

# “We have to work in order to recharge our phones”

## Gender, Technology, and Agriculture Value Chains in South India

IT for Change  
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## **Gender, Technology, and Agriculture Value Chains in South India**

A report of key findings from our baseline participatory action research with 230 women farmers in Pudukottai and Kanakapura

Author: Anuradha Ganapathy

Graph Design: Abhiramy S.M.



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# Gender, Technology, and Agriculture Value Chains in South India

## 1. Background and Context

This report is situated within two key trends in the agriculture ecosystem in India. The first pertains to the increasing recognition and importance given to Farmer Producer Organizations (FPOs) as one of the most effective pathways to address agricultural challenges. FPOs, with a membership-based structure, offer a form of aggregation irrespective of land titles with individual producers. This allows FPO members to overcome the constraints imposed by the small size of their individual farms, and leverage their collective strength and bargaining power to tackle price uncertainty, improve processing and storage capacities, experiment and deploy newer farming methods at large, and improve access to formal sources of credit.<sup>1</sup> Through adequate policy and infrastructure support, these aggregators can become the ‘connective tissue’, linking supply and demand, bridging a major missing link.<sup>2</sup> International and national experience with FPO performance present a compelling argument for policy support to member-based farmer organizations in order to dramatically boost their market power, decrease risks, and assist them in moving up the agriculture value chain (Ibid).

The second trend informing this report pertains to widespread digitalization efforts across the agriculture value chain, from personalized agri-extension inputs to targeted farm credit, price discovery, real-time yield forecasting, and market linkages. Be it large-scale state-led projects such as India Digital Ecosystem of Agriculture (IDEA), or traditional cooperative organizations, social enterprises, and open source technologists building alternative agri-services paradigms, the intersection of platform, data, and AI technologies is emerging as a key policy space within which pathways to strengthen agricultural livelihoods and provide economic empowerment for marginal and small farmers in India are being contested.<sup>3</sup> Ongoing discussions in this space have also highlighted the uneven effects of digitalization and low rates of adoption of digital tools and technologies, particularly amongst women farmers, cautioning about its potential to further fuel gender disparities in agriculture in the long run.<sup>4</sup>

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<sup>1</sup> <https://www.niti.gov.in/strengthening-indian-agriculture-ecosystem>

<sup>2</sup> <https://www.indiaspend.com/wp-content/uploads/2020/10/Ten-Years-of-FPO-Movemet-in-India.pdf>

<sup>3</sup> [https://itforchange.net/sites/default/files/2022-08/Concept%20note\\_%20The%20Digital%20Ecosystem%20Opportunity%20for%20Indian%20Agriculture\\_.pdf](https://itforchange.net/sites/default/files/2022-08/Concept%20note_%20The%20Digital%20Ecosystem%20Opportunity%20for%20Indian%20Agriculture_.pdf)

<sup>4</sup> <https://idronline.org/giving-women-farmers-access-to-technology-agriculture/>

Within this context, IT for Change, as part of its project titled “Centering Women in the Digital Economy” entered into a knowledge partnership with Vrutti, an organization that works with over 130,000 marginal/small farm households in India, seeking to create wealthy, resilient, and responsible farm enterprises that generate sustainable livelihoods in the agriculture sector. The partnership commenced in 2020 with an aim to answer the following questions:

- What are the key challenges faced by women farmers in the agriculture value chain?
- How are women engaging with digital technologies? To what extent are they being used for meeting information/institutional and market linkage needs?
- How can Vrutti’s digital services be scaled and replicated?
- What kind of policy support is required to develop equitable and gender-responsive digital ecosystems?

As part of this partnership, IT for Change and Vrutti are working on a four-year intervention that involves piloting, testing, and refining three digital prototypes that Vrutti has developed to support its institutional ecosystem of pre-production, production, and post-production services for small and marginal women farmers who are part of Vrutti’s Farmer Producer Organizations. The intervention is being implemented in two locations in South India: Pudukottai (Tamil Nadu) and Kanakapura (Karnataka). The key milestones of this intervention include conducting a baseline survey to arrive at a theory of change (ToC), planning and implementing interventions and outcomes aligned to the ToC, ongoing tracking and monitoring of progress, and an endline survey to measure change.

The key outputs of this intervention include:

- Developing a roadmap for the implementation of a digitally enabled agriculture ecosystem as a pathway for women’s economic empowerment
- Developing policy recommendations towards enabling the creation of farmer-centric digital ecosystems, with a particular focus on gender-sensitive strategies for the inclusion of women farmers.

## 2. About Vrutti's Model<sup>5</sup>

Vrutti's approach focuses on farmer empowerment and enhancement of their entrepreneurship potential through a three-pronged strategy that addresses the following gaps:

- Lack of integrated services (end-to-end) that are appropriate for farmers
- Need for 'diversified livelihood options' (value addition, farm, allied, and off-farm)
- Establishment of a sustainable eco-system at a cluster level

It enables this by incubating 'clusters' (district or block level) called Business Acceleration Units (BAUs) to establish a strong ecosystem in the agricultural sector so that farming enterprises in these clusters become sustainable and scalable. These BAUs provide end-to-end support to the farmers including hand-holding, mentoring, advisory, capacity building, along with exploring continuous opportunities from markets, the scientific community, and public investment. The services at a BAU level are mediated by Agri Business Accelerators (ABAs) who play a key role in mobilizing and sustaining farmer collectives. Typically, 200-250 farmers in one BAU are mapped to an ABA who is responsible for a range of services to the FPOs, including capacity building, input and information aggregation at an FPO level, output marketing, financial/credit support, etc.

Technology adoption and use of digital platforms has been a focus area for Vrutti and is one of the four pillars of its BAU model. There are three apps that Vrutti has developed which are the primary focus of this study:

Type of App	Bundle of services
Participatory Digital Attestation App (PDA)	A mobile app to support and track capacity-building activities for farmer members
QR code	Mobile-based QR code scans to access advisory material
iEnterprise app	A digital app that supports FPO functionaries in produce procurement and marketing

<sup>5</sup>The information in this section is from <https://vruttiimpactcatalysts.org/our-core-impact-model/>

### 3. Baseline Research: Objectives and Methodology

In order to develop a baseline report, the project adopted a participatory action research methodology which involved the following steps:

- a) Tech orientation of three applications** (iEnterprise, Participatory Digital Attestation, and QR Solutions): The orientation helped understand the techno-design aspects of the three applications, their extent of implementation and scope for refinement, the model that Vrutti works with, and the targeted cohorts (women farmers/ABAs/activators). The orientation took place in December 2021.
- b) Focus group discussions (FGDs) with ABAs:** FGDs sought insights and inputs about the implementation of Vrutti's three digital platforms from the point of view of ABAs and the challenges they face. Two FGDs were conducted virtually in December 2021, and one was conducted in person in April 2022. Approximately 15-20 ABAs were covered through the FGDs.
- c) Focus group discussions with women farmers:** Four FGDs covering a total of 80-100 women farmers (approximately) were held in the Pudukottai BAU in April 2022. The FGDs were largely focused on a range of themes, including economic activities, livelihood strategies, asset ownership, experiences of the FPO ecosystem, and familiarity and use of digital technologies. The FGDs also provided us an opportunity to identify key themes and shape the questions for the survey.



*Focus group discussion in progress with women farmers in Mangadu from Ambuliaru Agriculture Producer Company Limited (AAPCL)*

- d) **Survey:** A quantitative survey, informed by the FGDs, was developed in conjunction with the Vrutti staff and refined through pilot testing. A total of 230 women farmers were covered in the final survey rollout in May 2022. About 170 respondents were from the Pudukottai BAU and 60 respondents were from Kanakpura BAU.
- e) **Triangulation of feedback:** The results of the survey and the FDG feedback was triangulated with Vrutti as well as BAU staff through online and in-person discussions in both Kanakpura and Pudukottai during June-July 2022.

#### 4. Key Findings: Baseline Research

##### State of play of Vrutti’s current digital prototypes:

Based on the information from the technology orientation as well as subsequent meetings with Vrutti staff, the three prototypes (PDA, QR Code, and iEnterprise App) have been mapped across the agriculture value chain at a BAU level as below:

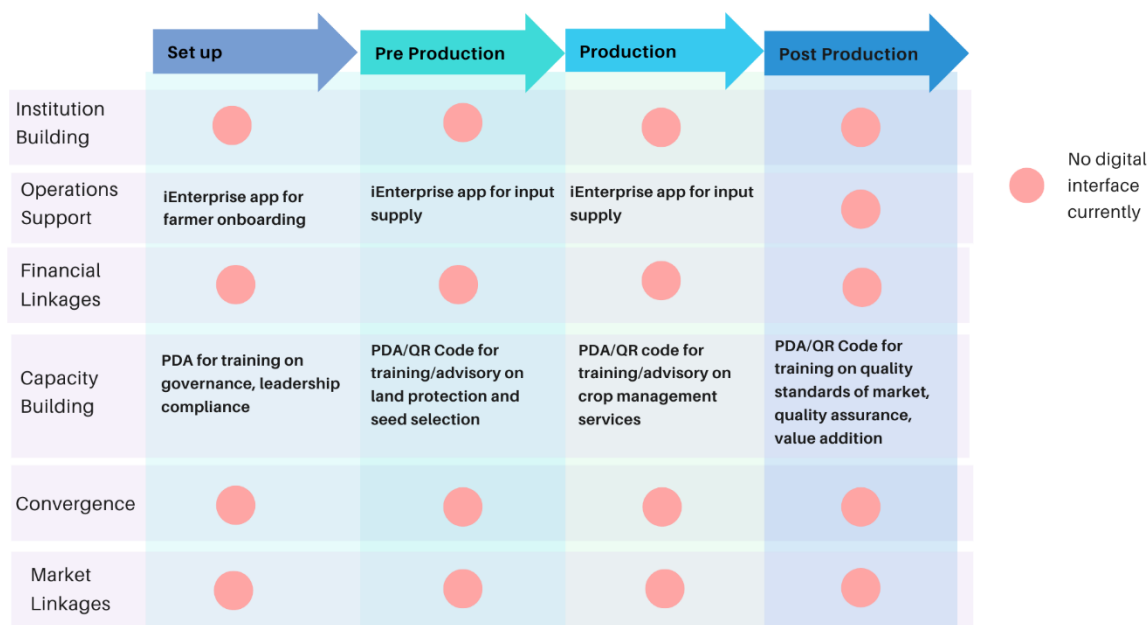


Image: Mapping of PDA, iEnterprise, and QR code across the agriculture value chain

Key highlights are as follows:

- Most agriculture value chain-related activities – vertical (from the set up to the post-production stage) and horizontal (the suite of services from institution building and capacity) – are mediated through the BAU staff, with ABAs being a key nodal point. ABAs serve as intermediaries across the agriculture value chain, even when certain parts of the chain may be digitalized, and play an important role in the delivery of integrated services from the BAU to the FPO, including mediating the digitalized services of the value chain. For example,



onboarding the farmer into iEnterprise is facilitated by the ABAs. Similarly, ABAs also record transactions of sale and purchase in the app on behalf of the farmers and provide them with a physical copy of the receipt.



*ABAs using tablets to mediate digital transactions*

- At present, the digital overlay is comparatively heavier in the area of capacity building where QR codes are used to provide advisory services and the PDA app is used to record training and upload content online for future use.
- Much of the existing digital infrastructure as well as the outputs from the digital systems are predominantly used by the BAU staff. For example, the BAU staff may use the sale and purchase data on the app for aggregating and forecasting demand at the BAU level.
- The Vrutti team has a definitive plan to increase access to and usage of the apps across both Pudukottai and Kanakpura, and the findings from the baseline report are expected to feed into that plan.

## Key demographic insights

**a) Age and education profile:** Almost 70% of the population across both sites was below 40 years of age, with 47% belonging to the 31-40 age bracket.

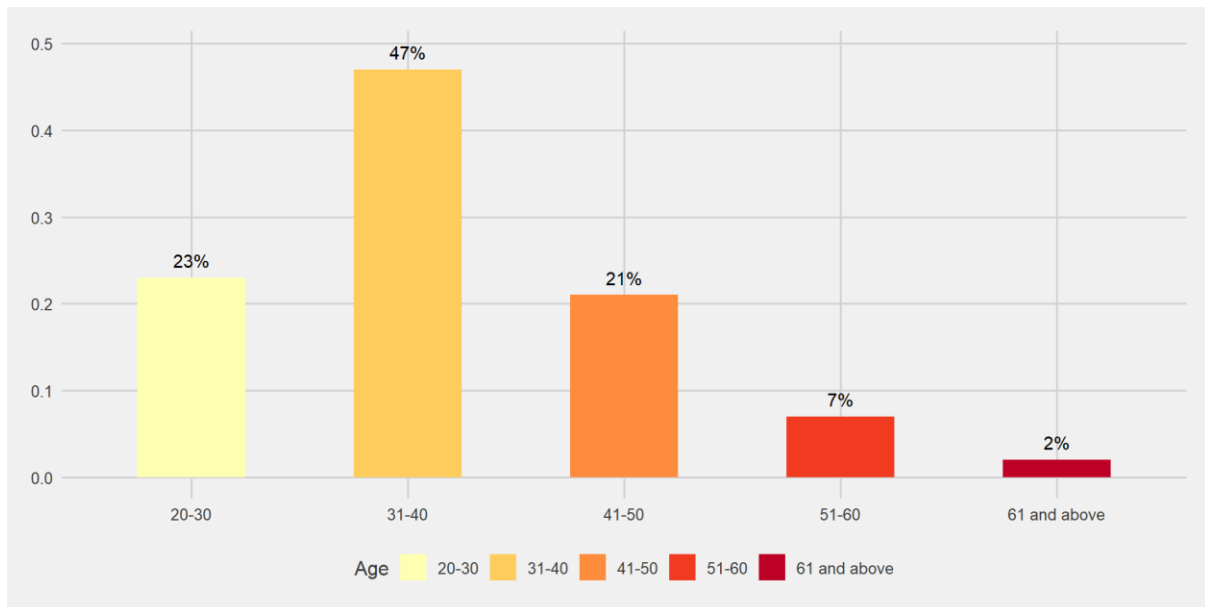


Table 1: Overall age of respondents in Pudukottai and Kanakapura

About 37% of the women had been educated up to Class 12, with 20% having an undergraduate degree, but significant site differences were observed in the educational profile statistics between Kanakapura and Pudukottai, with nearly 45% of women in Kanakapura reporting they had no formal education, as compared to only 3.5% in Pudukottai. Only six farmers across the 230 surveyed had a Master's degree.

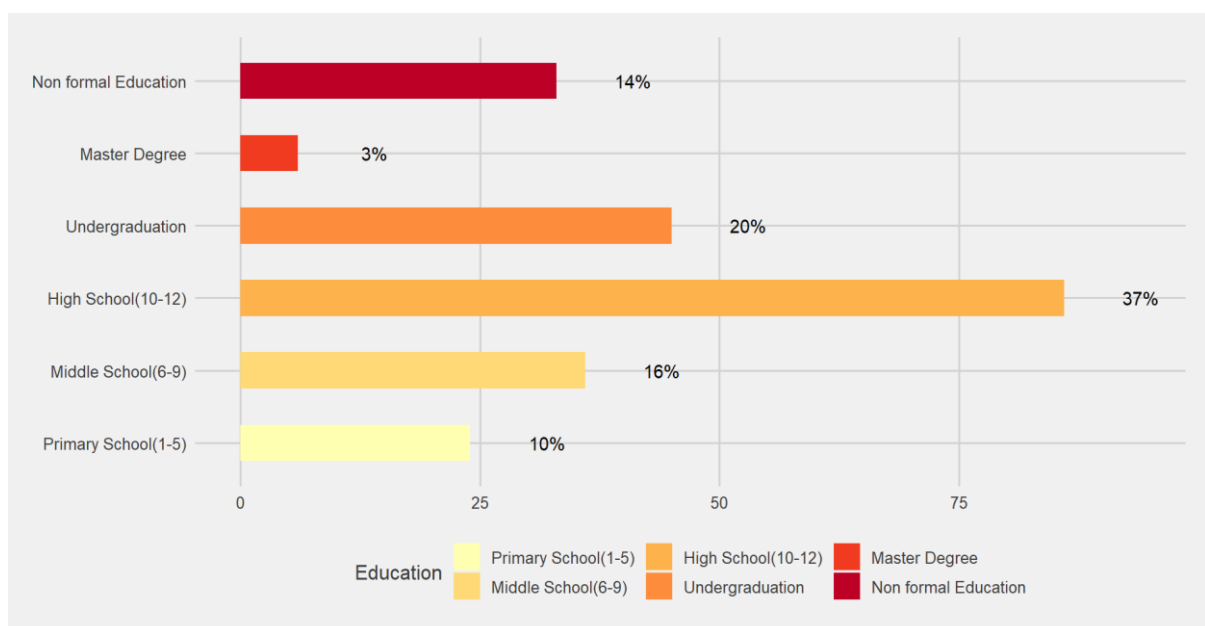


Table 2: The overall education level in Pudukottai and Kanakapura

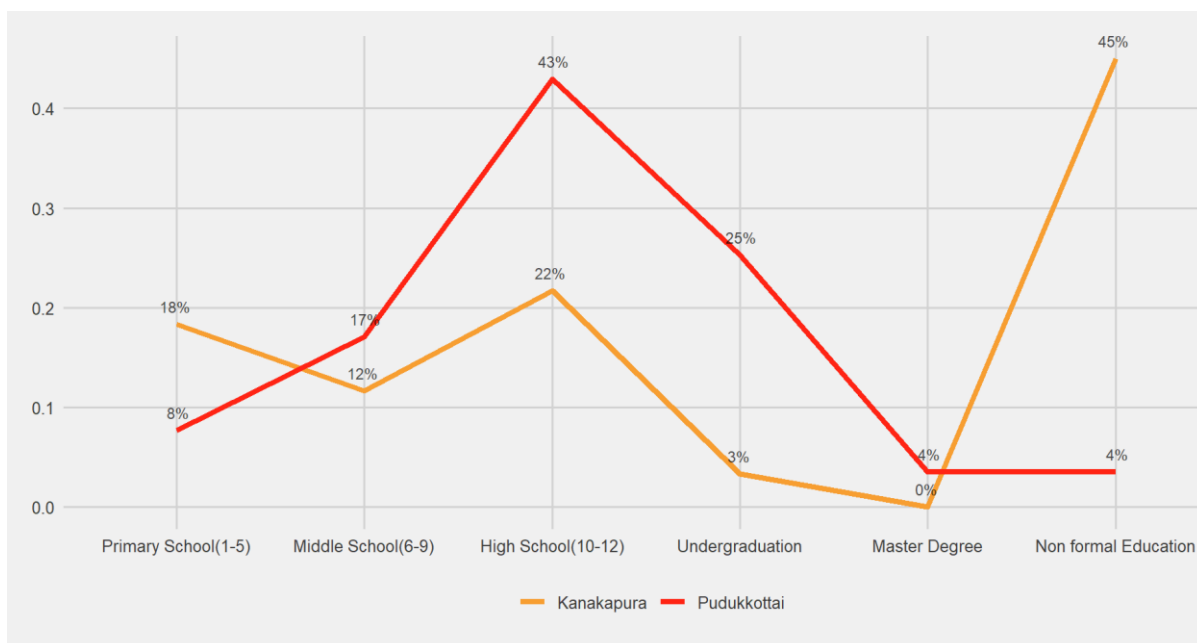


Table 3: Differences in education levels in Pudukkottai and Kanakapura

**b) Household profile:** About 93% of the total population surveyed was married with one or two children. The average household size ranged from two-five members, and was evenly split between male and female members.

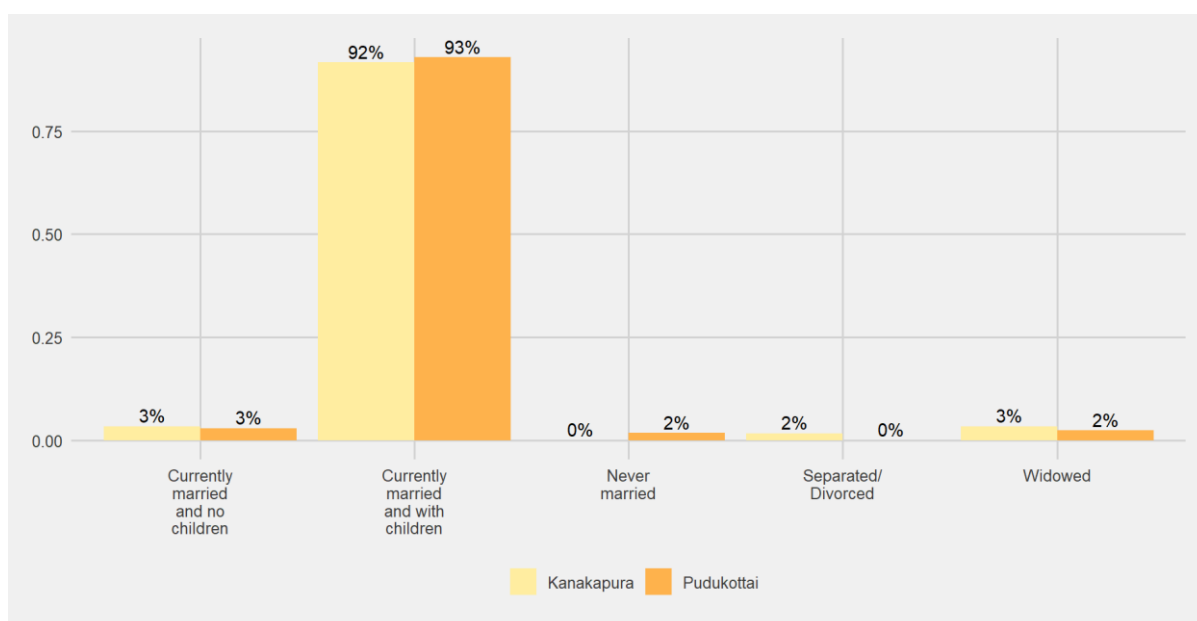


Table 4: Marital status in Pudukkottai and Kanakapura

About 60% of those surveyed reported only one earning member in the household, however, this is linked to the perception of “who” qualifies as an earning member. Subsequent discussions have revealed that while all the women are engaged in farm and non-farm work, they only see their participation in NREGA work as “paid work”. Because NREGA work is very scarce (approx. six days every

three months), they do not view themselves as earners or breadwinners, while their male counterparts who are engaged in paid work throughout the year are perceived as earning members.

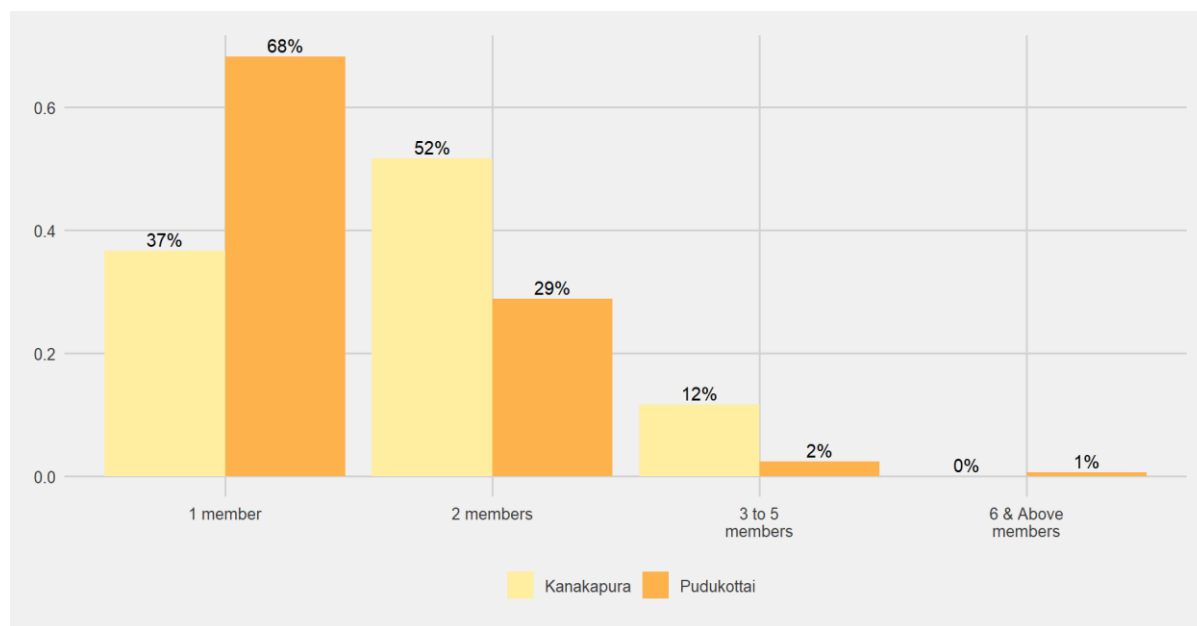


Table 4: Earning members in a family in Pudukkottai and Kanakapura

- c) Agriculture profile:** About 72% of the farmers owned cultivable land, and the average land size owned is between 1-2.5 acres. Livestock rearing comes across as an important source of livelihood, with close to 70% of farmers (across income levels and size of land owned) reporting that they own livestock, of which 54% own two-three kinds of livestock. Only about 16% of the population surveyed owned no livestock or land. Less than 30% of the farmers own farm equipment, it is therefore likely that many of them are renting equipment. About 49% of them use ancestral/traditional methods of cultivation, and close to 74% of the farmers rely on more traditional/informal methods to make decisions on what crops to cultivate – either based on what others are doing, or carrying forward ancestral traditions, or based on season and land patterns.
- d) Financial profile:** Women in Pudukkottai reported higher levels of household income as compared to Kanakapura, with 87% of the households in Pudukkottai falling in the Rs. 50,000-100,000 per annum income bracket. In Kanakapura on the other hand, 85% of households fell in the up to Rs. 50,000 income bracket. Only 2% of the population reported earning Rs. 2,00,001 and above per annum. The average monthly expenditure of households is up to Rs. 1,000 per month, and the two largest categories of spending fall in “food and groceries” and “tuition fees for children”, followed by “loan repayments” and “health and medicine”. Savings behavior showed cross-site differences – almost 97% of the population in Kanakapura reported saving (despite lower levels of income), while only 53% of the population in Pudukkottai said that they

were able to save. Additionally, the ability to save showed a V-shape curve in relation to age, with savings rate highest in the 20-30 and 50-60 year age brackets, and dipping in the 30-40 and 40-50 age groups, possibly because care responsibilities peak during these periods.

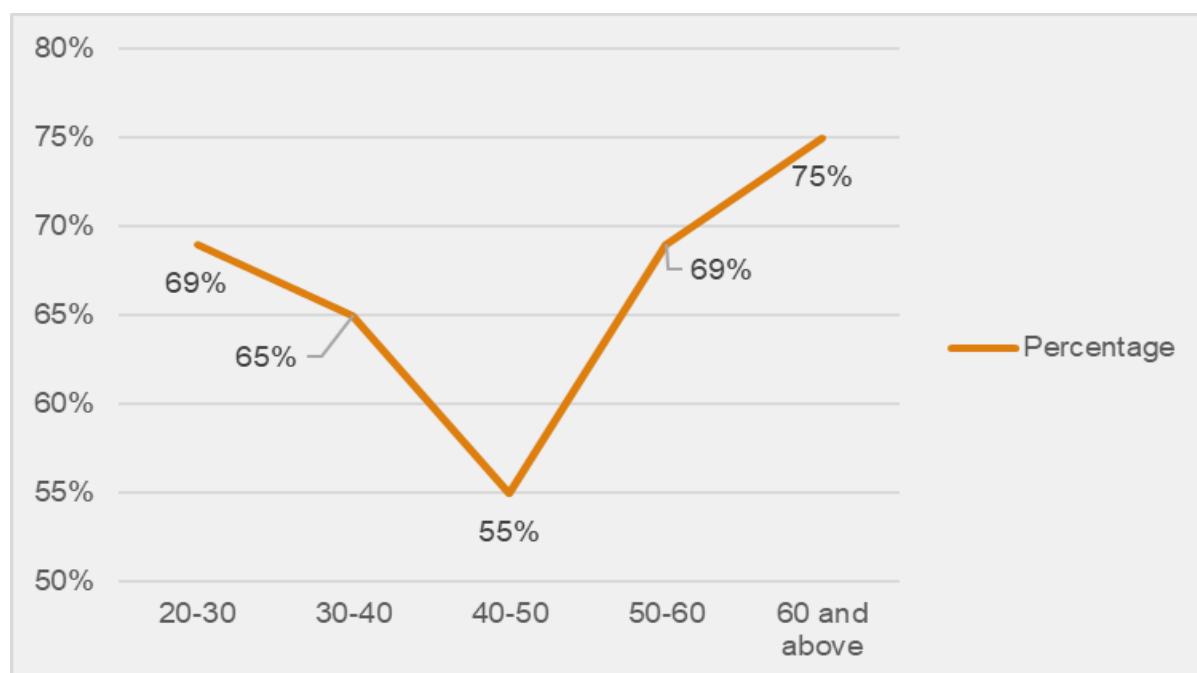


Table 5: V-shaped savings curve observed across age groups

Overall, a higher proportion of those who own between 1-5 acres of land reported being able to save, as compared to those who own no agriculture land. About 72% of the population reported taking a loan from a government or a private bank, with home loans and loans for farming equipment being the top two purposes of the loan, followed by "tuition fees for children" and "health and medicines". Almost 23% of the population had loans across two categories. While 100% of the population reported having a savings bank account, only 36% of the population had any form of insurance coverage.

## Key thematic insights

### i) Joint ownership of farm resources and increased participation in decision-making are widely reported by women.

Across both the sites, women reported low levels of self-ownership of land and other assets such as livestock, farm equipment, etc., as compared to the males of the household, pointing to gendered differences in control over resources. For example, even though 72% women farmers held agricultural cultivable land of an average size of two acres, only 12% of them reported self-ownership of the land, with 34% reporting ownership by husband, father, or other male relative, and 32% reporting joint ownership. Similarly, while 79% of the women possess transportation vehicles, only 18% of them own the vehicles, with 45% reporting joint ownership and 50% reporting ownership by husband, father, or a

male relative. Similar trends were observed with respect to decision-making on the sale, purchase, and transfer of assets with 4-6% of women reporting that they made decisions independently, and 80-82% reporting that the decisions were joint.

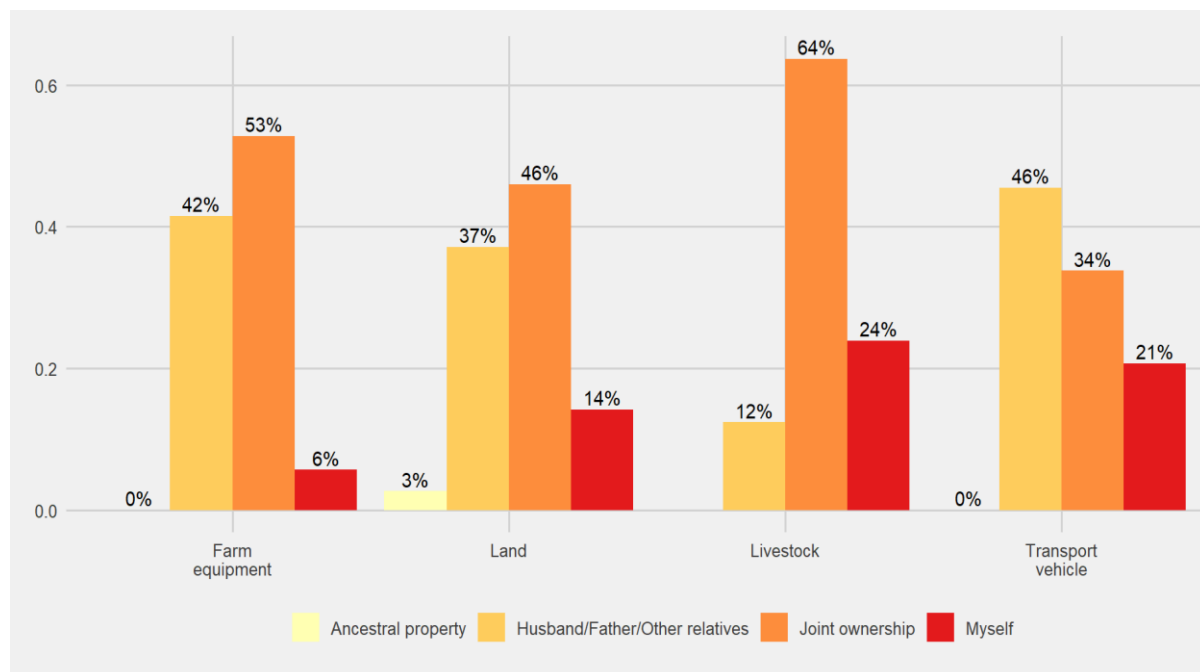


Table 6: Ownership of land, farm equipment, transport vehicle, and livestock within a family in Pudukkottai

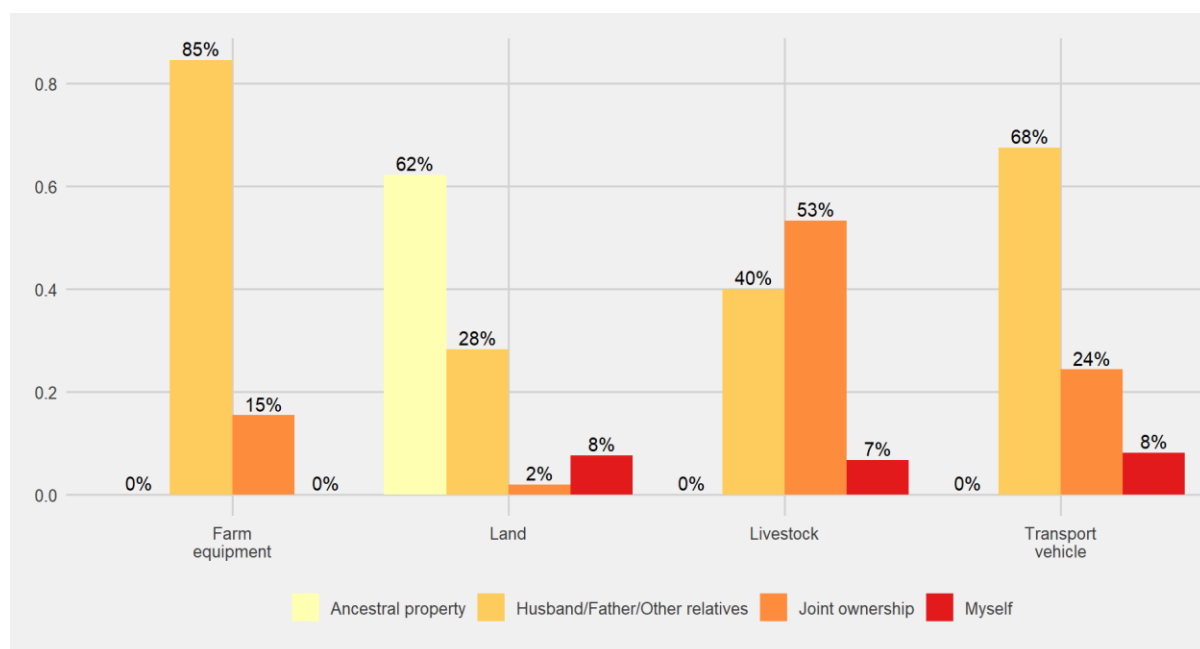


Table 7: Ownership of land, farm equipment, transport vehicle, and livestock within a family in Kanakapura

In the FGDs that were conducted, what came through was that many women preferred joint decision-making/ownership over sole ownership as a way of maintaining harmony within the household, so that any blame arising out of a bad decision could be shared equally between both the partners. In other

words, it appears that joint decision-making may also be a form of bargaining tool employed by women to secure their positions in case of any adverse fallouts of the decision in the future that could potentially leave them worse off, or it could be based on normative ideas of intra-household cooperation. Focus groups also revealed that this “joint” ownership/decision-making was a matter of pride amongst many of the women, with many of them reporting that the fact that they are now consulted by their husbands represents significant progress made from the previous generation, highlighting that this was possible only because of the enhanced status they gained by being part of the FPO. These findings appear to suggest that apart from their ability to get paid work outside the home, membership in collectives such as FPOs provides an important intermediating pathway in the route to women’s economic empowerment.

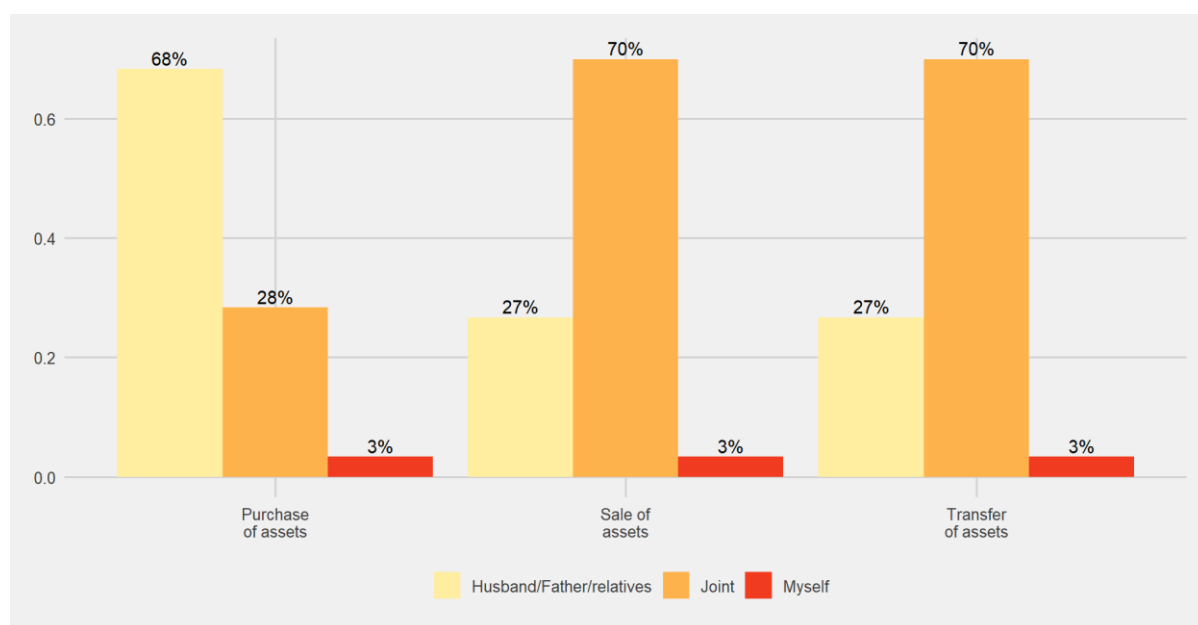


Table 8: Decision-making on purchase, sale, and transfer of assets in Kanakapura (in %)

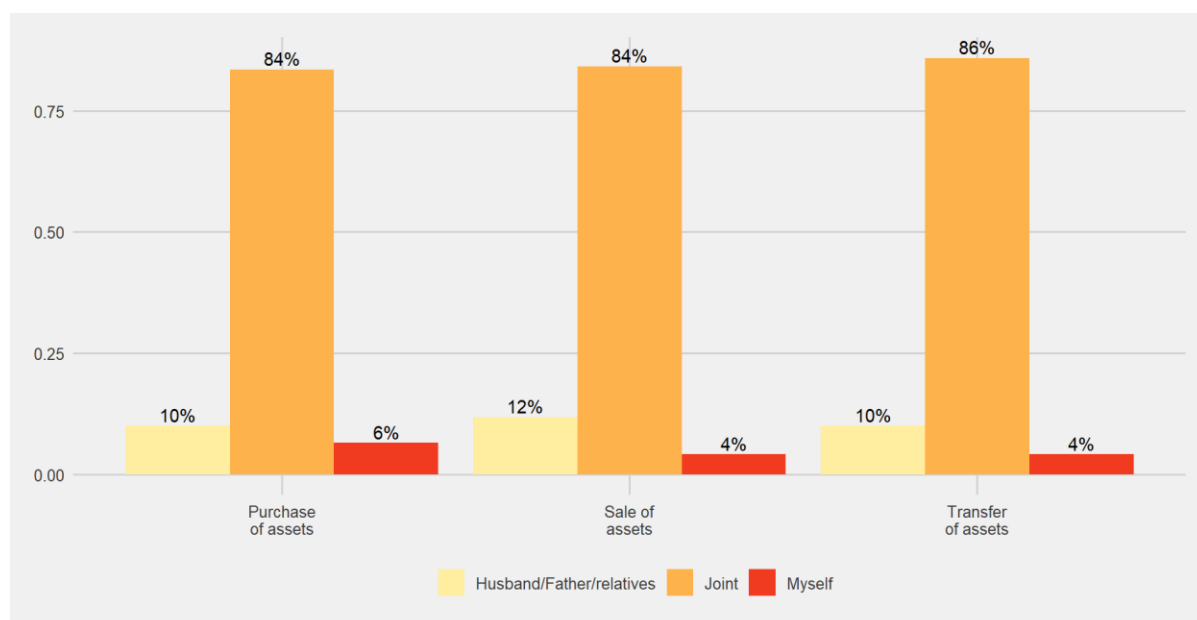


Table 9: Decision-making on sale, purchase, and transfer of assets in Pudukkottai (in %)

## ii) Farmers operate in resource-poor environments, and FPOs are able to fulfil some key institutional voids.

There exists a clear need for the delivery of integrated services ranging from information on agriculture practices, training/capacity building on various aspects of the agriculture value chain (from seed procurement to price determination), provision of agriculture inputs (e.g., seeds, fertilizers) to enterprise support, market linkages, and access to financial services. For example, only 4% of the population surveyed felt that they had a trusted buyer network, and 18% of them sold to any buyer who would offer them a price higher than their production cost.

Family traditions and informal relationships continue to play an important role, with close to 45% of the population relying on these for making a decision on which crops to cultivate. Survey results also point to challenges with respect to market access – 58% of the farmers sell their produce to local traders, 41% sell to the FPOs, and 17% sell at vegetable markets. KIIs revealed that the lower rates of sales to FPOs are also due to the lack of capacity that the FPOs have to absorb/buy a larger share of the produce from the farmers. The ability to procure good quality inputs and high prices are reported as challenges across both the sites, with transportation challenges being particularly acute in Pudukkottai. Price and transportation challenges continue through the value chain leading up to the point of sale or produce. Additionally, 41% of farmers report facing issues around timely payments, and 24% of them face exploitation on weight-related issues.

Against this context, the capacity-building programs run by Vrutti in areas of agriculture input, decision-making on price, etc., have shown moderate to high rates of participation, pointing to interest and motivation for formal learning in the area of agriculture production.



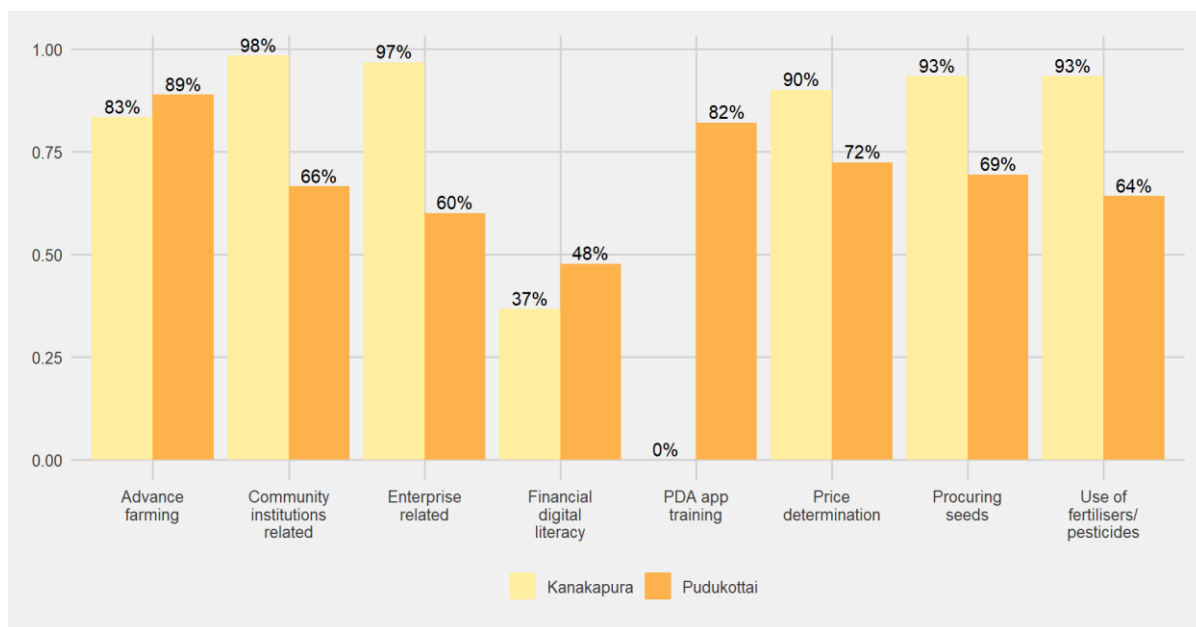


Table 10: Rates of participation in training programs offered by Vrutti in Kanakapura and Pudukkottai

About 76% of the farmers also report benefiting from these programs, with 82% of them reporting that they have adopted at least one practice from these programs. Apart from training/capacity-building needs, the information and ecosystem support offered by FPOs is also being utilized – almost 41% of them rely on FPOs for making a decision on which crops to sell, and 47% sell their produce directly to the FPOs.

Additionally, as shown in Table 11, there were differences in income levels between groups that were new to the FPO (defined as <12 months) versus those who had spent >12 months in the FPO. In the former group, 77% reported earning < Rs. 50,000, while in the latter group, this number was only 12-14%. However, the percentage of high-income groups (> Rs. 2,00,000 per year), remains low, across all tenures.

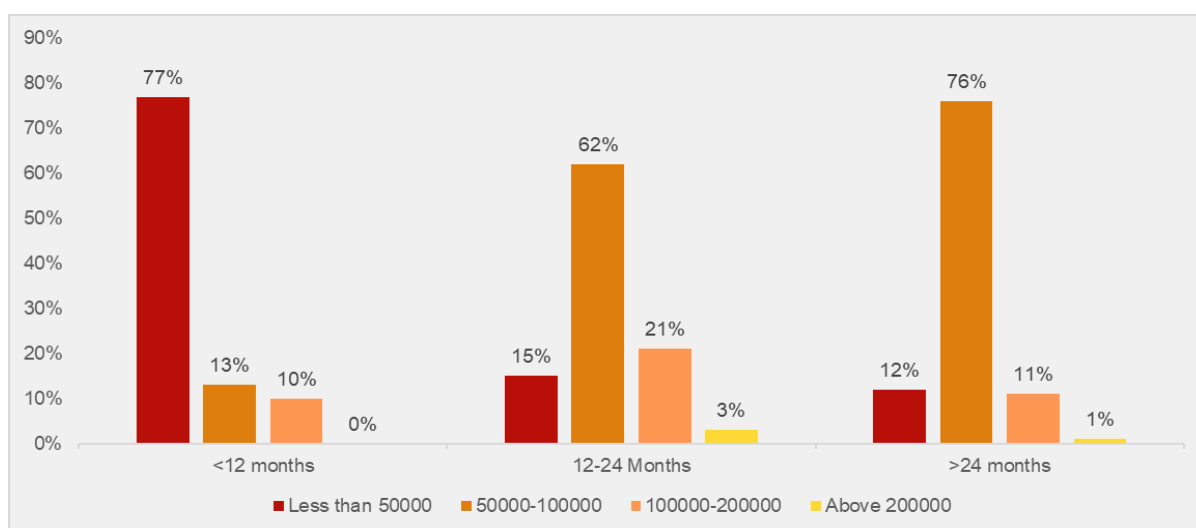


Table 11: Income group distribution across FPO tenure levels in INR

While we may not be able to make conclusive links between FPO membership and income increases based on this data point alone, this finding suggests the need to track income levels/growth against tenure in the FPO in order to be able to ascertain its relationship with both poverty alleviation as well as ability to sustain high earnings.



*Manomani, Chairperson of the Amballuru Agriculture Producer Company Limited (AAPCL), posing proudly in her vegetable garden*

And finally, it is important to note that while the FPO serves as an important link to income generation and livelihood opportunities, the resource poverty faced by farmers is very high, as a result of which many of the FPO interventions may be unable to impact farmers positively. For example, the FGDs also revealed that while the training provided by the FPO is good, they may not benefit from it because they do not have the income to use the inputs from the training. One example shared in this regard during the FGDs was that of mushroom cultivation training provided by the FPO, which many attended but could not follow through, because of the lack of finances to start it. Similarly, lack of sufficient paid work opportunities and the inability to maintain a decent livelihood emerged as a high priority for many women, and their engagement with ABAs also seemed to depend on the extent to which they believed the FPO will be able to fulfill their income/credit needs.

**iii) Women’s engagement with digital tools operates within gendered norms, however, they recognize its role in expanding their economic choices.**

Almost 79% of the women surveyed owned their own smartphones, and 14% of them reported owning their own feature phone. For those who owned smartphones, WhatsApp was the predominantly used social media platform. However, only 3% of the women had used their smartphone for digital payments, and only one woman had made a purchase through an e-commerce site. The FGDs revealed a range of issues with respect to trust in the digital (particularly for payments, etc.), dependence on male members for monthly recharge of the phones, difficulties in participating in video calls/google meets etc., due to complexity/connectivity/bandwidth issues, as well as preoccupation with household chores. The ABAs, in particular, revealed that they could run online training only in the evenings, because that is when women have time, and that is also when their children are at home to provide them technical assistance to log in, manage video calls, etc. In the focus groups, women also revealed that their husbands are more likely to use apps like Google Pay or Paytm, and they also shop for them online as required. While these issues have been widely reported and discussed in the context of the gender divide in access to and use of digital technologies, what also emerged from the survey and the focus groups is that women are actively engaging with multiple facets of digitalization and the smartphone provides them crucial linkages with the outside world. One of the focus group participants said, “we have to work in order to recharge our phones”, alluding to both, the expenditure involved in maintaining a phone, and the centrality of the phone to their lives. Many women reported using tools such as YouTube for job search, learning about agriculture practices, or following the news. WhatsApp was a predominant source of communication, and 45% of women reported using WhatsApp to get updates/information, and 22% of them reported specifically using it to get crop and agriculture-related advice. About 18% of them used WhatsApp to share pictures, etc., and during the focus groups some women confirmed that being able to click and send pictures of crops or pests from the field allowed them to get “instant” advice from the ABAs.

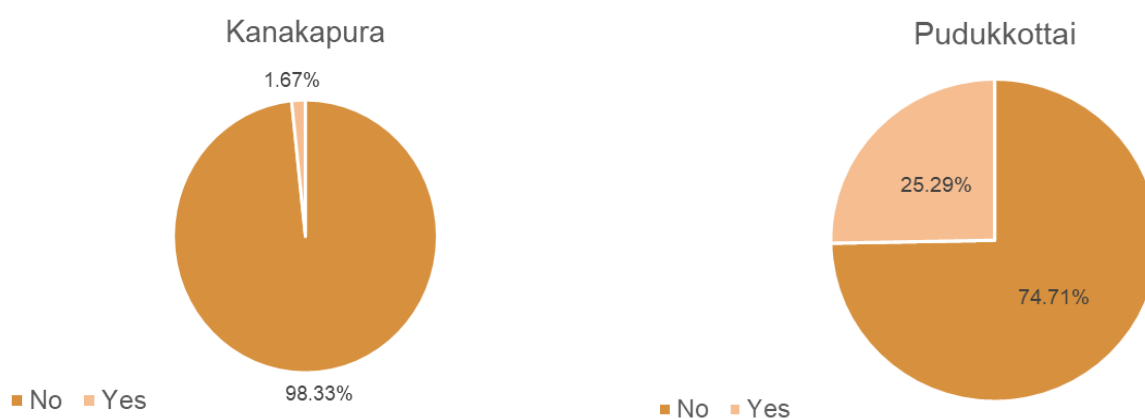


Table 12: Status of social media usage in Pudukkottai and Kanakapura

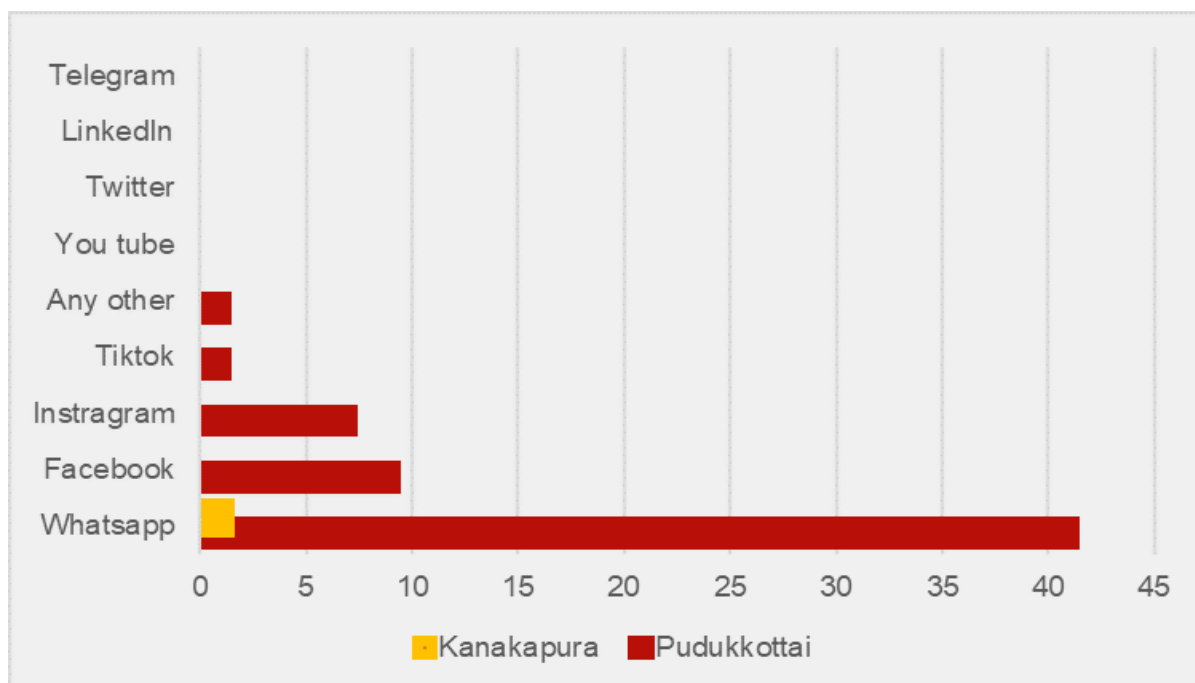


Table 13: Various social media apps used in Pudukkottai and Kanakapura

**iv) Reach and sustained use of digital tools offered by the BAU is low and its impact on driving change in agriculture practices is fragmented.**

To start with, the awareness of the three tools that are used currently by Vrutti – iEnterprise, PDA training app, and QR code – is currently low. About 78% of them were not aware of the QR code, 80% were not aware of the PDA app, and 98% of them were not aware of the iEnterprise app. The interaction with ABAs revealed that the iEnterprise app was launched only very recently, and that the QR code and PDA app had mixed responses, therefore these results are not surprising.

There seemed to be a positive correlation between time spent in the FPO and the knowledge of digital technologies such as QR codes, digital payments, e-banking services, etc., with members who had spent more than 25 months in the FPO more likely to report that they are aware of these services, compared with members who had spent less than 12 months.

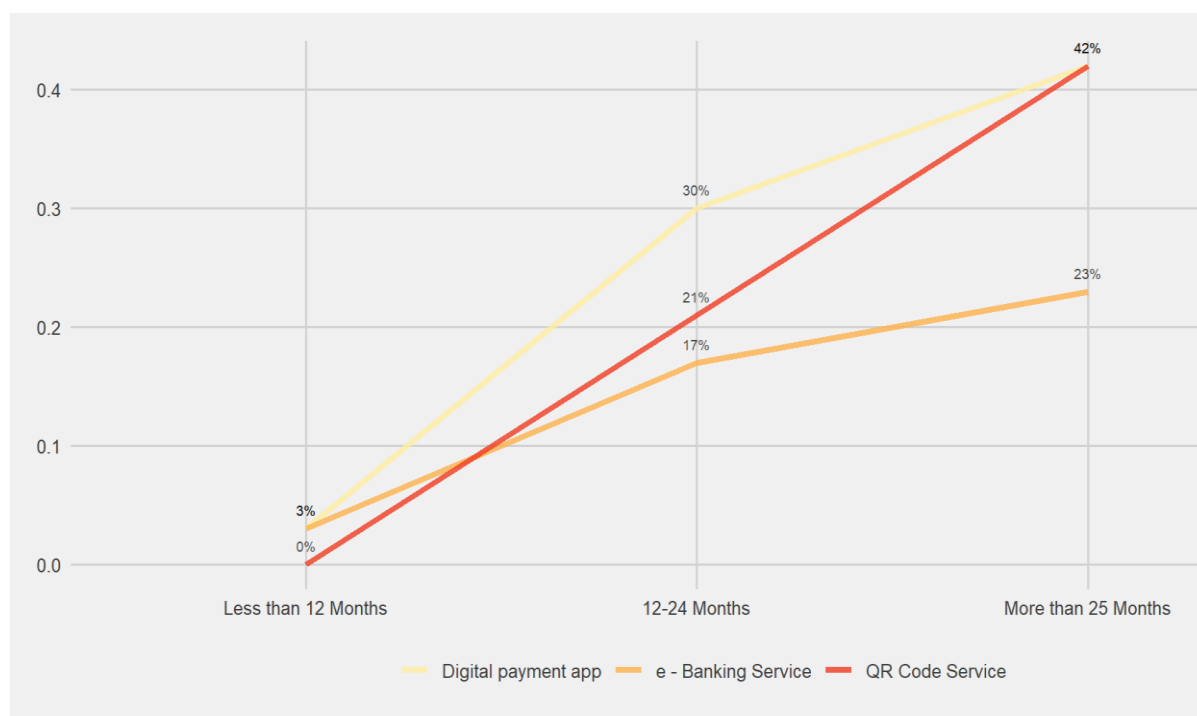


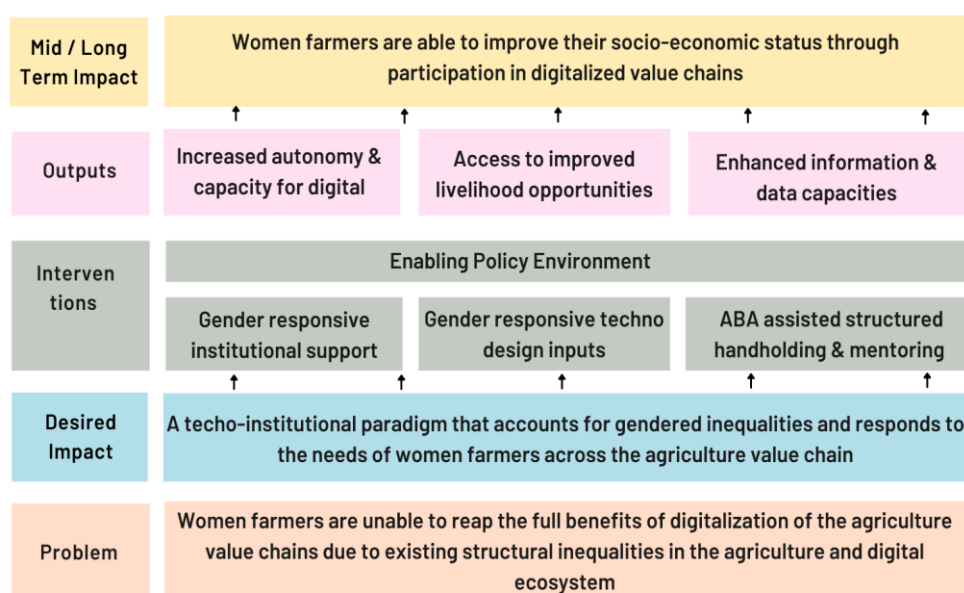
Table 13: Relationship between knowledge of various digital services and the FPO membership tenure

Importantly though, to the extent that knowledge did not necessarily and consistently translate into usage, there is a need to explore the reasons for non-adoption. What is also unexpected is that despite WhatsApp being a tool that most women are comfortable with, only 22% of them were part of the WhatsApp groups that were created by the ABAs, and another 30% reporting that they receive FPO-related information from other fellow farmers who are on the WhatsApp groups. Additionally, although the numbers are small, women who engage with these tools report benefitting from their use. For example, while only 20% of the women had attended training through the PDA apps, 100% of them who attended reported finding it useful, and 91% of them accessed the material online (either by themselves or with assistance) after the training program. Women also reported savings in travel cost and travel time as being a significant advantage of virtual training over physical training. What the results show is a need to evaluate features such as accessibility and relevance of the content of the digital tools to activities across the agriculture value chain and plan interventions appropriately. For example, understanding how existing tools can smoothen the issues of transportation or timely payments/higher prices can be a useful starting point to increase their relevance to the agriculture value chain and engagement with them.

## 5. Theory of Change

The challenges and barriers identified in section 3 illustrate how the interplay of structural voids in the agriculture ecosystem and gendered digital divides continue to mediate women's participation in the agriculture ecosystem. Importantly, they suggest that while digital technologies have the potential to expand women's economic choices, they are very much embedded within a socio-economic context, i.e., they do not exist as neutral tools that can independently lead to a set of positive outcomes.

Therefore, any attempt at increasing women's engagement with/participation in digitalized value chains can only be done in a context-specific way that responds to the needs and challenges of the community. The theory of change outlined below has been developed in the specific context of the FPO ecosystem within which farmer's livelihood and economic empowerment opportunities are embedded:



*Image description: Theory of Change: Centering women in digitalized agriculture value chains*

As summarized in the representation above, the starting premise points to the presence of structural barriers that produce gendered inequalities, impacting women's abilities to reap the full benefits of digitalization. Responding to the needs of women farmers, therefore, will require going beyond an 'app-' or 'device-centric' approach that is more techno-focused, and moving to a more holistic ecosystem-based approach that is simultaneously focused on micro (individual/household), meso (FPO), and macro (policy) level structures, keeping in mind both social (community norms, cultural barriers) as well as technical (design, data capabilities) factors.

On this basis, four key areas of intervention are suggested:

- **Gender-responsive institutional support:** The study has reiterated the need for key institutional support mechanisms to be designed/implemented in gender-sensitive ways. For example, challenges to logistics and transportation may be particularly gendered because women may not own vehicles or may not have the capacity to drive, in addition to facing socio-cultural constraints on their mobility, which could impact their participation in market linkage programs. Similarly, women may have lower capacity for digital payments as compared to their male counterparts which could translate into a lower ability to receive timely payments. Institutional support should also explicitly address the questions of resource poverty amongst the most marginalized women farmers, by exploring linkages not just with agri-specific government schemes and programs, but also with broader livelihood and citizen entitlement schemes that can contribute to women's economic wellbeing. Therefore, it is important to track which aspects of institutional support programs are particularly sensitive to gendered constraints
- **Gender-responsive techno-design inputs:** This involves making techno-design choices that account for potential imbalances that may arise from the introduction of digital mediation on account of the digital gender divide or existing digital inequalities. For example, the role of iEnterprise in higher and more equitable price determination can be an important gendered consideration in the platform design. Similarly, being able to provide a printed receipt of the sale (as against a purely electronic) invoice can be helpful in increasing women's trust in digital systems. Additionally, using low-resource forms of training and capacity building, through voice-based messages, or SMS alerts, or local language content may be important to ensure that the most marginalized women benefit from digital mediation.
- **ABA-assisted structured handholding and mentoring of women farmers:** The baseline survey clearly pointed to the continued need and importance of ABA mediation across the agriculture value chain. Given that the ABA model has been in place for some time now and has varying degrees of maturity, it is important to ensure that the best practices of ABA interventions across various FPOs are documented and the learnings are funneled systematically into the creation of a structured mentoring and handholding program that is designed to meet the needs of women farmers.
- **Enabling policy environment:** Policy or formal regulation will continue to play a key role in securing women's rights to a fair and equitable marketplace and this is to be studied as a cross-cutting theme. As part of this, tracking policy changes, responding to public

consultations on policy, participation in closed-door policy discussions/roundtables, and publishing of policy briefs relating to women in agriculture will be monitored and reported.

## 6. Way Forward: Tracking Progress

A series of interventions across the above categories may be designed and monitored through the course of the project in discussion with Vrutti/BAU staff.

Based on the planned interventions, a calendar of activities will be prepared for a period of 18-24 months.

On a quarterly basis, ITfC will conduct REAs (rapid ethnographic assessments) in order to report and monitor progress on the following three parameters:

<b>Autonomy and use of the digital</b>	<b>Access to improved livelihood opportunities</b>	<b>Enhanced information and data capacities</b>
a) Ease of UI navigation for women farmers, particularly those with limited literacy, digital fluency, and connectivity on personal gadgets	a) Sensitivity of market linkage services to the gendered barriers that women face in market access (e.g., price, transportation, etc.)	a) Relevance of and engagement with informational and training services provided by the BAU units
b) Participation in/engagement with digitally mediated activities of the value chain	b) Access/usage and relevance of government/credit schemes to women's livelihood needs	b) Capacity of women farmers' collectives to utilize data analytics for enterprise development
	c) Resilient financial management practices (e.g., savings habits, credit usage)	
	d) Enterprise development and sustainability	



Finally, as part of the endline assessment, the project will measure the extent to which women have been able to enhance their socio-economic status both individually as well as collectively.

Enhancement in socio-economic status will be captured through shifts in two key parameters:

**Livelihood prospects:**

- Income stability
- Income generation/enterprise development opportunities
- Access to institutional support
- Negotiating/bargaining power of the women/scope for collectivizing

**Individual and collective empowerment:**

- Control over income and economic resources
- Status at the household level
- Expansion of sense of autonomy/choice
- Networking and linkages with other women workers

