

Baseline Survey Report

Farmnet Agro Farmers Producer Company Limited

Zone 4 Cluster, Palakkad District, Kerala

Programme implemented under:

Department of Agriculture Development & Farmers' Welfare for Formation & Strengthening of FPOs in Kerala (RKVY- 2019-20)

Implementing Agency:

Small Farmers' Agri-Business Consortium, Kerala

Prepared & submitted by:

Ernst & Young LLP (EY)

Agri Business Promoting Agency (ABPA)

26 September 2023



Contents

1. Introduction	3
1.1 Project Introduction	3
1.2 Project Background	4
1.3 Major Deliverables	5
1.3 Objective of Baseline Survey Study	6
1.3.1 Scope of the Baseline Survey	6
1.4 Methodology of Baseline Survey	7
1.4.1 Pre-feasibility Study	7
1.4.2 Field Study	9
1.4.3 Post-Field Study	9
2. Agriculture Scenario	10
3. Profile of Producer	18
3.1 Basic Profile of Farmers	18
3.2 Source of livelihood	18
3.3 Farmer Asset Details	19
3.4.1. Cost of cultivation	22
3.4.2 Production Related Challenges	22
3.4.3. Agri- Input related information	22
3.4.4 Seasonality Chart	24
3.4.5 Storage Practices	25
3.4.6. Marketing/Sale Practices	25
3.4.7. Livestock details	25
3.5 Source of Irrigation Details	26
3.6. Source of Finance for cultivation	26
3.7. Details on assistance under any Govt. of Kerala, Govt. of India Schemes	26
3.8 Any Other Details	26
4. Key Findings and Conclusion	27
4.1 Key Findings or Observations	27
4.2 Conclusion	29
4.3 Indicative Intervention	29
5. Annexures	30
Annexure 1: Farmer Stakeholders Consulted	30
Annexure 2: Field Visit Photographs	38
Annexure 3: Baseline Survey Format	38

1. Introduction

1.1 Project Introduction

Farmer Producer Organizations (FPOs) are proposed to integrate small and marginal farmers into the agricultural value chain. To leverage the collective bargaining power of the farmers by produce aggregation, to mitigate the risk in agriculture, improving the access of farmers, Agribusiness, improved access to investments, technology, and inputs and markets.

It is required to work directly with the farmers to make them collectives under the FPO. Aggregating producers into collectives is universally accepted. It is required for creating an enabling environment for the smooth functioning of the producer organisations and helps in overcoming impediments that the farmers face on a day-to-day basis.

There is great scope for FPOs in the future because they can only act as an effective vehicle for technology demonstration, seed production, and dissemination of GAP (Good Agricultural Practices) INM (Integrated Nutrient Management), IPM (Integrated Pest Management), Post-harvest management and value addition. The main objective of the FPO is to organise the collection of Agri produce, processing, storage, and marketing of their members' produce in high-value markets at an optimal price, thus reducing transaction costs and allowing the Farmer Producer Companies to enter into partnership with private and public sector companies to supply aggregated farm produce in bulk on more favourable terms.



Govt. of Kerala intended to promote Farmer Producer Organisation registered under the Companies Act, 2013 as the most appropriate institutional form to mobilise farmers and build their capacity to collectively leverage their production and marketing strength.

FPO will support its members in securing higher incomes by undertaking any/many/all of the activities listed in previous sections: by aggregating the demand for inputs, an FPO can buy in bulk, thus procuring at cheaper price compared to individual purchase. Besides, by transporting output in bulk, cost of transportation is reduced, and also direct market connectivity is facilitated.

An FPO may aggregate the produce of all members and market in bulk, thus, fetching a better price per unit of production. Furthermore, an FPO can also provide market information as well as credit as well as common facilities to member producers to enable value addition and to hold on to their produce till the market prices become favorable. All such interventions are expected to result in increasing incomes of the member farmers and primary producers.

1.2 Project Background

Govt. of India has identified farmer-producer organizations registered under the special provisions of the Companies Act, 2013 as the most appropriate institutional form to mobilize farmers and build their capacity to collectively leverage their production and marketing strengths. Collectivization of producers especially small and marginal farmers, into producer organizations have emerged as one of the most effective pathways to address the challenges of agriculture. It ensures improved access to investments, technology, inputs, credit, insurance value addition, and markets.

The concept of collective strength is not new. Cooperatives are working traditionally for the farmers benefit and Agri development by supplying credit and other services. However, most of these institutions are weakened due to poor financial resources and lack of professional management. This resulted to defunct institutions. Hence, the context of collective efforts needs to re look in terms of extent of work, ownership, and participation of farmers in the process.

In agriculture and Agri - the allied sector most of the collectives have disproportionately focused on the production side while providing very little attention to processing, value addition, and market linkages. Hence it requires farmer-controlled institutions to engage in a more holistic and end-to-end approach to addressing the issues faced by the small farmer. Traditional cooperative societies were developed based on single activity; however, with changing scenarios, a holistic value chain approach is required to develop a sustainable collective Institution. Proposed Farmer Producer Organizations (FPO), therefore, consider interventions starting from procurement/Initial services to production and processing to marketing in a collective form.

Implementing Agencies are supporting this intervention by setting up Agribusiness Promoting Agency (ABPA), at the District / Cluster level to form and promote FPOs as per their requirements. ABPAs are entrusted to assist in the implementation of the program as per scheme guidelines and as may be suggested by the PMU-CA and SFAC-Kerala. The ABPAs are entrusted to carry out baseline surveys, cluster finalization, value chain study, Cluster Baseline Survey, formation of groups and FPOs and assist in their periodical meetings, registration of FPOs, training, and capacity-building, linking these bodies to input suppliers, technology providers, market players, etc.

To mainstream the process of institutional development of Farmer Producer Organizations, as per TM (1)11560/2020 Dated 30-06-2020 the Director, Department of Agriculture Development and Farmers' Welfare approved RKVY 2019-20- Operational Guidelines for FPOs in Kerala. Selected Ernst & Young LLP (EY) has prepared this Cluster Baseline Survey report based on these guidelines to promote a farmer Producer Organization (FPO) under the Scheme of RKVY-2019-20.

1.3 Major Deliverables

S.No.	Components	Time Period
1	1. Cluster Identification based on Agro-Ecological Unit/Zone, Feasibility Study and Analysis, Baseline Surveys and Assessment, Groundwork including publicity, desk reviews, field visit, meeting with cluster farmers, SHGs, NGOs, Cooperatives, VFPC, HortiCrop and PSUs in prospective areas, 2. Conducting Baseline Survey studies 3. Identification of FPOs	3 months
2.	Preparation of Farmer Community Participation based Value Chain Analysis and customized Business Plan Preparation, Mobilisation of Farmers, and Organizing FIG's	2-3 months
3.	Preparation of Memorandum and Articles of Association	2-3 months
4.	Training and Capacity Building - Business planning & management exposure visits, training on bookkeeping, accounting, etc. Training to Board of Directors	3-6 months
5	Registration of FPOs as FPC Licensing - GST, Input license for sales of biofertilizers, fertilizers, seeds, and pesticides, FSSAI, Pollution Control Board: Consent to establish & consent to operate, Panchayat/LSGD/KSIDC/Udyog Aadhar, IE Code and other mandatory registrations/ Licenses	3-6 months
6	Development of MIS software & process tracking, Apps, Call Centre, and database of FPOs	3-6 months
	Interim review and monitoring.	6 months
7	Incubation and Marketing support services for implementation of business plan 1. Input facilitation	6-9 months
	2. Establishment of custom hiring center, linkage with Agro Service Centers, Kerala State Agro Mechanization mission, Preparation of Agro Machinery Bank, Linkage with SMAM, etc.	6-9 months
	3. Common Facility Centre/Packhouse for procurement, primary, secondary, minimal processing, sorting, grading, packaging, storage, ripening chambers, etc.	6-9 months
	4. Linking with central and state Government schemes like Janakeeyasoothranam, SAMPADA, Special Economic Zones, PMEGP, NHB, SFRUTI, and other MoMSME schemes, etc.	6-12 months
	5. Equity grant, Credit guarantee fund, Venture Capital Assistance of Central SFAC, and other sources	6-12 months
	Interim review and monitoring. Management and financial audit	12 months

8	Incubation, Marketing support, and forward linkages Linking with e- NAM, e-commerce portals, Online marketing channels, etc. Linkage with financial institutions	6-15 months
9	Establishment of Brands, designing Logos and packaging, Branding, Registration, etc.	6-15 months
10.	Conduct of Buyer seller meets	6-18 months
11	Assessment and Audit, Mid-term evaluation, and grading of FPCs	18 months/ As required by SFAC Kerala
12	Exploring diversification, Value addition, and expansion Exploring export potential, licenses, and clearances	6-24 months
13	Buyer sellers meet Management and financial audit	6-24 months
14	Exploring the possibility of Organic and GAP certification and marketing under India/ Kerala Organic or Safe- to- Eat Brands	6-30 months
15	Tie-ups/ linkages with retail change at domestic and international levels or developing own retail chains/outlets and developing technology for Blockchain in agriculture and setting up of modern supply chain system	6-30 months
16	Linkage with NABKISAN, NABFIN etc.	6-36 months
17	Final evaluation and grading of FPOs/FPCs Management and financial audit	30-36 months/ As required by SFAC Kerala
18	Sustainability and Final phase-out	36 months

Over a period of 36 months from the start of inception

1.3 Objective of Baseline Survey Study

The major objective of the Baseline Survey is to assess the preliminary situation of the farmers and the level of agriculture in the area. The study will also help in identifying the potential interventions required and understanding the specific project implementation context.

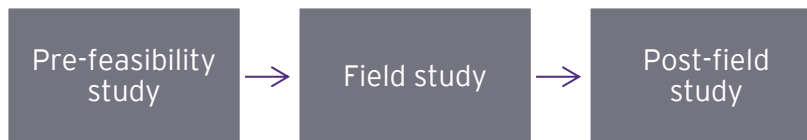
1.3.1 Scope of the Baseline Survey

The scope of the Baseline Survey envisages mapping the existing agriculture and agri-business scenario of the cluster to assess the underlying strength, weaknesses, and opportunities of the major crops and to suggest the way forward for enhancing the competitiveness of the concerned farmers to ensure their sustainable growth in terms of crop productivity, reduced cost of production, farm mechanization, technological upgradation, post-harvest quality up-gradation, processing efficiency, brand building, etc.

The study will target, villages in the cluster, among farmers of Thrithala Block, Palakkad district. The purpose is to understand the crop profile including the no. of traders and sales mechanism, area, and business network with other markets, and formulate a subsequent strategy for new FPC formation.

1.4 Methodology of Baseline Survey

The Cluster Baseline Survey was conducted in three phases as mentioned below:



1.4.1 Pre-feasibility Study

1. Preliminary discussion with the client

A preliminary discussion was done with the officials of the Department of Agriculture both at the Headquarter (Trivandrum) as well as at the district and Cluster level with respective Project Directors- ATMA, ADAs, PAOs, and AOs to understand the existing scenario of farmers and crop production with context to the project area. The clusters in the district and the villages in the clusters were finalized after brainstorming with the respective officials and extensive field visits. The whole study plan was briefed and shared to facilitate smooth coordination and timely execution of the field plan.

2. Secondary Data Research

Secondary data regarding the 3-year district-wise crop production of Kerala state was collected from the Department of Horticulture- H.Q., located in Trivandrum. Similarly, data concerning the clusters of respective districts were collected from the offices of PD- ATMA/ PAOs. HOs supported in retrieving the village-wise crop production data of concerned clusters. The websites of Kerala. Govt., NHB, CDB, etc. helped retrieve national/international statistical data concerning Agriculture scenario in the country.

The secondary research helped to understand the ongoing project intervention (Agriculture related schemes) very well and further aided in designing the data collection tools (Questionnaire and Checklist) properly for In-depth Interviews and Focus Group Discussions.

3. Identification of Cluster

The team from EY LLP has identified the cluster (Mandal) considering the following factors:

- The cluster needs to cover major commodities from the area catering to both the seasons/ Annual/ Perennial
- All the identified clusters need to be within a distance of 50 to 60 KM from the middle/central cluster.
- The cluster needs to have more than 3,000 to 4,000 cultivators.
- The cluster needs to be identified based on the insights given by the SFAC-Kerala & district officials.
- Avoided clusters having existing functional and active FPOs:

1. Data Tool Designing

Data tool designing was done with help of secondary data and along with the lines of study objectives. Data collection tools consisted of an In-depth Interview Questionnaire and a Checklist of Focused Group discussions. Questionnaires were prepared to collect data

- FPOs registered under MACS Act and Companies Act.
- Mobilized Share Capital more than INR 1,00,000.
- FPOs undertaking some business activity like input business, custom hiring centre, primary or secondary processing, commodity trading, etc. and having reasonable turnover.

from the individual farmers (as per the drafted sample size) through one-to-one in-depth interviews, especially for quantitative analysis. Whereas FGD Checklists were designed for extensive discussion with a group of farmers to collect qualitative data.

Data collection through the format attached in Annexure 3. Once the data collection is done, it is entered into the Microsoft Excel spreadsheet for further analysis and reporting.

2. Sample Size

To conduct the Baseline Survey at the cluster level, the sample size for in-depth interviews was taken as at least 300 shareholders in a cluster with the distribution of the number of respondents per village based upon the farmers' population of the village.

3. Sampling Methodology

Clustered random sampling methodology was followed to initially finalize the villages for the Baseline Survey in the cluster. The villages were selected based on the population size of the farmers as well as their accessibility to the social mobilizers, representatives of Team EY LLP, within a radius of 60 km from the central village.

In the selected villages, **Simple random sampling** was followed for the in-depth interviews wherein every farmer in the village being studied had an equal chance of being selected.

4. Field plan preparation

The field plan mainly focussed on the allocation of the number of in-depth interviews and FGDs to be carried out by the members of Team EY LLP per day to complete the data collection within the estimated time.

1.4.2 Field Study

1. Pilot Testing of Data Collection Tools

A pilot test of the designed data collection tools helps to check the appropriateness of questions for the target population. It also tests the correctness of the instructions to be measured by whether all the respondents in the pilot sample can follow the directions as indicated. It also provides better information on whether the type of survey is effective in fulfilling the purpose of the study.

Therefore, the pilot study FPO catchment area the study targeted farmers in Thrithala Block, Palakkad district Based upon the feedback, the FGD checklist was modified and finalized.

2. Data Collection:

To understand the cluster, its pre-harvest and post-harvest agriculture scenario, and existing barriers to growth, in-depth interviews and meetings were conducted with farmers from the region. The information was collected for the following:

- Socio-economic profile of farmers
- Crop Production System
- Major Crops and their Pre-harvest practices
- Post-harvest practices
- Current Processing Status
- Agri- markets
- Warehouses/Cold storage
- Others

1.4.3 Post-Field Study

1. **Data Entry:** Data collection through the format attached in Annexure 3. Once the data collection is done, it is entered into the Microsoft Excel spreadsheet for further analysis and reporting.

The qualitative data collected through FGDs were incorporated in the report directly as per the appropriate topics under discussion.

2. **Data analysis:** Data analysis consists of inspecting, cleansing, transforming, and modeling data to discover useful information, informing conclusions, and support decision-making. Data initially obtained, processed, or organised for analysis. For instance, it involved placing data into rows and columns in a tabular format (i.e., structured data) for further analysis, within the spreadsheet. Data cleaning was done to remove incomplete, duplicates, and other errors. Descriptive statistics, such as the average or median was generated to help understand the data. Data visualization was also used to examine the data in graphical format, to obtain additional insight regarding the messages within the data.

3. Baseline Survey report preparation

The Cluster Baseline Survey Report contains the following Chapters-

- Introduction to Project
- Horticulture Scenario
- Profile of producer
- Production Management
- Post-Harvest Management
- Conclusion and the way forward
- The report presented to the client & finalization of reports
- The key findings of the Baseline Survey report would be presented in front of the respective officials from EY LLP and after incorporating their feedback, if any, the report is being submitted finally for record and further action.

2. Agriculture Scenario

2.1 Global Scenario

Agriculture is also crucial to economic growth: in 2018, it accounted for 4% of global gross domestic product (GDP) and in some developing countries, it can account for more than 25% of GDP. Agricultural development is one of the most powerful tools to end extreme poverty, boost shared prosperity, and feed a projected 9.7 billion people by 2050. Growth in the agriculture sector is two to four times more effective in raising incomes among the poorest compared to other sectors. Analyses in 2016 found that 65% of poor working adults made a living through agriculture.

One-third of food produced globally is either lost or wasted. Addressing food loss and waste is critical to improving food and nutrition security and meeting climate goals and reducing stress on the environment on the other hand. As, more than 10% of the world's population.

Food insecurity can worsen diet quality and increase the risk of various forms of malnutrition, potentially leading to undernutrition as well as people being overweight and obese. The cost of healthy diets is unaffordable for more than 3 billion people in the world.

2.2 Indian Scenario

Indian producers are unable to realise optimal value from their products mostly due to fragmented land holdings and segregated farming, selling of produce, or buying of required inputs like fertilisers, seeds, etc. India has over 14.5 crore farmer households of which over 86.2% are small and marginal farmers with land holdings of less than 2 Ha. The average size of land holding is 1.33 hectares/ farmer household (HH). Due to the fragmented land holding and segregated farming, selling of produce, or buying of required inputs, farmers do not find it economically viable to either adopt any latest technology or use high-yielding varieties of inputs. Further, farmers also are unable to realize good value from their marketable surplus by selling their products individually.

Through having a Producer Organisation, producers can utilise scale to procure inputs at a lower price and achieve more selling power for their produce. This will also help provide access to timely and adequate finance, build capacity, and provide linkages to markets.

Status of Agriculture:

Indian scenario of Food grains and other agriculture crops:(Statistics, 2022)

#	Year	Production				
		Total Food Grains (million tonnes)	Total Oil Seeds (lakh tonnes)	Sugarcane (lakh tonnes)	Cotton (Lakh bales of 170kg each)	Jute & Mesta (Lakh bales of 180kg each)
1	2019-20	297.5	332.19	3705.00	360.65	98.77
2	2020-21	310.74	359.46	4053.99	352.48	93.54
3	2021-22 (Second advance estimate)	316.06	.47	4140.44	340.63	95.7

Indian scenario of Horticulture crops(Welfare, 2022)

#	Crops	2019-20		2020-21		2021-22 (First advance estimate)	
		Area (000' Ha)	Production	Area (000' Ha)	Production	Area (000' Ha)	Production (000' MT)
1	Fruits	6,774	1,02,080	6930	102481	6,967.32	1,02,924
2	Vegetables	10,310	1,88,284	10859	200445	11,065.06	1,99,882
3	Plantation	4,143	16,116	4255	16629	4,270.64	15,852
4	Aromatic & medicinal	641	734	653	825	649.71	767
5	Flowers	323	3,000	322	2980	267.00	2,886
6	Spices	4,291	10,137	4457	11117	4,343.98	10,816
7	Honey	-	120	-	125	-	125
8	Total	26,482	3,20,471	27,476	3,34,603	27,563.33	3,33,251

2.3 State Scenario

Kerala is located along the coastline to the extreme southwest of the Indian peninsula, flanked by the Arabian Sea on the west and the mountains of the Western Ghats on the east. The state has a 580 km long coastline. Malayalam is the most commonly spoken language. Hindi, English, and Tamil are the other languages used. Kochi, Kozhikode, Kollam, Thrissur, Alappuzha, Palakkad, Thalassery, Ponnani, and Manjeri are some of the key cities in the state. 44 rivers are flowing through Kerala, the major ones being Periyar (244 km), Bharathapuzha (209 km), and Pamba (176 km). Out of these 44 rivers, 41 are west flowing and 3 are east flowing. At current prices, Kerala's GSDP was about Rs 8.76 trillion (US\$ 125.27 billion) in 2019-20. The state's GSDP recorded a CAGR of 11.59 percent between 2011-12 and 2019-20.¹

Kerala Key Highlights		
State capital	Thiruvananthapuram	
Geographical area	38,863 sq. Km	
Population (Census 2011)	33.41 Million	
Gross state domestic product (GSDP)	Rs 8.76 trillion (US\$ 125.27 billion) in 2019-20 at the current price	
Per capita income	Rs 199,101 (US\$ 3,089) during 2017-18 as compared to Rs 108,666 (US\$ 2,318) during 2011-12 Per capita, GSDP increased at a CAGR of 8.73 percent between 2011-12 and 2017-18	
FDI inflows	USD 2.24 Billion- FY00-FY19	
Total road length (km)	33,594 km	
Rail length (route km)	1,045 Km	
Ports	Major port: 1 Intermediate ports: 3 Minor Ports: 15	
Airports	Four	

¹Kerala at a glance, Economic Review of Kerala, 2014-15, Government of Kerala website, Census 2011, Central Statistics Office

In terms of cropping pattern in Kerala, the gross cropped area in Kerala has declined from 29,33,000 hectares in 1970-71 to 25,79,000 hectares in 2017-18, registering a decline of about 12 percent. As of 2017-18, the gross cropped area in Kerala stands at 25,79,000 hectares while the net sown area is 20,40,000 hectares. However, the gross irrigated area stands at only 21 percent of the gross cropped area and has increased at a very slow pace from 3,81,000 hectares (13 percent of GCA) in 1980-81 to 5,40,000 hectares (21 percent of GCA) in 2017-18. The slow growth in the irrigated area has a major bearing on production and productivity in the agriculture sector in the state.

The total number of operational holdings in Kerala is 68,31,000 of which 96% i.e., 65,80,000 operational holdings fall in the marginal landholding category. On the other hand, in terms of area operated, marginal landholdings constitute only 59%, while landholdings in the size range of 1-1.99 ha constitute 19%. Operational holdings under the size class of 2.00 to 10 ha and above, constitute only 1 percent of the total landholdings whereas, in terms of area operated, they constitute 15 percent of the total area under operational holdings in the state.



In Kerala, over the years, service sector has grown in importance, while agriculture sector and its role in value added and generation of employment has declined consistently.

The total cropped area of the State has been declining consistently, from 30 lakh hectares in 2000 to 25.79 lakh hectares in 2017-18. The net sown area has recorded a slight decline of 8.64 percent, and the area sown more than once has declined by 30.29 percent. Current fallows have decreased by 7.5 percent whereas the “fallows other than current fallows” as well as “cultivable wasteland” have recorded an increase of 63.38 percent and 71 percent respectively. Thus, the land that is fit for cultivation but is not being cultivated is on the rise signaling the tendency of people to keep land fallow for various reasons.

Share of agriculture and allied sectors in GVA and GSVA: The share of agriculture and allied sectors in the total Gross State Value Added has been declining consistently, in consonance with the all-India trends. The share of agriculture and allied sectors in total GVA (India) and GSVA (Kerala) over the period from 2012-13 to 2017-18 is presented in the table.²

Year	Share of agriculture and allied sectors in total GVA (India)	Share of agriculture and allied sectors in total GSVA (Kerala)
2012-13	17.8	13.77
2013-14	17.7	12.37
2014-15	16.5	11.92

²State Level Bankers Committee, Kerala, Retrieved on 28th February 2021, <http://slbckerala.com/>

Year	Share of agriculture and allied sectors in total GVA (India)	Share of agriculture and allied sectors in total GSVA (Kerala)
2015-16	15.4	10.74
2016-17	15.3	10.26

There has been a steady decline in the gross area under food crops in Kerala between 1970-71 and 2017-18. Over time, the state has shifted to the cultivation of commercial crops/plantation crops and spices on a larger scale. While the gross area under rice cultivation has declined to almost one-fifth of the area cultivated between 1970-71 and 2017-18, the area cultivated under rubber has trebled and that under coconut has increased, although not at a considerable pace. The area under pulses has registered the highest rate of decline and at present, only 2,000 hectares are under pulses cultivation. The area under rice and pulses which in 1970-71 constituted 31 percent of the Gross Cropped Area, has come down to 7.4 percent in 2017-18. Since pulses are a rich source of protein and are water-efficient, promoting the cultivation of pulses would augur well for the nutrition security and food security of the state. Of late, experiments such as labour banks have taken shape, in an attempt to pool workers to cultivate fallow lands and leased areas under cultivation, which may have been responsible for the slight increase in the area under cultivation under rice between 2016-17 and 2017-18. The experiment has been active in the districts of Palakkad and Thrithala, which are among the major rice-growing regions in the state. Whereas on the other hand, the gross cropped area under rubber cultivation has increased from 6 percent of the GCA in 1970-71 to 21 percent in 2017-18.³

#	Crop/year	1970-71	1990-91	2012-13	2016-17	2017-18
1	Paddy	1298	1087	509	436	521
2	All pulses	13	17	3	2	2
3	Rubber	88	308	800	540	541
4	Coconut	3981	4232	5799	5379	5230
5	Pepper	25	47	46	34	38
6	Cardamom	1	3	10	17	18
7	Ginger	20	46	22	20	19

*Area in Hectare

The production of paddy has decreased in consonance with the decrease in the area cultivated. The production of pulses has remained stagnant over the immediately preceding years. In the case of rubber, production, and productivity had peaked and the price situation in international markets had turned favorable during the 2000s. However, Kerala's share in national rubber production has

³State Level Bankers Committee, Kerala, Retrieved on 28th February 2021, <http://slbckerala.com/>

come down from 92% a decade ago to 69.66% owing to an increase in the cultivation of rubber in non-traditional regions such as the Northeast.

Rainfall: Agriculture in Kerala is mostly dependent on rainfall. Following the great floods of 2018, rains spread havoc in 2019 in the northern districts of Kerala during the South-West Monsoon. The pre-monsoon rainfall received during the period from March-May 2019 was categorised as “deficient” by IMD. The rainfall received during this period was 55 percent less than the normal rainfall of 379.7 mm as against 169.6 mm. Wayanad was the only district reported to have received normal rainfall, although the rainfall was 2 percent less than the normal levels.

Livestock Sector: The livestock sector is an important sub-sector of the agricultural sector of the economy. It provides self-employment opportunities to the unemployed in rural areas and also acts as an additional source of income for farmers engaged in the cultivation of crops. The progress in the livestock sector is bound to lead to increased incomes and a better standard of living for rural families. At the all-India level, the share of the livestock sector in total GVA of the agriculture sector was to the extent of 26.2 percent in 2016-17 at constant prices, while in Kerala, the share of livestock in GSVA from the agriculture sector is close to 27 percent, slightly higher than the all-India level.

As per the 19th Livestock census (2012), the livestock population in the State is 27.35 lakh. It is 23 percent less as compared to the previous census. The primary reason for this is the decline in the population of cattle and goats. As per the 20th livestock census, the poultry population of Kerala is 29.8 million, reflecting a 23 percent increase over the poultry population of 24.3 lakhs as per the 19th livestock census. Milk, meat, and egg are the major livestock products in Kerala.

Among the milk-producing States in the country, Kerala ranks 14th, with a share of 1.5 percent of the production. The production of milk increased from 25.20 lakh MT in 2016-17 to 25.76 lakh MT in 2017-18. The per-capita availability of milk in Kerala declined from 202 gm per day in 2016-17 to 192 gm per day in 2017-18, which is just above half of the national average per capita availability of milk of 375 gm per day. Kerala Co-operative Milk Marketing Federation (MILMA) is one of the most important agencies for milk procurement in the state.⁴ During 2017-18, except in Ernakulam, Palakkad, and Wayanad, sales of milk exceeded procurement. The shortfall between milk procurement and sales was met by arranging milk from state milk federations of Karnataka, and Tamil Nadu, and the purchase of skimmed milk powder. To facilitate increased production of milk in the state, several programmes are being undertaken in the state such as the Special Livestock Breeding Programme, the Involvement of Kerala Livestock Development Board in the

⁴State Level Bankers Committee, Kerala, Retrieved on 28th February 2021, <http://slbckerala.com/>

production and distribution of frozen semen, Promotion of dairy zones under the scheme, 'Commercial Dairy Milk and Milk Shed Development Programme, Focus on Fodder and feed production and Emergency veterinary care services, animal health care services and production of vaccines for animals.

The total production of eggs in the country in 2017-18 stood at 9,520 crores and has been steadily on the rise since 2000-01. Per-capita availability of eggs has also been on the rise steadily with the figure in 2017-18 at 74 per annum. The largest producer of eggs is Andhra Pradesh (18.7 percent of total production) with a per capita availability of 341 eggs per annum, which is significantly higher than the national average. Kerala ranks 10th in India in terms of egg production. The total egg production in the State was 2.23 billion eggs in the year 2012-13 and continued to rise and reached 2.50 billion in the year 2014-15. Since then it declined to 2.44 billion in 2015-16 and further to 2.34 billion in 2016-17. The per-capita availability of eggs stands at 64 eggs per annum in Kerala (2017-18).

Kerala is the 8th largest meat-producing state in the country, accounting for 6.1 percent of the meat produced in India. Out of the total meat produced, 38.8 percent is poultry meat, 33.95 percent is sourced from cattle, and 20.99 percent from buffalo. Goats and pigs contribute 4.78 percent and 1.47 percent of the meat production in the state. (Source: Economic Review 2018)

Kerala occupies a very important place in the fisheries map of the country. India ranks second in terms of inland fish production and sixth in marine captured fish (Source: Economic Review 2018). While the total fish production in India in 2016-17 (provisional) was 114.09 lakh tonnes, in Kerala, the production stood at 6.76 lakh tonnes. The total fish production in Kerala during 2016-17 was 6.67 lakh tonnes, of which marine accounted for 4.88 lakh tonnes and inland fish production was 1.88 lakh tonnes. Fisheries and aquaculture contribute around 8.5 percent of the GSVA from the primary sector which is of much significance to the state economy.⁵

Overall, Kerala is one of the leading pepper and rubber producers in the country. Kerala is the leader in rubber production in the country. The state accounted for about 78 percent share in the total natural rubber production in 2017-18. Natural rubber production in Kerala stood at 551 thousand MT during 2017-18.

Kerala can be termed the land of spices, considering the large variety of spices grown in the state. Kerala is the largest producer of pepper in India and accounts for a lion's share in India's production. Apart from pepper, other spices produced in the state include ginger, cardamom,

⁵State Level Bankers Committee, Kerala, Retrieved on 28th February 2021, <http://slbckerala.com>

nutmeg, tamarind, etc. During 2019-20 (till Sept 19), spices export from the state stood at US\$ 208.89 million.

2.4 District Scenario

Palakkad is one of the fourteen districts of Kerala and has no coastal line. The district opens the state to the rest of the country through the Palakkad Gap with a width of 32 to 40 Km. Its geographical position, historical background, educational status, tourism hot spots, and above all, the development activities that are carried out, are wide and varied. The district is one of the main granaries of Kerala and its economy is primarily agricultural. The district is also the land of Palmyrahs. (Administration, 2022)

Brief Profile of Palakkad District (Statistics D. o., 2021)

S. No.	Particulars (2019-20)	Details
1.	Total geographical area (Ha)	4,47,584
2.	Total forest area (Ha)	1,36,257
3.	Total cropped area (Ha)	2,76,354
4.	Land put to non-agriculture use (Ha)	47,068
5.	Net area sown (Ha)	2,01,783
6.	Area sown more than once (Ha)	74,571

1. The district had an area under crops of about 78,163 Ha in the year 2019-20.
2. Palakkad district with 76,783 Ha. (40.19 % of the total wetland paddy area in the state). In the year 2018-19, it was 76943Ha.
3. Palakkad district occupies 1st place in the Autumn & Winter seasons, and Alappuzha district occupies 1st position in the summer season.
4. Tur is cultivated in the Palakkad and Pathanamthitta districts and the major cultivation of pulses is in the Wayanad district in 2019-20.
5. Palakkad has more cultivation of Palmyra with an area of 800 Ha and it is 42.71% of the total area of palmyra in the state.
6. The area under cultivation of turmeric is highest in Palakkad district (391Ha) during 2019-20 and is 17.17 % of the total turmeric cultivation in the state.

2.5 Other Details

S. No.	Particulars	Details
1	Cluster - Total blocks	9
2	District headquarters	Palakkad town
3	Major national highways	NH 17, NH 47, and NH 213
4	Major state highways	SH 22, SH 23, SH 25, SH 26, SH 27, SH 39, SH 52, SH 53, SH 58, SH 62, and SH 74
5	Nearest airport	Coimbatore International Airport
6	Revenue divisions	2
7	Taluks	7
8	Revenue villages	157
9	Municipalities	7
10	Block panchayats	13
11	Village panchayats	88

3. Profile of Producer

3.1 Basic Profile of Farmers

The baseline survey was conducted in the Palakkad cluster. In general, the primary producers are the person involved in practicing agriculture and Agri-allied activities, and it is irrespective of gender. In this cluster, 79.66% of the participants are male and 20.33% of the survey are female. Both males and females gender work in agriculture, in a household. The involvement of both genders is visible.

The literacy rate of Kerala is 93.9 % and remained stable from the year 2015 to 2017 (Knoema, 2022). In the cluster none of the farmers are illiterate, 24.67% of the farmers/ respondents are having an educational qualification below 10th grade, 50% of the farmers have completed their 10th grade, 17.67% of the farmers have completed 12th grade, 5.67% of the farmers have completed graduation, 0.33% of the farmers are having post-graduation as their education qualification.

3.2 Source of livelihood

Primary Source of Livelihood

From the survey of respondents in the cluster, we identified that 0.33% of them are running business entities, and 99.67% of the respondents are having Agri and allied activities. Out of all these criteria, the maximum share of respondents are having Agri and allied activities as their primary source of livelihood.

Secondary Source of Livelihood

From the survey conducted, 33.33% of the respondents are also having Agri and allied activities as their secondary source of livelihood.

Family members and dependents

On average 4.73 persons are dependents in the family landholding. Minimum two to maximum 9 persons are dependents in the family landholding. In most of the cases (45.66%) 4 members are the dependents in the family landholding.

3.3 Farmer Asset Details

Land Holding Pattern

As per the survey conducted from 300 respondents in Thrithala block, 96% of the respondents are having marginal (<2.5 acres) operational land holding. 1.33% of the respondents are having small (2.5 to 5 acres) operational land holdings. None of the respondents are having semi-medium (5 to 10 acres) operational land holding. 0.33% of the respondents are having medium (10 to 25 acres) operational land holding. None of the respondents are having large (>25 acres) operational land holding.

- Out of the 300 respondent farmers surveyed, 99% of the respondents own land, and they were cultivating the crops on their own land.
- 0.33% of the total respondents have taken land on lease.

Assets on Recent Advancement & Technology

As per the survey conducted, 99.66% of the farmers are owning smartphones. This shows better receptivity of the respondents for the usage of technological applications and the need for the same in their daily life. 14% of the respondents are having email ids.

Own Means of Transport

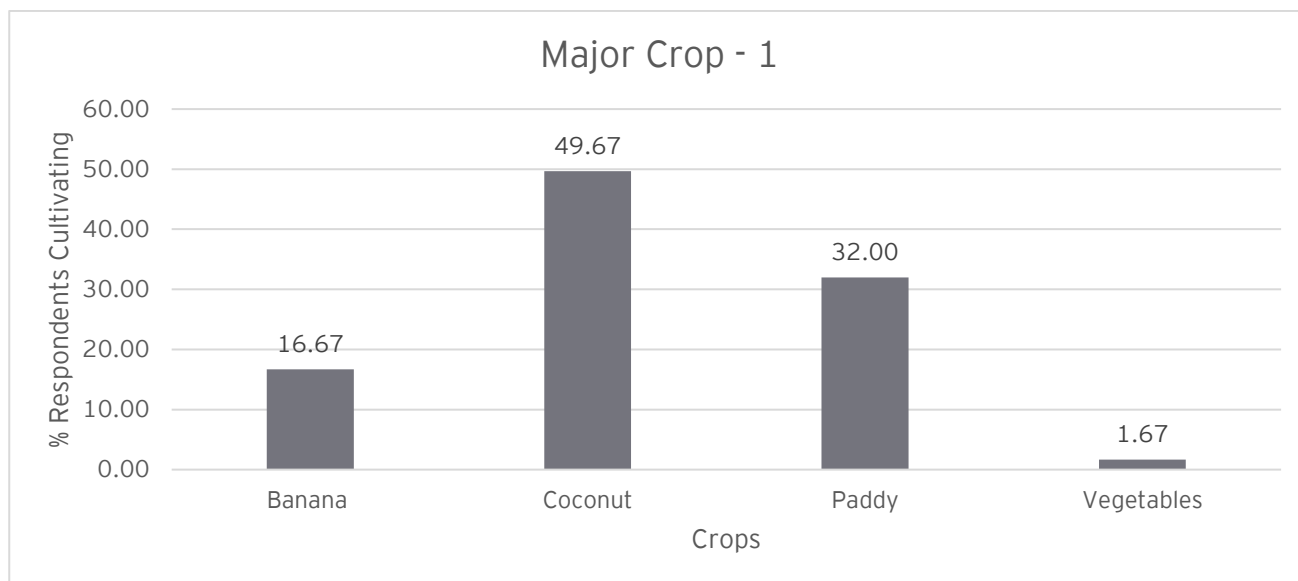
As per the survey conducted, 99.66% of the respondents are owning two-wheeler. 4% of the respondents are owning a four-wheeler.

3.4. Economics of Crop production

From the survey conducted, below is the representation of data analysis for the crops beings cultivated by the respondents.

First Major Crop

4 crops have been analysed and depicted below,

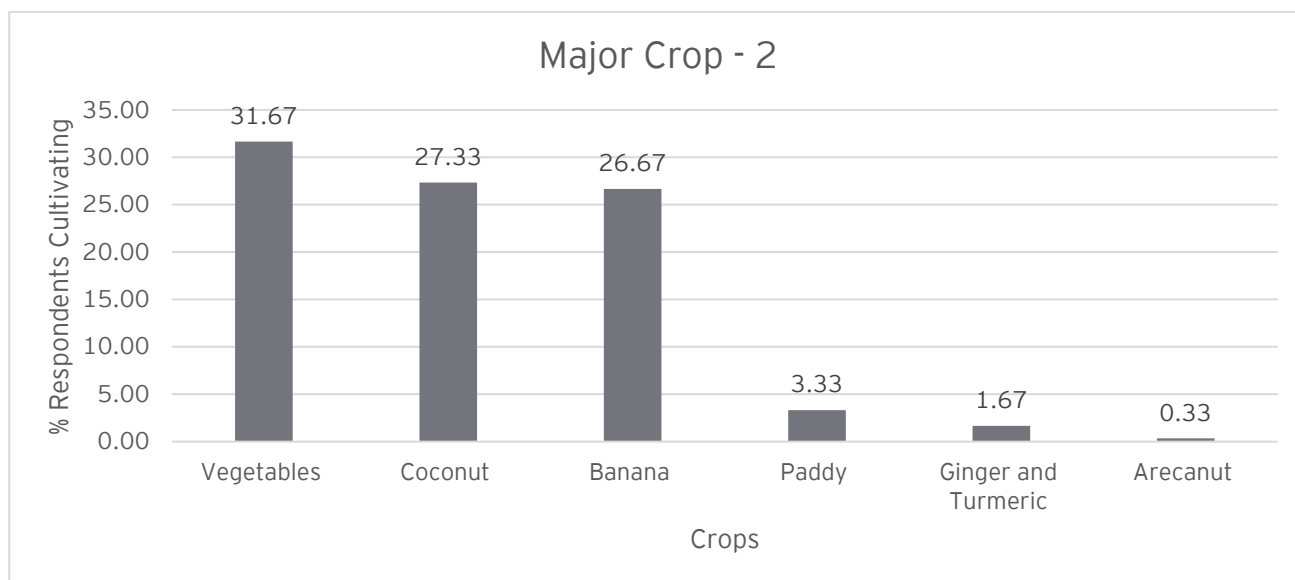


From the survey done, the maximum number of respondents are cultivating Coconut followed by Paddy, Banana and Vegetables. On an average Banana is cultivated in 1.11 acres, Coconut is cultivated in 0.73 acres, Paddy is cultivated in 1.38 acres, Vegetables are cultivated in 0.55 acres.

55.66% of the respondents are cultivating the crop under dryland conditions, while 43.66% of the respondents are cultivating under wetland conditions.

Second Major Crop

Out of the total respondents 91% of them are cultivating are cultivating crops which they consider as second major crops. The crops are Vegetables, Coconut, Banana, Paddy, Ginger & Turmeric, Arecanut.



Out of the crops mentioned, Vegetables holds a major portion of the second major crops. 88% of the crops are cultivated under dry land conditions. 5.6% of the crops are cultivated under wetland conditions.

On an average Banana is cultivated in 0.69 acres per farmer, Coconut is cultivated under 0.45 acre per farmer, Ginger and turmeric is cultivated under 0.52 acre per farmer, Paddy is cultivated under 0.86 acre per farmer, Vegetables is cultivated under 0.42 acre per farmer.

3.4.1. Cost of cultivation

For major crops, on average the total cost of cultivation for Paddy is Rs.36,063 per acre, Coconut is 29,347 per acre.

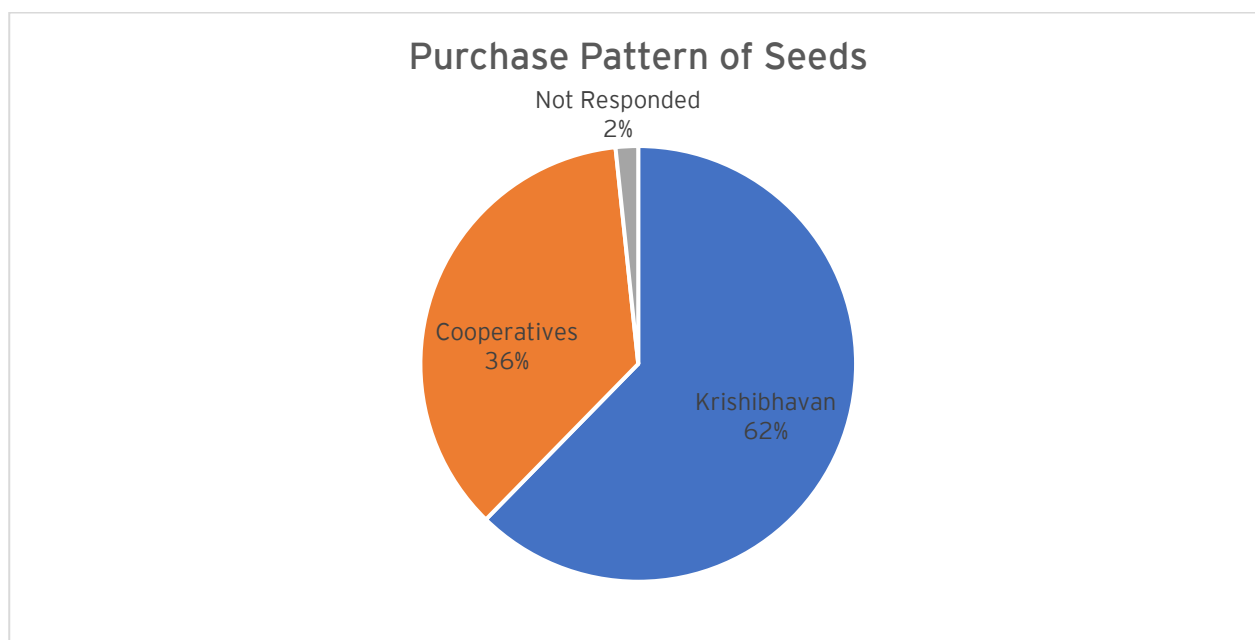
3.4.2 Production Related Challenges

The following are the production related challenges mentioned by the respondents,

1. Climatic changes
2. Pest and disease attack
3. Bud rot

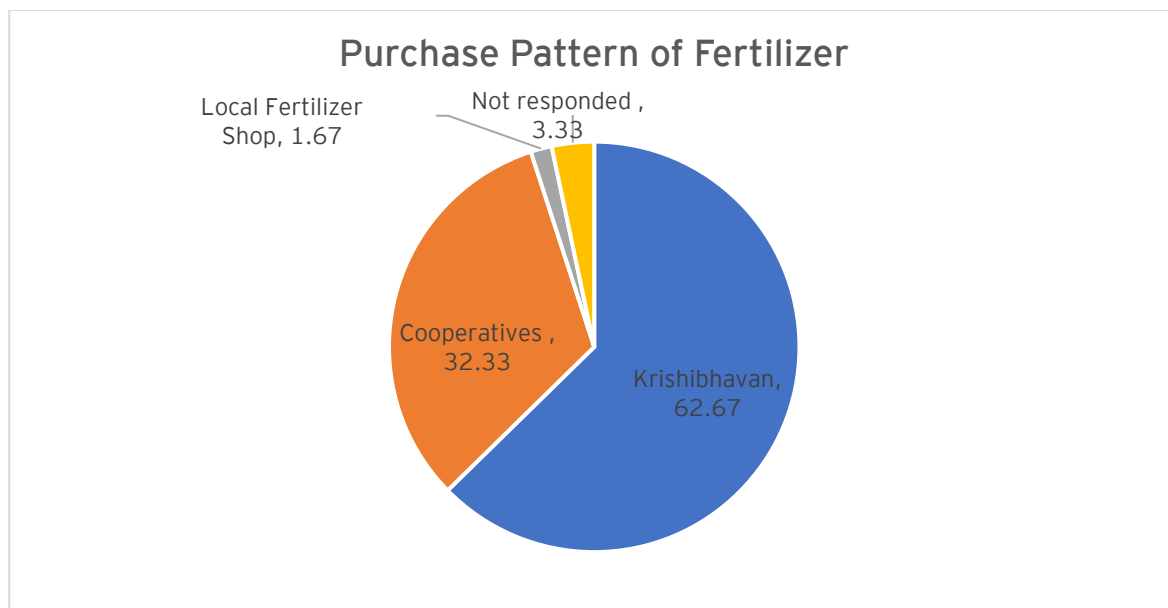
3.4.3. Agri- Input related information

Seeds



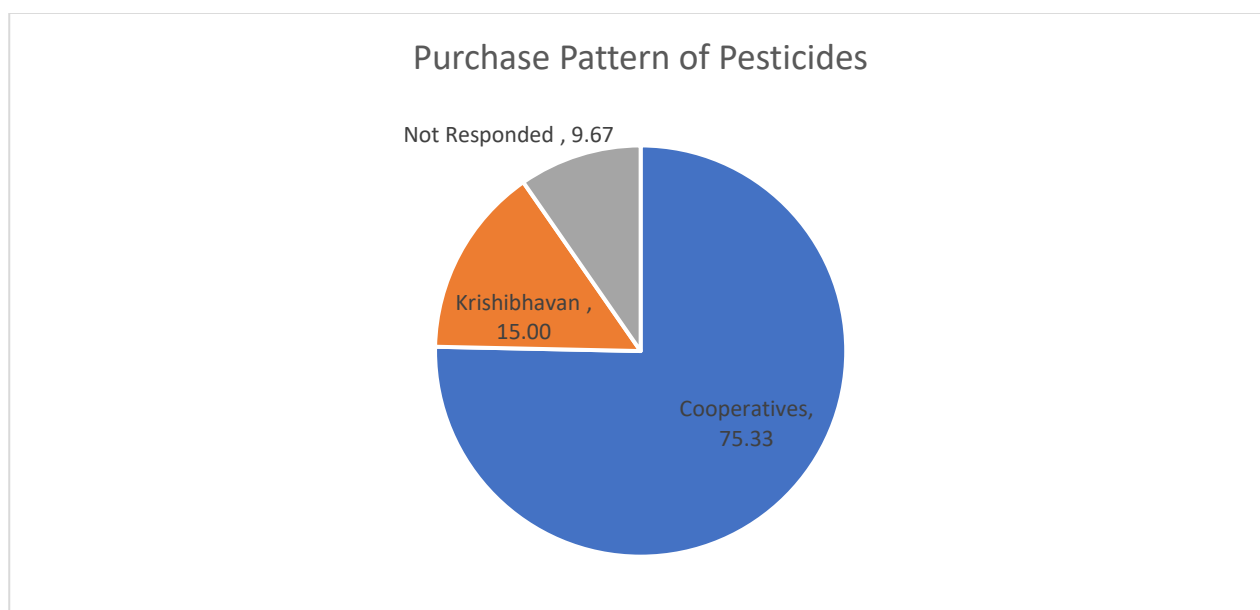
Based on the survey analysis, it can be inferred that most farmers (62%) are purchasing seeds from Krishibhavan. The survey respondents indicated that their nearest Krishibhavan is situated within a range of 2 to 4 kilometers, while cooperatives are located within a distance of 2 to 5 kilometers from their farm gate.

Fertilizer



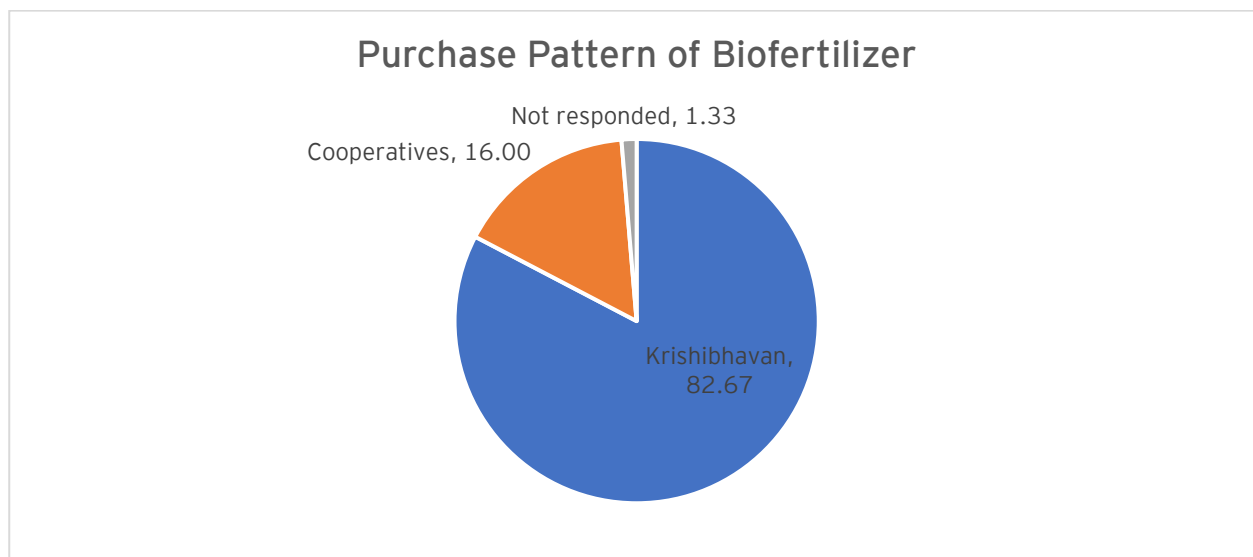
Based on the survey analysis, it can be inferred that most farmers (62.67%) are purchasing fertilizer from Krishibhavan. The survey respondents indicated that their nearest Krishibhavan is situated within a range of 2 to 5 kilometers, cooperatives are located within a distance of 2 to 3 kilometers from their farm gate, local shops are located within a distance of 2 to 3 kilometers.

Pesticide



Based on the survey analysis, it can be inferred that most farmers (75.33%) are purchasing pesticides from Cooperatives. The survey respondents indicated that their nearest Krishibhavan is situated within a range of 2 kilometers, while the cooperatives are located within a distance of 2 to 10 kilometers from their farm gate.

Biofertilizer



Based on the survey analysis, it can be inferred that most farmers (82.67%) are purchasing biofertilizer from Krishibhavan. The survey respondents indicated that their nearest Krishibhavan is situated within a range of 2 to 10 kilometers, while the cooperatives are located within a distance of 2 kilometers from their farm gate.

3.4.4 Seasonality Chart

Seasonality Chart				
S. No.	Crop	Planting	Harvesting	Description (If any)
1	Coconut	Perennial crop	January, March, June, September, December and throughout the year based on the yield	Perennial
2	Paddy	May, July	September, December	-
3	Banana	January, August	February, July	-

3.4.5 Storage Practices

According to the survey, respondents are storing coconut at home, and approximately half of the harvest is stored for a period of up to one year.

3.4.6. Marketing/Sale Practices

From the survey conducted, the farmers are cultivating a variety of crops. Below are the crops and the sale point of the crops by the farmers,

Marketing and sale practice					
S. No.	Crops	Point of Sale	% Produce Sold	Rational for point of sale	Mode of Payment
1	Coconut	Farmer Producer Company, market, retailer, Supplyco	50% to 100%	Profit and ease of marketing	Cash and credit
2	Paddy	Farmer Producer Company, Supplyco, market	50 to 100%	Profit and ease of marketing	Cash and credit
3	Vegetables	Market and supplyco	100%	Profit and ease of marketing	Cash and credit
4	Banana	Market, Farmer Producer Company, Traders	100%	Profit and ease of marketing	Cash and credit
5	Arecanut	Market	100%	Ease of marketing	Cash
6	Ginger and turmeric	Farmer Producer Company and market	100%	Ease of marketing and profit	Cash and credit

3.4.7. Livestock details

- Cows are being reared by 0.66% of the respondent farmers.
- 0.33% of the respondents are rearing poultry.

3.5 Source of Irrigation Details

- 100% of the farmers are having the source of irrigation from an open well.
- None of the respondent's land is irrigated through the pond.
- 37.67% of the respondents are irrigating from the canal.
- Some of the farmers are irrigating the farmland through borewells (17%) and river sources (10%),

3.6. Source of Finance for cultivation

According to the survey, 0.33% of the respondents obtained their financing from a cooperative bank, while 0.66% received financial support from family and friends. All respondents (100%) used their savings as one of the sources of financing for cultivation. From the survey conducted, it is observed that none of the respondents are having ongoing loans.

3.7. Details on assistance under any Govt. of Kerala, Govt. of India Schemes

1. 61.33% of the respondents have availed of the facility of Pradhan Mantri Jan Dhan Yojana.
2. 59.67% of the farmers have registered under the AIMS portal
3. 0.67% of the respondents have installed Karshika Vivara Sanketham app on their mobile phones.
4. None of the farmers have installed e-Vipani app on their mobile phones.
5. 16.67% of the have registered under KCC Scheme
6. 5.33% of the respondents have vailed assistance under any other Govt. of India/Govt. of Kerala scheme

3.8 Any Other Details

- 100 % of the farmers have availed of the soil testing services, 84.66% of the respondents got soil testing done as Krishibhavan had encouraged them to do and for 15.33%, they were encouraged by Agriculture University.
- 29.66 % of the respondents perform seed treatment for better germination of crops
- 26% of the respondents are availing services of Crop Insurance Support
- 0.33% of the respondents have availed of the formal technical training from Krishibhavan.
- 98.66% of the respondents are a member of FIG/PG / SHG / society / cooperative / FPC
- 100% of the respondents are willing to become a member of the FPO and to contribute Rs.2000 as a share amount.

4. Key Findings and Conclusion

4.1 Key Findings or Observations

The key findings of the Baseline Survey conducted in the Thrithala cluster of Palakkad district have been summarized in the table given below:

S. No.	Cluster Scenario (with respect to)	Key Findings/ Observations During the Baseline Survey
1	Source of Livelihood	99.67% of the respondents are having Agri and allied activities 33.33% of the respondents are also having Agri and allied activities as their secondary source of livelihood.
2	Farmer Asset Details	96% of the respondents are having marginal (<2.5 acres) operational land holding. 1.33% of the respondents are having small (2.5 to 5 acres) operational land holdings. None of the respondents are having semi-medium (5 to 10 acres) operational land holding. 0.33% of the respondents are having medium (10 to 25 acres) operational land holding. None of the respondents are having large (>25 acres) operational land holding.
3	Cost of Cultivation	On average the total cost of cultivation for Paddy is Rs.36,063 per acre, Coconut is 29,347 per acre.
4	Agri-input related information	Most farmers (62%) are purchasing seeds from Krishibhavan. 62.67% of respondents are purchasing fertilizer from Krishibhavan. 75.33% of respondents are purchasing pesticides from Cooperatives. 82.67% of respondents are purchasing biofertilizer from Krishibhavan
5	Seasonality of Crops	The farmers are cultivating annual crops and perennial crops as well which is having cropping seasons at different timelines in a year.
7	Marketing/ Sale Practices	There are crop-specific sale points. The sale point is to Farmer Producer Company, Market, Supplyco, Traders. In most of the case the mode of payment is cash and credit.

9	Livestock details	• Cows are being reared by 0.66% of the respondent farmers. • 0.33% of the respondents are rearing poultry.
12	Source of irrigation	• 100% of the farmers are having the source of irrigation from an open well. • None of the respondent's land is irrigated through the pond. • 37.67% of the respondents are irrigating from the canal. • Some of the farmers are irrigating the farmland through borewells (17%) and river sources (10%),
14	Source of Finance	0.33% of the respondents obtained their financing from a cooperative bank, while 0.66% received financial support from family and friends. All respondents (100%) used their savings as one of the sources of financing for cultivation.
15	Details on assistance under any Govt. of Kerala, Govt. of India Schemes	1. 61.33% of the respondents have availed of the facility of Pradhan Mantri Jan Dhan Yojana. 2. 59.67% of the farmers have registered under the AIMS portal 3. 0.67% of the respondents have installed Karshika Vivara Sanketham app on their mobile phones. 4. None of the farmers have installed the e-Vipani app on their mobile phones. 5. 16.67% of the have registered under KCC Scheme 6. 5.33% of the respondents have vailed assistance under any other Govt. of India/Govt. of Kerala scheme
16	Other details	• 100 % of the farmers have availed of the soil testing services, 84.66% of the respondents got soil testing done as Krishibhavan had encouraged them to do and for 15.33%, they were encouraged by Agriculture University. • 29.66 % of the respondents perform seed treatment for better germination of crops • 26% of the respondents are availing services of Crop Insurance Support • 0.33% of the respondents have availed of the formal technical training from Krishibhavan. • 98.66% of the respondents are a member of FIG/PG / SHG / society / cooperative / FPC • 100% of the respondents are willing to become a member of the FPO and to contribute Rs.2000 as a share amount.

4.2 Conclusion

The data for the Baseline Survey was conducted among farmers of Thrithala Block, Palakkad district. In total 300 respondents were interviewed. The farmers' dynamics are varying across different data points and some of them are similar. In general, all the farmers are cultivating multiple crops and out of them Paddy, Coconut, and Banana are some of the major crops. Almost half of the respondents availed of the govt. facilities in terms of soil testing and received technical training. All of the respondents are willing to be part of the FPC and provide the share capital.

The FPC has great scope in helping and providing a platform for the farmers to access better resources and facilities, improve their knowledge and awareness, and contribute to the overall development of the agricultural sector.

4.3 Indicative Intervention

As per the context of the Farmer Producer Organization and as per the data collected and analysed, the following can be the indicative interventions,

1. Value addition
2. Commodity trading
3. Retail outlet for the FPO products

5. Annexures

Annexure 1: Farmer Stakeholders Consulted

S.no.	District	Village	Name of the farmer	Mobile no
1	Palakkad	Thrithala	Chandrasekaran	9539803561
2	Palakkad	Thrithala	Kalyani.M	9447328842
3	Palakkad	Thrithala	Rajalakshmi	9746310577
4	Palakkad	Thrithala	Rukhya	9619066723
5	Palakkad	Thrithala	Manoharan T K	7907701667
6	Palakkad	Thrithala	Pratheep P R	9447332605
7	Palakkad	Thrithala	Ibrahim	7994479789
8	Palakkad	Thrithala	Suvyhina V P	9048485089
9	Palakkad	Pattithara	Sujatha Mohan Das	9388435748
10	Palakkad	Pattithara	Basheer	7012955751
11	Palakkad	Pattithara	Abdul Majeed	8089046145
12	Palakkad	Pattithara	Moideen.K	9633889422
13	Palakkad	Pattithara	Kammunni	9846273503
14	Palakkad	Pattithara	Krishnadas	8943511862
15	Palakkad	Pattithara	Ramachandran Nair	9495888428
16	Palakkad	Pattithara	Vasu Devan	
17	Palakkad	Pattithara	Abdul Khadhar	9947464373
18	Palakkad	Pattithara	Abdul Latheef	9746412517
19	Palakkad	Pattithara	Muhammad Basheer	9895359490
20	Palakkad	Pattithara	Raman	
21	Palakkad	Pattithara	Jayalakshmi	8086152173
22	Palakkad	Anakkara	Ukkukutty .K M	9746310711
23	Palakkad	Anakkara	Sasheendran	9846667172
24	Palakkad	Anakkara	Saidalv I	9744612985
25	Palakkad	Anakkara	Santhosh K.V	9745558339
26	Palakkad	Anakkara	Pathmini	9447242500
27	Palakkad	Anakkara	Abdul Khadhar	8157987360
28	Palakkad	Anakkara	Muhammad Kutty	8943033304
29	Palakkad	Anakkara	Sainudheen	9447436823
30	Palakkad	Anakkara	Krishnan.K	9946153718
31	Palakkad	Anakkara	Moiduhaji P.M	9447887157
32	Palakkad	Anakkara	Chandrasekharan.V V	99466996301
33	Palakkad	Anakkara	Pv Viswanathan	9995545531
34	Palakkad	Anakkara	Ibrahim Kutty	9846185991
35	Palakkad	Anakkara	Hamza	9746696089
36	Palakkad	Anakkara	Abdul Rasak	9645465814
37	Palakkad	Anakkara	Krishnan.P K	9946909375

38	Palakkad	Anakkara	Sidhik	99466996301
39	Palakkad	Anakkara	Muhammad Riyas	9946127574
40	Palakkad	Kappur	Vv Narayan	9447842621
41	Palakkad	Kappur	Kumaran K V	9645527744
42	Palakkad	Kappur	K. Fathima	9995369848
43	Palakkad	Kappur	Muhammad Ali	9947968264
44	Palakkad	Kappur	Nirmala	9446010423
45	Palakkad	Kappur	Sulaiman	9946953851
46	Palakkad	Kappur	Muhammad	9497396910
47	Palakkad	Kappur	Achuthan	96457118
48	Palakkad	Kappur	Ramakrishnn	9846861370
49	Palakkad	Kappur	Jayasree	9495752210
50	Palakkad	Kappur	Kutty Narayanan	9446476037
51	Palakkad	Kappur	Radha Krishnan	897957165
52	Palakkad	Kappur	Anil Kumar	9846403295
53	Palakkad	Kappur	Thilakarajan	9846098805
54	Palakkad	Kappur	Sreeji	9447407284
55	Palakkad	Kappur	Bijoy	9846654566
56	Palakkad	Kappur	Sajeev	9847676817
57	Palakkad	Kappur	Thankamani	9819294490
58	Palakkad	Kappur	Indual	9539332172
59	Palakkad	Kappur	Sathya Virthan	9562407158
60	Palakkad	Kappur	Roy	8547270733
61	Palakkad	Kappur	Sreekala Roy	97474313310
62	Palakkad	Kappur	Sugathan T K	9037346779
63	Palakkad	Kappur	Soumya	9539948340
64	Palakkad	Chalissery	N.A Kunjunni	8590575680
65	Palakkad	Chalissery	Muhammad Ali .K.V	8086700210
66	Palakkad	Chalissery	Pareekutty	9946369100
67	Palakkad	Chalissery	T.K Suresh Kumsr	9447963625
68	Palakkad	Chalissery	Jithesh E.V	9846504531
69	Palakkad	Chalissery	Moithutty	7012683301
70	Palakkad	Chalissery	Suliman C.P	9744030272
71	Palakkad	Chalissery	Suhara P	9645710803
72	Palakkad	Chalissery	Abdulla Kutty	9747827435
73	Palakkad	Chalissery	Raveendran	9400166126
74	Palakkad	Chalissery	Muhammad Ali	9745852833
75	Palakkad	Chalissery	Chandran C.K	9846872261
76	Palakkad	Chalissery	Kunju Min	9846781135
77	Palakkad	Chalissery	Sreedevi	9496364853
78	Palakkad	Chalissery	Ibrahim	7994479789
79	Palakkad	Chalissery	Sach Dev.K.H	9048794142

80	Palakkad	Chalissery	Preetha S	9495656881
81	Palakkad	Chalissery	Abdul Aseez	9539017345
82	Palakkad	Chalissery	Sethu Madavan	6238700985
83	Palakkad	Chalissery	Madhavi Kutty	9605448846
84	Palakkad	Chalissery	Madhavan V.V	9495656881
85	Palakkad	Chalissery	Ramachandran V	9605396976
86	Palakkad	Chalissery	Satheesh Kumar	7594919384
87	Palakkad	Chalissery	Kv Krishnan	9447837876
88	Palakkad	Chalissery	Khalid	9847593345
89	Palakkad	Thirumittacode	Udhayan	9446476506
90	Palakkad	Thirumittacode	Sathya Bhama	9048208681
91	Palakkad	Thirumittacode	P.Ramesh	9074095022
92	Palakkad	Thirumittacode	Ramakrishnan	9846861370
93	Palakkad	Thirumittacode	Achuthan	9645437118
94	Palakkad	Thirumittacode	Suliman	9946953851
95	Palakkad	Thirumittacode	Muhammad Ali	9947968264
96	Palakkad	Thirumittacode	K Fathima	9995369848
97	Palakkad	Thirumittacode	Muhammad	9567906624
98	Palakkad	Thirumittacode	Unnikrishnan V.K	9447680630
99	Palakkad	Thirumittacode	Abdul Nasar K.P	9895886997
100	Palakkad	Thirumittacode	Siddiq Kk	8086880881
101	Palakkad	Thirumittacode	Madhavan M	7994799663
102	Palakkad	Thirumittacode	Santha M K	7994799663
103	Palakkad	Thirumittacode	Surendran	
104	Palakkad	Thirumittacode	Jayasree	9446342322
105	Palakkad	Thirumittacode	Chandran V K	9446342322
106	Palakkad	Thirumittacode	Preetha Madhavan	9495656881
107	Palakkad	Thirumittacode	Mohandas V	9447093810
108	Palakkad	Thirumittacode	Muhammed Basheer M P	9846838914
109	Palakkad	Thirumittacode	Poker M V	8089333502
110	Palakkad	Thirumittacode	Ramakrishnan M R	9446239531
111	Palakkad	Thirumittacode	Veeraragavan M R	9895007112
112	Palakkad	Thirumittacode	Mustafa T K	9446783424
113	Palakkad	Nagalassery	Assainar T	
114	Palakkad	Nagalassery	Suresh V P	9447623747
115	Palakkad	Nagalassery	Mujeeb T K	9072087476
116	Palakkad	Nagalassery	Abdulla T	9946671989
117	Palakkad	Nagalassery	Muhammed K V	9447939767
118	Palakkad	Nagalassery	Muhammed Unni K V	9995011954
119	Palakkad	Nagalassery	Ayyappan	9846461469
120	Palakkad	Nagalassery	Yusaf	9539202685
121	Palakkad	Nagalassery	Sarojini	9745379195

122	Palakkad	Nagalassery	Subramaniyan	9745379195
123	Palakkad	Nagalassery	Kageeja	9545245900
124	Palakkad	Nagalassery	Asheref Ali	9995791960
125	Palakkad	Nagalassery	Ramakrishnan M	9447304574
126	Palakkad	Nagalassery	Sidharthan K K	9846520386
127	Palakkad	Nagalassery	Hamza K	9846502974
128	Palakkad	Nagalassery	Divya Sujesh	9847198649
129	Palakkad	Nagalassery	Abdulla	9946482838
130	Palakkad	Nagalassery	Hafees K	9847108495
131	Palakkad	Nagalassery	Madhavan V C	9496294011
132	Palakkad	Nagalassery	Ashokan	9995059725
133	Palakkad	Nagalassery	Subair C P	9846533490
134	Palakkad	Nagalassery	Adan P K	9846988497
135	Palakkad	Nagalassery	Kageeja K B	7034321932
136	Palakkad	Nagalassery	Vaheetha	9847685467
137	Palakkad	Thrithala	Koyunni	9846656708
138	Palakkad	Thrithala	Komalam	9846041621
139	Palakkad	Thrithala	Muameed Basheer	9747014649
140	Palakkad	Thrithala	Abdul Salam P V	9645436756
141	Palakkad	Thrithala	Gopalakrishnan	9961718366
142	Palakkad	Thrithala	Vanajakumari P K	9048914911
143	Palakkad	Thrithala	Baby U K	9447526157
144	Palakkad	Thrithala	Misriya	9946223621
145	Palakkad	Thrithala	Ibrahim	9539689856
146	Palakkad	Thrithala	Velayudhan M P	9846816775
147	Palakkad	Thrithala	Ummer K	8547170760
148	Palakkad	Thrithala	Pathmavathi Amma	7558998680
149	Palakkad	Thrithala	Vijayan A P	9846541663
150	Palakkad	Thrithala	Chatha V P	9846258748
151	Palakkad	Thrithala	Achuthankutty K P	9746351042
152	Palakkad	Thrithala	Deva Das	9656652421
153	Palakkad	Thrithala	Ramanan	9495484630
154	Palakkad	Thrithala	Aboobakhar .M	9744588862
155	Palakkad	Thrithala	Saseendran	9447534747
156	Palakkad	Thrithala	Haridasan	9446292003
157	Palakkad	Thrithala	Pareeth	7902881202
158	Palakkad	Thrithala	Mn Ibharihim Haji	9846037930
159	Palakkad	Thrithala	Unnikrishnan T P	9436227710
160	Palakkad	Thrithala	Hamza	9895356087
161	Palakkad	Thrithala	O.Jayakrishnan	9447837892
162	Palakkad	Pattithara	Pramod V P	9778328661
163	Palakkad	Pattithara	Bindu S Nair	9995043438

164	Palakkad	Pattithara	Sathyabhama	9846224461
165	Palakkad	Pattithara	Abdul Majeed	9745187733
166	Palakkad	Pattithara	K Moideen	9745187733
167	Palakkad	Pattithara	Hamza.P	9447623881
168	Palakkad	Pattithara	N Basheer	9745455673
169	Palakkad	Pattithara	K.Kammunni	8943034329
170	Palakkad	Pattithara	K.Kunjaymaraykkar	9846824772
171	Palakkad	Chalissery	Abdulla Kutty	9846838914
172	Palakkad	Chalissery	Salim T	9846824772
173	Palakkad	Chalissery	Suresh Kumar	9846824772
174	Palakkad	Chalissery	Na Kunjunni	9846824772
175	Palakkad	Chalissery	Mohandas .P K	9846824772
176	Palakkad	Chalissery	Koyakutty	9846886970
177	Palakkad	Chalissery	P.Aboobakhar	9539267891
178	Palakkad	Chalissery	Kunju Maraykkar	9846449971
179	Palakkad	Chalissery	Raman Namboothiri	9946835876
180	Palakkad	Chalissery	Hamza	7034737333
181	Palakkad	Chalissery	Muhammad Musthafa	9846446363
182	Palakkad	Chalissery	Muhammad Basheer	9745418962
183	Palakkad	Chalissery	Moideen .K	9633889422
184	Palakkad	Chalissery	Hydross	7306878350
185	Palakkad	Chalissery	Jisha	9645645089
186	Palakkad	Chalissery	Krishnankutti C	9747094517
187	Palakkad	Chalissery	Balakrishnan K P	9995159706
188	Palakkad	Chalissery	Malika C	9539219272
189	Palakkad	Kappur	Girishan P V	7306012157
190	Palakkad	Kappur	Shamon Marakkar	9633367945
191	Palakkad	Kappur	Pathummakutti	9061861681
192	Palakkad	Kappur	Abhubaker K V	9447084946
193	Palakkad	Kappur	Muhamedshahid N	9847034986
194	Palakkad	Kappur	Mini T P	7994291046
195	Palakkad	Kappur	Lakshmidevi	8547271712
196	Palakkad	Kappur	Mohamed K V	8547862127
197	Palakkad	Kappur	Kartiayani P	9946140598
198	Palakkad	Kappur	Siddiq	8086880881
199	Palakkad	Kappur	Kunju Hydross	9846486660
200	Palakkad	Thrithala	Ummar Pallath	9846831601
201	Palakkad	Anakkara	Krishnan C	9495579995
202	Palakkad	Kappur	Safiya	9946658512
203	Palakkad	Anakkara	Balakrishnan P	9846430967
204	Palakkad	Anakkara	Ummar Pm	9946666669
205	Palakkad	Anakkara	Abdulla Kutty	8547379036

206	Palakkad	Anakkara	Vasudevan K	9495484615
207	Palakkad	Anakkara	Abdul Majeed	9847722292
208	Palakkad	Thirumittacode	Rajani M P	9447200421
209	Palakkad	Thirumittacode	Kamar Zaman Pm	9656545060
210	Palakkad	Thirumittacode	Pushpalatha	9645404291
211	Palakkad	Thirumittacode	Gangatharan Nair	9567749727
212	Palakkad	Thirumittacode	Chandran K M	9895723884
213	Palakkad	Thirumittacode	Sankaran T	7736904590
214	Palakkad	Thirumittacode	Suhara P	9846417479
215	Palakkad	Thirumittacode	Majeed K M	8943424448
216	Palakkad	Thirumittacode	Hassan K K	9946504746
217	Palakkad	Thirumittacode	Thangam M C	9048035700
218	Palakkad	Thirumittacode	Mani C T	9745727601
219	Palakkad	Thirumittacode	Vasudevan N V	9495808611
220	Palakkad	Thirumittacode	Lakshmi Kutty	8943851180
221	Palakkad	Thirumittacode	Savithri	9645890567
222	Palakkad	Thirumittacode	Sasi Kumar	9744205123
223	Palakkad	Thirumittacode	Sethu Madavan	8943751591
224	Palakkad	Thirumittacode	Mp Rajan	8592073570
225	Palakkad	Thirumittacode	Mohammad Ali	9946835696
226	Palakkad	Thirumittacode	Changaran	8589924100
227	Palakkad	Thirumittacode	Damodaran	9048536019
228	Palakkad	Thirumittacode	Jameela Raoof	9605317768
229	Palakkad	Thirumittacode	Muhammad	9846339919
230	Palakkad	Thirumittacode	Sajikumar	9961806283
231	Palakkad	Thirumittacode	Pushpalatha	9961806283
232	Palakkad	Thirumittacode	Subramannyan	9048745063
233	Palakkad	Thirumittacode	Yousaf	9895064161
234	Palakkad	Thirumittacode	Saidalvi K	9846667172
235	Palakkad	Thirumittacode	Subaida M K	8086178827
236	Palakkad	Thirumittacode	Abdul Latheef K M	8089186879
237	Palakkad	Thirumittacode	Kunjimaraykkar	9656254961
238	Palakkad	Nagalassery	Chayhappan	99461996118
239	Palakkad	Nagalassery	Chandran N C	9645464198
240	Palakkad	Nagalassery	Leela V P	9946823974
241	Palakkad	Nagalassery	Abdul Jafer	8086765758
242	Palakkad	Nagalassery	Permalatha K V	9846392811
243	Palakkad	Nagalassery	Manoj T	9745925676
244	Palakkad	Nagalassery	Shijila M P	9539588217
245	Palakkad	Nagalassery	Sreedevi V M	9446854313
246	Palakkad	Nagalassery	Moideen Kutty	9497525364
247	Palakkad	Nagalassery	Sulikha	

248	Palakkad	Nagalassery	Janaki K P	9961291046
249	Palakkad	Nagalassery	Saidalvi C	9539568027
250	Palakkad	Nagalassery	Chandramohan K P	9656342874
251	Palakkad	Nagalassery	Abdul Gafoor	9846804576
252	Palakkad	Nagalassery	Cheriyi Kunhadi	9946633864
253	Palakkad	Nagalassery	Abdul Sather	9846269201
254	Palakkad	Nagalassery	Krishna Kumar	8943590356
255	Palakkad	Nagalassery	Rajagopalan	8943641407
256	Palakkad	Anakkara	Muhammad Ali	9745532049
257	Palakkad	Anakkara	Narayanan Namboothiri	9495656990
258	Palakkad	Anakkara	Thupran C P	9746668189
259	Palakkad	Anakkara	Gangatharan	9446975830
260	Palakkad	Anakkara	Sbdulrazak P P	9846524698
261	Palakkad	Anakkara	Fahad K M	8089186879
262	Palakkad	Anakkara	Jayasree M N	9400253427
263	Palakkad	Anakkara	Kunjambi	9539525107
264	Palakkad	Anakkara	Neelakandan Namboothiri	9745797327
265	Palakkad	Anakkara	Muhammad C	9745163994
266	Palakkad	Anakkara	Jamaludeen P P	7293828932
267	Palakkad	Anakkara	Abida Beevi	9745488068
268	Palakkad	Anakkara	Sankara Narayanan	9495856852
269	Palakkad	Anakkara	Kunjumuhanmed P	9645316102
270	Palakkad	Anakkara	Unnikrishnan	9946051332
271	Palakkad	Anakkara	Sulaiman	
272	Palakkad	Anakkara	Parangodan T M	9048736087
273	Palakkad	Anakkara	Unnikrishnan T	7736534857
274	Palakkad	Anakkara	Thangamani	8593837271
275	Palakkad	Anakkara	Mohammed Kutty	9562254488
276	Palakkad	Anakkara	Nizal Ahammad	7034504010
277	Palakkad	Anakkara	Jayaprakasan	9539815097
278	Palakkad	Pattithara	Pathmesh	9495564212
279	Palakkad	Pattithara	Saidalikutty T V	7594993254
280	Palakkad	Pattithara	Sainaba C	9745202803
281	Palakkad	Pattithara	Vasantha V	953980108
282	Palakkad	Pattithara	Muhammad Kutty P	9656253206
283	Palakkad	Pattithara	Aysha K	9846392143
284	Palakkad	Pattithara	Abdul Jaleel	8086481476
285	Palakkad	Pattithara	Mohammad K	9846392143
286	Palakkad	Pattithara	Abdul Majeed K K	9633897504
287	Palakkad	Pattithara	Bibin	9645061757
288	Palakkad	Pattithara	Velayudhan P	9946748501
289	Palakkad	Pattithara	Venugopalan P	9645469291

290	Palakkad	Pattithara	Vilasini K	9656254911
291	Palakkad	Pattithara	Kunjutty	9846695646
292	Palakkad	Pattithara	Suryanarayanan P	9495914998
293	Palakkad	Pattithara	Fathimakutty	9745889811
294	Palakkad	Pattithara	Aysha P T	8086131476
295	Palakkad	Pattithara	Hameed K	9846716675
296	Palakkad	Pattithara	Alikutty	9946778219
297	Palakkad	Pattithara	Muhammad	9048073250
298	Palakkad	Pattithara	Raghavan	9048515639
299	Palakkad	Pattithara	Narayanan P K	9846721295
300	Palakkad	Pattithara	P Radhakrishnan	9496351293

Annexure 2: Field Visit Photographs



Annexure 3: Baseline Survey Format



BASELINE SURVEY

Date: _____

ABPA:	State:	Zone:	District:
Block:	Panchayat:	Village:	
Krishi Bhavan:	Form No: (Surveyor Name: _____ SL No: ____)		

#	Basic Details (Reference-Aadhar Card as applicable)	Information
1.	Name of Farmer	
2.	Gender (Please Tick)	Male _____ Female _____ Transgender _____
3.	Name of Father / Spouse	
4.	Aadhar Number	
5.	Address with Pin code	
6.	Mobile Number & email id (Tick all that apply)	Smart phone _____ Normal mobile phone _____ Landline _____ None _____ *Mobile No: _____ *Email Id: _____
7.	Date of Birth / Age (As per aadhar)	
8.	Educational qualification (encircle)	Illiterate _____ Below X _____ X _____ XII _____ UG _____ PG/ Other Higher education _____ Specify in case of other higher education: _____
9.	SC / ST / OBC / General	
10.	Ownership of vehicle(s) (Please Tick)	Bicycle _____ 2-wheeler _____ 3-wheeler _____ 4-wheeler _____ None _____
11.	Primary source of livelihood (Please Tick)	Govt Job _____ Private Job _____ Business _____ Agriculture & allied activities _____ Others _____
12.	Secondary source of livelihood (Please Tick)	Govt Job _____ Private Job _____ Business _____ Agriculture & allied activities _____ Others _____
13.	No. of family members dependent on common landholding	
14.	No of family members actively involved in farming activities	
14.a	Total Land (In Acres)- For own land- Verify as per land tax receipt/ For lease land furnish certificate from concerned Agriculture Officer	i. Total land : _____ a. Own : _____ b. Taken on lease : _____ c. Given on lease : _____ ii. Total land : _____ a. Land under cultivation : _____ b. Barren land : _____



		c. Fallow land : _____ d. Pastureland : _____ e. Others : _____ * Specify in case of others: _____
14.b	Land Classification- based on operational landholding (Please Tick)	i. Marginal (<2.5 acres) _____ ii. Small (2.5 acres – 5 acres) _____ iii. Semi medium (5 acres – 10 acres) _____ iv. Medium (10 acres – 25 acres) _____ v. Large (>25 acres) _____

15. Economics of crop production

Name of the Crop	Agricultural Land Classification (Wetland/ Dryland)	Area under cultivation (Acre) [A]	Yield (Kg/Nos /Acre) [B]	Selling Price (Kg/Nos) [C]	Total Income (Rs) [D]=BXC	Total cost of cultivation (Rs) [E]	Net Income / loss (Rs) E=D-E
Annual income (Rs)							

*Encircle and specify in case of organic crop, *Wetland- Paddy, Dryland-Pulses, Cereals, etc.

16. Cost of cultivation & Agri- Input related information

A. Cost of cultivation (Per acre) and production related challenges

Name of the Crop	Seed/Planting Material (Rs)	Fertiliser (Rs)	Pesticide (Rs)	Labour (Rs)	Farm machinery (Rs)	Others (Rs)	Production related challenges
							1.
							2.
							3.
							4.

B. Agri-Input related information

Name of the Input	Source of Purchase (local retailers / Wholesalers / Cooperatives/KB/FPC/others)	Distance from the farm gate (Km)	Suggestion for improvement
Seeds/Planting material			
Fertilizer			
Pesticide			
Weedicide			
Bio-fertilizer			
Others			

17. Seasonality chart (Tick mark, sowing/Planting stage and harvesting stage)

Name of the Crop	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Remarks for Annual/Perennial Crops

18. Storage practices

Name of the Crop	% of produce stored	Period & months of storage	Location of storage*	Storage related challenges
				1.
				2.
				3.
				4.

*Location- Field / House / State Warehouse (SWC) / Central Warehouse (CWC) / Private warehouse (PWH) / Cold store

19. Marketing / Sale practice/s

Name of the Crop	Typical point of sale*	% of produce	Rationale for point of sale	Mode of payment (cash / credit)	Marketing related challenges
					1.
					2.
					3.
					4.

*Point of sale- Trader at farm gate / Processor at farm gate / Processor at factory gate / Eco Shops/ VFPC Markets/ Horti Corp/ Urban/Rural Wholesale Market of Agriculture department / village market / Business to Customer (B2C) / Hedging (NCDEX) / e-markets (eNAM etc.) / FPOs/ Others

20. Livestock details

Livestock	Cows	Buffaloes	Goats	Sheep	Poultry	Piggery	Others
Numbers							
Annual income (Rs)							
Annual Expenditure (Rs)							

21. Other livelihood practice/s

Particulars	Beekeeping			
Number / area (acre)				
Annual income (Rs)				
Annual Expenditure (Rs)				

** Please specify livelihood practices such as beekeeping, Non Timber Forest Produce (NTFP)-Bamboo products, Medical plant derivatives, etc. (Beekeeping is one of the other livelihood practices mentioned above as an example)

#	Details	Information
22.	Annual Net Income (Rs): (Total Income – Total Cost)	Agriculture: Horticulture: Livestock: Other livelihood practice/s: Total Income (Rs):

23.	Own farm machinery (Nos.)	P. Tiller : _____ Tractor : _____ Sprayers : _____ Thresher : _____ Others: _____
24.	Source of irrigation with area (acre)	Open well : _____ Pond : _____ Canal : _____ Others : _____ Specify, if others: _____
25.	Agricultural land under irrigation (In %)	: _____
26.	Are you availing services of Drip/ Sprinkler irrigation facilities?	Yes / No If yes, then area (acre) _____
27.	Are you processing your produce	Yes/No If yes, Please specify- _____
28.	Availability of primary processing (cleaning, grading, pack house, etc.) nearby	Yes / No If Yes, Name and location: _____
29.	Do you undertake primary processing such as grading and sorting of produce?	Yes / No If Yes, Please Specify- _____
30.	Source of finance for cultivation (Tick all that apply)	1. Public sector bank _____ 2. Private sector bank _____ 3. Cooperative bank _____ 4. NBFC _____ 5. Moneylender _____ 6. Family/friends _____ 7. Other sources _____ (specify) _____
30.1	Do you have any ongoing loan?	Yes / No Purpose of loan: _____
30.2	Interest rate per annum?	_____
30.3	Are you able to repay bank loan as per the repayment schedule	Yes / No If No, Please specify the reason- _____
31	Have you availed the facility of Pradhan Mantri Jan Dhan Yojana	Yes/No If Yes, do you have access to financial services such as bank accounts, remittances, credit, insurance and pensions? Please specify- _____
32.	Are you registered under AIMS portal of Agricultural Department, Govt. of Kerala	Yes / No If Yes, AIMS Registration ID- _____
33.	Have you installed Karshika Vivara Sanketham app on your mobile and using the same?	Yes/No
34.	Have you installed e-Vipani app on your mobile and using the same	Yes/No
35.	Are you registered under KCC scheme?	Yes / No
36.	Have you availed assistance under any other Govt. of India/Govt. of Kerala scheme?	Yes / No If Yes, Please specify- _____
37.	Are you availing any soil testing services?	Yes / No Who encouraged? _____
38.	Are you availing any of the following services related to good agricultural practices? (Tick all that apply)	Seed Treatment: _____ Weather Station: _____ INM: _____ IPM: _____ Others: _____
39.	Have you availed any formal technical /	Yes / No

	management training?	If yes, from where: Total no. of days attended:
40.	Are you presently availing services of Crop Insurance Support?	Yes / No Who encouraged?
41.	Do you enjoy the benefit of animal husbandry related extension services?	Yes / No If yes, from where-
42.	Are you a member of any group / FIG/PG / SHG / society / cooperative / FPC?	Yes / No Name:
43.	Are you willing to become a member of an FPO and contribute INR 2000 as shareholding amount?	Yes / No If No, Please specify the reason-
44.	Other remarks by ABPA team- (Critical observations/Key insights/ Challenges specific to farmer/s, SWOT etc.)	Capture the other critical observations/Key insights: For example, a farmer may be using modern techniques used for advanced crop production, such as- Green House, Polyhouse, etc.

45. Document Checklist

Sl No	Checklist	Copy of documents collected (Yes/No)
1	Copy of Aadhar Card	
2	Copy of land tax receipt for owned land or copy of AO certificate for lease land	
3	Copy of Bank Passbook –First page	
4	Copy of Pan Card	
5	Copy of Ration Card	

** Please, ensure that the surveyor collects copies of above-mentioned documents.

Surveyor details:

Name-

Mobile no-

Signature -