practices provided by the FPO (among other sources) by women respondent households in program areas.*

³³ A similar situation is seen with regards to decisions on loan taking and decisions on how to use the money taken. While 55 percent of women took decisions on when to take loans, less than half were able to take decisions on how to use the money. World Bank 2013 'Collective Action and Women's Agency: A background paper'. *Women's Voice, Agency, & Participation Research Series* (<https://openknowledge.worldbank.org/bitstream/handle/10986/21032/927580NWP0Wome00Box385358B00PUBLIC0.pdf?sequence=1&isAllowed=y>) NAFPO 2021 'Case of Women FPOs: Engendering Farmer Producer Organisations (FPOs) Initiative of the Govt. of India' (<https://www.nafpo.in/wp-content/uploads/2021/12/NAFPO-Gender-Equitable-Transformation-of-Agriculture- FPO-Guidelines.pdf>)

First, with regards to cropping intensity³⁴ (indicator of time in market), the difference between program and comparison women respondent households is stark. The former had a cropping intensity of 210% and the latter 149%. The difference is sharpest for households with marginal landholdings (103 % points). Drawing on data from the farmer survey (section 5), two points emerge. One, the difference in cropping intensity between women respondent households in program and comparison areas (61% points) is much higher than the difference between men respondent households (9% points). Two, the difference in cropping intensity between households with marginal landholdings is much higher between women program and comparison households (103% points) as compared to men respondent households (4% points). What does this suggest? Marginal women farmers in program areas cultivate more intensely. As figure 17 suggests a higher proportion of program women farmers cultivate across multiple seasons, especially during kharif and summer seasons.

Cropping intensity of women farmer respondents

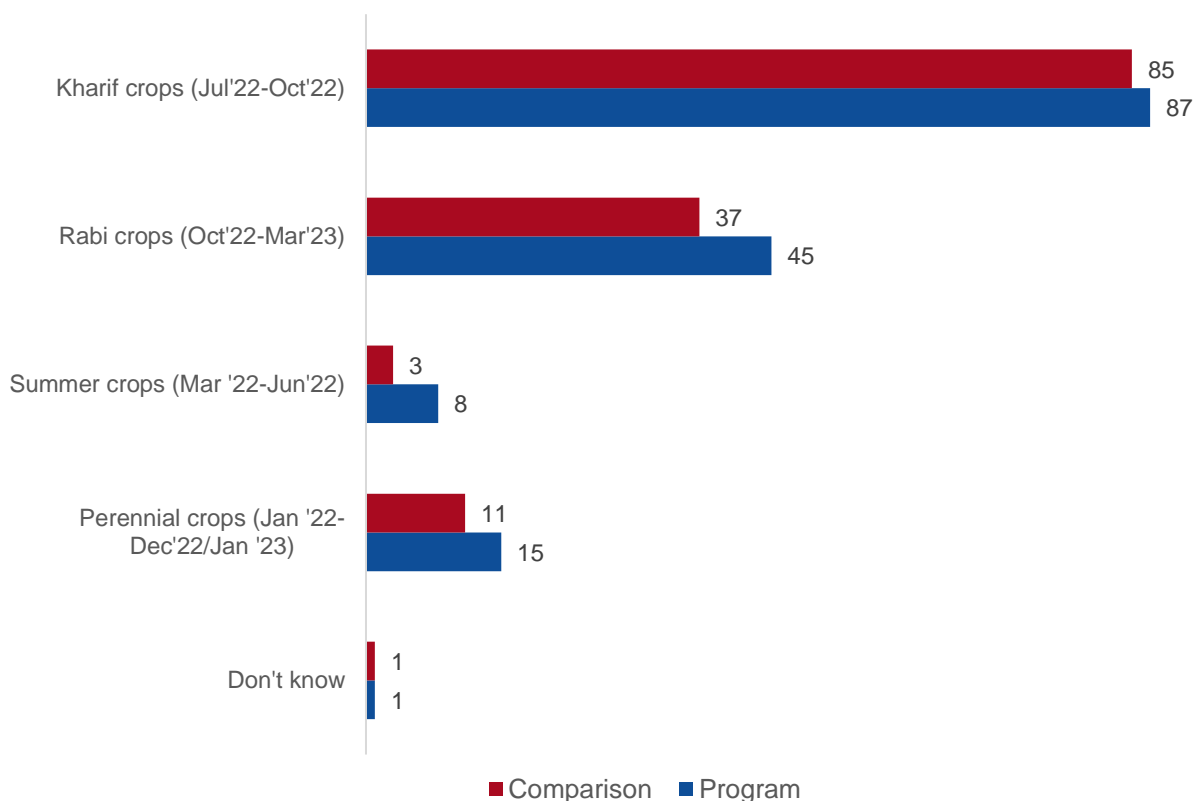


Figure 16: Women's Cropping Intensity

Second, with regards to crop diversification or the mix of high-value and low-value crops (indicator of value), program households cultivate more cash/high-value crops, the difference being greater for crops grown during the kharif season. Drawing on data from Section 5, a higher proportion of women respondents in program areas cultivate high value/cash crops as compared to women farmers in comparison areas and in some cases, men farmers as well (e.g., during rabi) (see Table 6).

Table 5 Mix of Cash and Food Crops for Women and Men Respondent Households

Season	Type of crop	Women Respondent Households		Men Respondent Households	
		Program	Comparison	Program	Comparison
Rabi 2022	Food crop/staples	73	78	83	79
	Cash value crop/high	32	29	28	28

³⁴ Defined as total land cultivated across all seasons as a percent of total land owned by the household.

Kharif 2022	Food crop/staples	73	87	73	76
	Cash value crop/high	34	18	34	27
Rabi 2021	Food crop/staples	72	75	80	74
	Cash value crop/high	34	29	33	32

*Men respondent households (652 program, 788 comparison), Women respondent households (288 program, 155 comparison)

What crops are being cultivated and how this differ between women and men cohorts? A few key points emerge from the data. One, sugarcane, a water intensive crop is not grown by women respondent households in either group. Instead, women cultivated less water intensive crops such as small millets and maize. Two, a wider spectrum of cash crops (fruits, vegetables) is cultivated by women respondent households. For instance, in addition to mangoes, pomegranate, oranges, potatoes and tomatoes are grown. Households in the comparison areas also practiced floriculture. Three, and critically, coffee a key cash crop (and promoted by program FPOs and grantee organizations) was not grown by women respondent households. This is a critical finding and points to gender differences across agri-value chains. Coffee cultivation for instance (like tobacco) is traditionally a male dominated enterprise, while barriers to entry for vegetable, fruit and flower cultivation is lower for women. Annexure 2 contains more details of the crops grown.

Third, with regards to access to credit, higher percent of women in program areas reported that FPOs provided/facilitated members with short-term crop loans (either in cash or kind) (52% project vs 43% comparison). A significantly higher percent of women in comparison areas stated that their FPOs provided or facilitated more investment loans (50% vs 26% program). This number of 50% is significantly higher than what is reported by women in program areas and men respondents across both cohorts (see figure 18). What is interesting to note, is the provision of/facilitation of consumption loans by program FPOs - which is usually not the case in comparison FPOs.

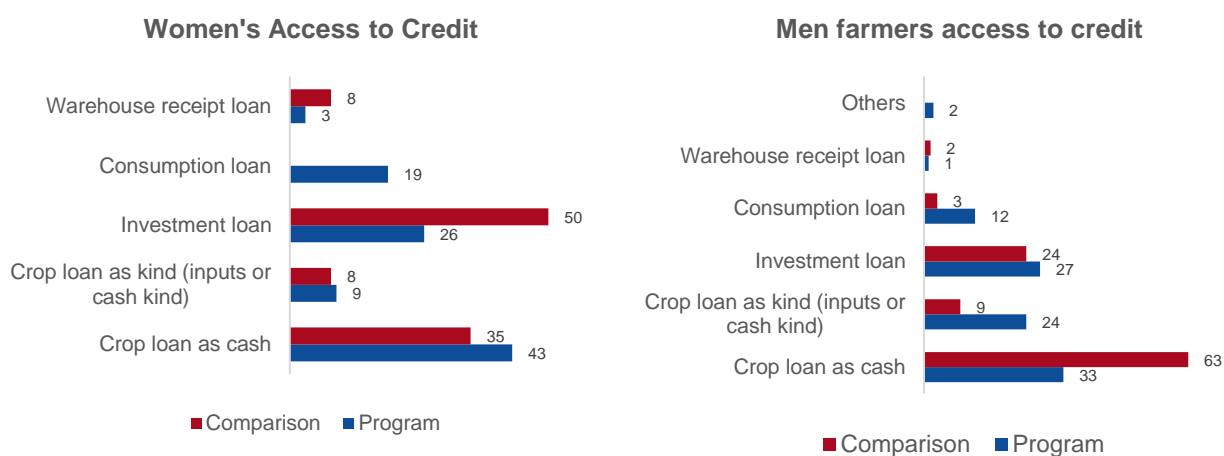


Figure 17: Access to Credit (Women and Men)

Fourth, with regards to access to markets, 56% of women farmers in program areas, as compared to 51% in comparison areas were able to access far away markets, indicative possibly of market linkage activities undertaken by grantee organizations. In comparison, 60% of men farmers in program areas were able to access further away markets, reflective possibly of restrictions in mobility for women farmers.

7 Learnings and Recommendations

The market access program since 2017, has supported programs of grantee organizations at the FPO and farm level with objective of driving incomes of smallholder farmers and producers. The program rests on three design principles– capacity development of FPOs to strengthen their role as aggregators and market-ready entities and provision of levers of income and growth such as infrastructure, training, access to credit and markets; and deepening the engagement of women in FPOs and across the agri-value chain.

The impact review assesses the collective impact made by the portfolio on three outcomes – viz., FPO sustainability, improved SMF livelihoods and women's empowerment. A key objective of the review is to highlight achievements (*what strategies/approaches adopted by grantee organizations has worked?*),

gaps (*what requires further attention and strengthening?*) and provide recommendations to strengthen future programming. This section provides a summary of learnings and recommendations across the three stated outcomes of the program. Insights from qualitative interviews with grantee organizations are introduced and considered alongside field data to generate more meaningful recommendations. A final concluding section steps back from programmatic learnings and offers suggestions for future strategic design of the Market Access Program.

7.1 FPO Sustainability

Key Achievements

The impact review viewed FPO sustainability across the three axes of organizational capacity, service provision to farmers and financial viability. The impact review has shown that grantee organizations interventions such as design and roll out of proprietary FPO capacity assessment tools and training of office bearers has contributed to strengthened systems and processes. Program FPOs have improved metrics across key parameters such as governance, administration, business planning, financial management and use of technology to ensure transparency and accountability of operations. Critically, these efforts have resulted in greater representation of women as office bearers and reduced the gender gap in terms of differences in decision-making power between men and women. Grantee organizations' efforts in facilitating pre-harvest, post-harvest and sales support has resulted in FPOs providing a wide spectrum of advisory and services to farmers and greater connectivity to markets, underscoring the key design principle of the program investing in FPOs to strengthen their role as aggregators. Through this, FPOs have developed a larger base for revenue generation and are on the way to emerging as profitable entities.

Learnings and Recommendations

1. *Focus on equity* – There is a need to direct training and capacity building exercises to member farmers (and not just office bearers). Likewise, as the supported FPOs start demonstrating improvements on various health parameters such as organizational capacity, operational effectiveness, and financial viability, it is important that these benefits are fairly distributed among member farmers. The study has shown that there is scope to ensure more equity in terms of concentration of shareholdings, and distribution of profits. Also, there is a need to direct training and capacity building exercises to member farmers (and not office bearers)
2. *Continued handholding* – Grantee organizations have conducted several and varied interventions in the effort to ensure sustainability of their supported FPOs. While these are starting to bear fruit, there is also a need for continued handholding of FPOs to navigate any new challenges which may come up. Two such areas surfaced by the impact review were the usage of digital technologies and the ability to meet the requirements of larger buyers of produce. It is recommended that grantees periodically assess FPO knowledge of digital tools and continue to provide additional training on quality/quantity thresholds set by institutional buyers.
3. *Saturation of membership base* – In a promising sign for the program, it was seen that high proportions of FPOs undertook provision of various new services in the last 12 months such as setting up of post-harvest infrastructure and advancing different types of loans to farmers. The next area of focus should now be to ensure that members are aware of these services and encourage uptake across the membership base. Like the previous point, this will also contribute to more widespread and uniform benefits accruing to members.
4. *Member engagement* – In a corollary to the above, nearly a fifth of existing FPO member farmers reported not participating in any FPO activities. The main reason cited for this was that farmers did not feel the need for FPO services. This is surprising given the focus of grantee organizations to increase awareness and engagement of member farmers. Further study is required here to ascertain

whether participation can be improved through more robust outreach and enhanced FPO services, or if any broader systemic factors are hindering engagement.

5. *Building talent in FPOs* – Qualitative interviews with grantees revealed high attrition and lack of appropriate talent pool in FPOs. It is recommended that program interventions continue building out a leadership pipeline in FPOs and focus on more broad-based training of FPO office members to ensure long term organizational sustainability.

7.2 SMF Livelihoods

Key Achievements

Despite program households being more socio-economically disadvantaged than their counterparts, the group seems to be imbued with a greater sense of optimism with regards to cultivation being a viable occupation and their own abilities in moving up the value chain. Leasing in land for example is reflective of this. Grantee organizations' efforts to provide services to farmers, both through the FPO and through direct engagement such as conducting demonstrations on sustainable agricultural practices, digital technology solutions for crop advisory, training and deploying master trainers is just beginning to reap benefits – program farmers for example are beginning to exhibit greater time in market and crop diversification and accessing further away markets for a higher proportion of crops.

Learnings and Recommendations

1. *Building trust in target communities* - An important behavioural factor to consider in rural development programs is that it takes time to build trust with farmer communities. Qualitative interviews with grantees revealed that this is an almost unanimous challenge. Especially in recent times, Indian farmers are often approached by multiple agencies (government agencies, CSOs, private sector stakeholders) to undertake new activities towards diversification of income or adoption of new methods, leading to informational overload. Given their economic distress, SMFs are particularly risk averse and hesitant to adopt new practices, for example, moving away from non-remunerative (but "safe") crops to more high value cultivation which could be deemed "risky". Targeted approaches such as setting up of demonstration farms to showcase success stories and assuring farmers of markets are recommended to be continued. It is also suggested to consider the extent of grantee presence on ground when finalizing timelines for an intervention. Ultimately, implementing partners with longstanding presence and demonstrated success in a community will have an easier path to convincing farmers to adopt new practices.
2. *Enhancing market readiness of SMFs* – The program relies on market linkages as a key lever to increase SMF income. While a few issues regarding ability to meet market requirements have been highlighted above with a call to action for FPOs, this section focuses on SMF characteristics which may impede their ability to effectively transact with markets. Qualitative interviews with grantees surfaced several challenges in this regard - *Firstly*, it is often difficult to convince farmers to move away from long standing relationships with local buyers, who may advance credit against inputs and thus oblige SMFs to sell their produce to them. *Secondly*, where farmers are willing to engage with FPOs for sale of produce, remote project locations and lack of last mile transportation facilities makes aggregation challenging. There is a lack of allied facilities such as last mile financial access and SMF ability to engage in digital transactions. Insufficient irrigation facilities could also limit SMF ability to engage with the FPO year-round. Some recommendations here include conducting baseline landscape analyses on social dynamics in the community; and not targeting market linkage activities in isolation but supplementing them with allied interventions such as provision of credit and allied infrastructure.

3. *Focus on training and advisory* – Continuing on the earlier theme of member engagement, it is recommended that grantees consider fine-tuning their training content. Survey data revealed that 40% of farmers said their FPO does not provide training. Of those who did attend training sessions, a third reported that content does not cover the activities/crops that relevant to the FPO, while a fourth said that they do not need any training. It may be that low literacy or digital savviness of farmers impedes training efforts, but there is an opportunity here to enhance grantee outreach to farmer communities, understand their specific needs, utilize these findings to develop appropriate training content, and showcase success stories which resulted from use of the content.

7.3 Women's Empowerment

Key Achievements

A significantly higher number of women farmers in program areas cite FPOs are a key source of information and provider of advisory and training. Evidence shows that women farmers in program areas cultivate more intensely and exhibit greater crop diversification as opposed to women farmers in comparison areas and men farmers in program and comparison areas. What may be occurring is a higher assimilation and adoption of good agricultural and marketing practices by women respondent households in program areas. To understand differentiated impacts of the market access program, it is suggested that a deep-dive into understanding women's awareness, assimilation and adoption of training be undertaken, to better understand the dynamics

Learnings and Recommendations

1. *Understand gendered differences in agri-value chains* – Evidence shows that women farmers cultivate differently. They cultivate a wider spectrum of cash crops (fruits, vegetables) and grow more climate-resilient crops such as millets. They also do not engage in cultivation of crops such as coffee, which are traditionally male dominated enterprises, where the perceived barriers to entry are high. Grantee organizations must keep these differences in mind while designing interventions for women farmers.
2. *Deeper focus on power relations, underlying socio-cultural-political discrimination faced by women* – Grantee organizations' efforts have resulted in greater participation of women as office bearers in FPOs. Farm metrics for women respondents are also on an upward trajectory. However, overall, there is limited decision making of women across the roles they perform – as cultivators, office-bearers or farm entrepreneurs. So, while grantee interventions have been successful, the wider normative context circumscribes women from reaching their true potential. If the momentum that has been garnered through the market access program is to be maintained and accelerated, there is a need for single-minded focus on mainstreaming women's needs and concerns as a central and resourced element in planning, implementation and capacity building. This implies looking beyond purely economic and market concerns to issues of non-market work and activities.
3. *Research into potential multiplier effects of the market access program* – A larger number of women in program areas reported taking decisions on non-farm enterprises and had a greater say on how income generated from these enterprises were utilised. This may potentially be because of the portfolio's focus on supporting women to become more market-facing and entrepreneurial. It is suggested that a deeper investigation of these positive multiplier effects of the portfolio on rural livelihoods be examined.

7.4 Portfolio Strategy

Taking a step back from programmatic findings, we also look at suggestions which could inform strategic decisions for the Market Access Program as a whole. *Firstly*, the impact review of the various interventions under the umbrella of the wider program has highlighted the variability and lack of coordination in data systems amongst grantees. The absence of a standardized baseline metrics for example has hindered the measurement of progress along impact pathways towards intended outcomes. For future iterations of the program, it is recommended that the portfolio establishes standardized methods of capturing, reporting, and analysing data. *Secondly*, grantees should be encouraged to collaborate. This could be done basis

geographical area of operation (e.g., grantees working in a specific state could approach local stakeholders collectively), type of intervention (e.g., grantees working to provide digital knowledge management platforms could swap notes), or stage of agri value chain (e.g., partners with a focus on post-harvest management facilities could share best practices). Another path to collaboration could be overlapping partner interventions for the same target communities.

In conclusion, the Market Access Program has shown promising results for FPOs as well as SMFs across various parameters. It is hoped that the above recommendations will be useful for the Walmart Foundation, their grantee organizations, and other stakeholders in India's agricultural development to aid in their continued contribution towards a more inclusive and sustainable agricultural sector.

8 Annexure 1

Organization	Objective	States	Districts	Interventions	Crops
Digital Green Foundation (Digital Green)	Improving resilience and livelihoods of smallholder farmers by enabling efficient delivery of target, relevant, and timely extension advisory recommendations and improving access to markets and market information.	AP	Vizianagaram, Srikakulam, Guntur, Prakasam, Kurnool, West Godavari, Nandyala	<ol style="list-style-type: none"> 1. Video-based dissemination of advisory 2. WhatsApp-enabled chatbot 3. WhatsApp platforms to share videos 4. IVRS messages 5. FPO strengthening 	Cashew, chilli, cotton, groundnut, paddy, and bengal gram
Grameen Foundation USA (Grameen Foundation)	Strengthening FPO capacity to connect smallholder farmers, especially women, to markets and finance, in order to improve farmers' incomes and resilience.	UP	Azamgarh, Bhadohi, Chandauli, Ghazipur, Jaunpur, Mirzapur, Pratapgarh, Prayagraj, Sonbhadra, Varanasi	<ol style="list-style-type: none"> 1. FPO Capacity Development (governance, leadership, gender mainstreaming, participation in high-return value chains) 2. Promotion of technology (agricultural innovative practices, digital technologies and platforms for aggregation and knowledge management) 3. Market linkages including setting up exports channel 4. Financial linkage and resilience 5. Institutional convergence with ecosystem actors such as government departments and knowledge partners 	<p>Crops: Moringa, Chilli, cereal value chains, medicinal plants, aloe vera, bottle gourd</p> <p>Others: participation in dairy value chain and vermicompost production</p>
Heifer International	Putting smallholder farmers on the pathway to a living income by strengthening farmer producer organizations and the surrounding ecosystem, and diversifying incomes through promotion of backyard poultry	AP	East Godavari, Anantapur	<ol style="list-style-type: none"> 1. Strengthening FPO governance and increasing membership base 2. Conducting business development activities with the FPOs primarily focused on enabling participation in the backyard poultry value chain 3. Creating a sustainable market system by engaging with buyers, feed processing units for poultry, engagement with poultry nutritionist etc. 	Livestock activity: adoption of backyard poultry
International Crops Institute for the Semi-Arid Tropics (ICRISAT)	Accelerating value chain benefits for improved income for farmers and nutrition for consumers through establishment and operationalization of primary and secondary processing units	AP	Anantapur	<p>Implementation of improved agricultural practices with a scientific package of practice in crop production</p> <p>Strengthening Primary Processing Centres towards achieving self-sustainability</p> <p>Operationalizing and sustaining the Secondary Processing Unit</p> <p>Improved dietary diversity among rural households</p>	Groundnut, red gram, green gram, cowpea, vegetables
International Fertilizer Development Centre (IFDC)	Accelerating farming incomes through productive technologies, focusing on soil health, seed materials, and integrated approaches on water management. Also building thriving markets through commercial orientation to farming toward promoting peri-urban agriculture	TS	Mahabubnagar, Medak, Rangareddy	<ol style="list-style-type: none"> 1. Strengthening peri-urban agriculture as part of poverty alleviation 2. Assisting targeted peri-urban poor in marketing of agri products 3. Specific adaptable tech transfers (use of improved seeds, irrigation, fertilisers, use of climate smart approaches etc) 4. Providing commercial orientation to peri-urban agriculture in Telangana through involvement of SHFs, especially women and youth 5. Training a cadre of local resource persons to support farmers with information dissemination and linkage to markets 	Rice, maize, paddy, groundnut, pulses, vegetables, fruits

Organization	Objective	States	Districts	Interventions	Crops
Mercy Corps	Building digital financial inclusion for 100,000 women small holder farmers, bundled with services to increase productivity, income and resilience by at least 25% over a two year period	AP, UP, TS	TBD	<ol style="list-style-type: none"> Partnerships with private sector organisations that have a proven track record to reach women farmers and provide them with services. Ecosystem mapping study and needs assessment to deepen understanding of the landscape, with a gender lens. Multiple rounds of innovation & iterative engagements with partners to implement field research, and deliver high impact, digitally enabled services. Financial support to private agri-tech players Research/evidence generation & dissemination 	Onboarding in progress
Professional Assistance for Development Action (PRADAN)	Creating sustainable livelihood opportunities for 45,000 women from smallholder households through diversified agri value chains and livestock interventions to sustainably double their income over 4 years and taking them irreversibly above the poverty line.	WB, JH, OD	WB: Jhargram, Purulia, Bankura JH: Ramgarh, Gumla, Khunti OD: Rayagada, Kandhamala, Keonjhar, Koraput	<ol style="list-style-type: none"> Strengthening the self help group (SHG) tier Identification of focus crops Promotion and nurturing of producer groups for agriculture and livestock Promotion and strengthening of FPOs Ecosystem linkages: government departments, market players 	WB: Brinjal and watermelon JH: Tomato and green pea OD: Brinjal and marigold
Precision Development	Scale-up of low-cost digital extension serving smallholder farmers to encourage adoption of sustainable farming practices, and the development of market linkages and farmer aggregation to improve incomes and market access for smallholder farmers.	AP, KA	KA: Mysore, Hassan, Chikmagalur, Kodagu. AP: N/A	<ol style="list-style-type: none"> Landscape analysis on farmer needs and market linkages Customized actionable advisory for farmers Market linkages Training and capacity building Rapid iterative product development to enhance interventions 	Coffee, black pepper, cardamom, ginger
Sehgal Foundation	Building capacities of FPO member farmers across growing, harvesting, post-harvesting, and marketing to enhance competitiveness and secure a higher price realization	UP, KA	UP: Prayagraj KA: Kolar	<ol style="list-style-type: none"> Field demonstrations on good agricultural practices, irrigation techniques, vegetable production, farm machines Training on post-harvest management - warehousing, value addition services such as packaging and branding. Buyer-seller meets Meetings with banks and financial institutions 	UP: Wheat, paddy, mustard KA: tomato, potato, mango
Tanager	Developing FPOs into sustainable viable businesses; increasing farmer productivity and profitability; strengthening the overall ecosystem to ensure it is engaged with and respondent to the needs of FPOs; increasing opportunities for women's market engagement; increasing consumption of nutritious foods in FPO households	AP	East Godavari, Srikakulam, Visakhapatnam, and Anantapu	<ol style="list-style-type: none"> Capacity building of FPOs and expanding service provision Strengthening community resource persons Promoting good agricultural practices Growing FPO network with the ecosystem Increasing women participation and decision making 	Peanut, cashew, coffee, pepper, cabbage, cauliflower, tomato, finger millet, and tapioca (Sago)
Tata Cornell Institute for Agriculture and Nutrition (Tata Cornell)	Assessment of the FPO promotion experience by philanthropic actors, government, and private entities, and formulation of operational, context specific FPO models capable of improving SMF income and welfare.	N/A	N/A	<ol style="list-style-type: none"> Reviewing lessons from the global experience of aggregation models Learning from the funding experience of FPO promotion in India and other developing countries Setting up a Center for Excellence (CoE) for FPOs as a repository of best practices CoE activation and branding; developing action research ideas 	N/A

Organization	Objective	States	Districts	Interventions	Crops
TechnoServe	Improving the livelihood of smallholder farmers; supporting FPOs in becoming sustainable and viable businesses; economically empowering women farmers and increase their participation in key agri value chains	AP, UP	AP: Parvathipuram Manyam, Alluri Seetharama Raju UP: Bahraich, Barabanki, Gorakhpur, Hardoi, Kushinagar, Lucknow, Maharajganj, Rae Bareli	<ol style="list-style-type: none"> 1. Institutional strengthening 2. Access to markets 3. Access to finance 4. Training on agronomy 5. Post harvest management 6. Women's economic empowerment 	UP: Mentha, wheat, maize, mango, banana, potato AP: Coffee, black pepper, turmeric, cashew, pineapple, cotton, hill broom, paddy
TrickleUp Program (Trickle Up)	To transit a cohort of ultra-poor women who were primarily landless or owned limited assets to sustainable and resilient livelihoods, characterized by increased incomes and greater integration into social and economic structures, increased social status, and food security.	OD	Bolangir	<ol style="list-style-type: none"> 1. Selection and onboarding of implementing partners, project staff, and participants 2. Vision building with project participants 3. Market assessment and value chain analysis 4. Formation and capacity building of farmer interest groups 5. Provision of financial services 6. Distribution of seed grants, construction of common infrastructure 	Crops: Pumpkin, watermelon, marigold flower Livestock: fishery, goat farming, poultry

Note: This table only contains grantees and interventions which formed part of the impact review exercise. Newer grants announced Jan 2023 onwards are not included above, or in the portfolio assessment.

9 Annexure 2

Top 3 Crops Cultivated Across Cropping Seasons								
Season	Women Respondent Households				Male Respondent Households			
	Program Households		Comparison Households		Program Households		Comparison Households	
	Crop	%	Crops	%	Crops	%	Crops	%
Summer 2022	Paddy	44			Paddy	17	Mangoes	25
	Maize	17	Tomato, Groundnut	20	Pulses, banana	10	Chillies	17
	Wheat	11			Wheat, groundnut, maize	7	Wheat	12
Kharif 2022	Paddy	64	Paddy	84	Paddy	62	Paddy	69
	Cotton	18	Cotton	6	Cotton	12	Cotton	9
	Maize	4	Small millets	8	Groundnut	7	Chillies	8
Rabi 2022-23	Wheat	50	Wheat	60	Wheat	63	Wheat	59
	Paddy	18	Paddy	11	Paddy	11	Paddy	10
	Cotton	9	Groundnut	6	Rapeseed, mustard	6	Chillies	8
Perennial	Cashew nuts	61	Cashew nuts	42	Cashew nuts	35	Cashew nuts	33
	Mango	14	Flowers	15	Coffee	17	Coffee	14
	Orange	10	Pomegranate	11	Sugarcane, mango	11	Sugarcane, banana	8
Rabi 2021	Wheat	54	Wheat	72	Wheat	69	Wheat	68
	Paddy	12	Mustard, rapeseed	11	Paddy	8	Paddy	5
	Cotton	7	Groundnut, potato	5	Groundnut, rapeseed, mustard	5	Chillies	8

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