PERFORMANCE ANALYSIS OF FARMER PRODUCER COMPANIES (FPCs) IN KERALA

by

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(2018-21-017)

THESIS

Submitted in partial fulfillment of the

Requirement for the degree of

DOCTOR OF PHILOSOPHY IN AGRICULTURE

Faculty of Agriculture

Kerala Agricultural University

DEPARTMENT OF AGRICULTURAL EXTENSION

COLLEGE OF AGRICULTURE

VELLANIKKARA, THRISSUR- 680656

KERALA, INDIA

2022

DECLARATION

I, hereby declare that this thesis entitled **"PERFORMANCE ANALYSIS OF FARMER PRODUCER COMPANIES (FPCs) IN KERALA"** is a bonafide record of research work by done by me and that the thesis has not previously formed the basis of the award to me for any of degree, diploma, associateship, fellowship or another similar title, of any other university of society.

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Acknowledgement

The greatest magic that the almighty does is, simply give us the opportunities for everything. The opportunities to learn, grow, build character and even improve one's capabilities in facing struggles. For that reason alone I want to thank him first as I am sure that I have felt his grace in completing this study, despite of hardships. In the very same line that I thank the almighty, I would like to express my gratitude and dedicate this work to late Prof. ***Dr. N. Kishorekumar****,. There are no words to show my indebtedness to him. You had been there for me when I was confused or stumbled upon an obstacle during my career, to guide me through. I will be forever grateful to you for that.*

I extend my heartfelt thanks to my major advisor ***Dr.Binoo P Bonny****, Professor and Head, Department of Agricultural Extension, for her motivation guidance and advices during the course of study and writing the thesis. Thank you for showing me the potential of the discipline, correcting my mistakes even the silly ones. Your persistence and perseverance is an inspiration.*

I convey my gratitude to ***Dr. Jayasree Krishnankutty****, for all the advices she had provided during this period. All those advices were extensively helpful, and I would like to thank you Madam, for that.*

I also convey my gratitude to ***Dr. Jiju P. Alex****, Professor, Department of Agricultural Extension, for his suggestions and advices during the course of study and life.*

I am also grateful to ***Dr. Ajitha T K****, Professor and Head, Department of Agricultural Statistics for all the technical advices related to the study. Your patience and enthusiasm is unmatched. Thank you for answering even my silliest doubts.*

I would like to thank ***Dr. Anil Kuruvila****, for his unflinching support and motivation during the past years especially the last three.*

I would also like to thank ***Dr. Mercikutty M J, Dr. Smitha S, Dr. Aparna Radhakrishnan and Dr. Sulaja O. R.*** *for all the support they have extended. I am also thankful to* ***Dr. Allan Thomas*** *for all the support and motivation he has given. Along with that I would like to thank all the staffs of Department of Agricultural Extension especially* ***Sindhuchechi and Rajeshettan*** *for helping me from time to time.*

No man is an island and we all are dependent on somebody. I would like to extend my special thanks to, ***Lokesh S, Salpriya, Gayathri B R, Parvathy and***

Rose *for without their support I would have never reached this far. I also thank* ***Anju, Silpa, Salisu, Geethu, Athulya, Archana, Arya V C, Vishnu B R*** *and all my colleagues for supporting me during this period.*

I am grateful to my friends, ***Nikhil Narayanan, Arjun Mohan, Eldo Shaju, Jithin S, Jomin, Shibu, Ashok Madala, Abhimanue, Ashvin, Sreehari, Pavithrakumar, Vishnu S, Sreelakshmi, Swathy, Afnamol O.P, Stella Doncy, Laya*** *and my better half* ***Anjaly****. The bond between us cannot be expressed in words.*

I am also thankful to my friends ***Abhinav M C, Arun Chacko, Arjun T P, Ajil M.S, Gokul. K. Gopi, Fallulla.V. K, Naveen K.P, Nibin P.M and Nysanth N.S*** *for all the vibes and fun we have shared together. I also thank my seniors from the Department of Agricultural Extension* ***Poornima, Nadhika, Vivek, Neeraja and Sachana****. I am also thankful to my juniors,* ***Ahaljith, Anseera, Aaysha, Swathy, Silpa P, Rashidha, Lakshmi, Alan Jolly Sebastian, Melvin Mohan, Amal, Cibin J Das, Greeshma Susan,*** *and others for all their love and support.*

Finally I thank my parents, family and all my friends from hometown for the care and love they have provided to me from time to time.

AKHIL AJITH

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Introduction

1. INTRODUCTION

Agriculture and allied sectors in India have been heralded for the resilience shown against the Covid-19 pandemic, with a registered growth of 3.6 per cent and 3.9 per cent in 2020-21 and 2021-22, respectively (GOI, 2021). Even the agricultural industry has been growing despite stiff competition from service and other industrial sectors. Though there has been a significant decline in agricultural employment over the years, over half of the population still relies on agriculture and related activities as their primary source of income. Thus, the sector plays a pivotal role in supporting sustainable development, food and nutritional security and poverty alleviation in the country. However, the slow pace of growth in the agriculture sector is a severe concern attributed to the dominance of small and marginal agricultural holdings. As per the latest report of the Agriculture Census, there has been a reduction in the average size of operational holding from 1.15 ha in 2010-11 to 1.08 ha in 2015-16 (GOI, 2019). If the current trend continues unabated, the landholding size will be 0.32 ha in 2030. The report also indicated a rise in the number of operational holdings, which expanded from 138.35 million in 2010-11 to around 146.45 million in 2015-16, an increase of 5.86 per cent. This increase in the number of holdings is attributed to the fragmentation of the farms, which has resulted in problems related to the economy of scale and low marketable surplus. Even the agricultural marketing policy of India, governed mainly by the Agricultural Produce Market Regulation Act (APMC Act) and legal provisions of the Essential Commodities Act, could not address the inefficiencies emerging from low market surplus and extended supply chains with several intermediaries (Gulati, 2009). Even the creation of market infrastructure and institutions could not effectively address the inefficiencies, which warranted the need to increase the farmers' share in consumer price and minimize the chain of costs and margins.

Against this backdrop, various possible strategies were investigated to create extension models that connected farmers with the value chain, particularly small and marginal farmers. These models attempted to generate acceptable net returns and remunerative prices for farmers, motivating them to stay in agriculture. It led to e-NAM (electronic National Agricultural Market), a unified platform for agricultural marketing, and enhanced private sector participation in agricultural marketing. It enabled better farmer benefits by bringing higher price realization through information connectivity

and transparency. These also brought effective post-harvest management, value addition, and processing that helped farmers supplement their income. However, a lack of agribusiness competencies related to finance, infrastructure, and experience prevented farmers from effectively utilizing these strategies. This necessitated the collectivisation of farmers through Cluster-Based Business Organizations (CBBO) as an essential strategy to address the issues of fragmented farmers, primarily related to the scale of the economy and market.

Farmer Producer Companies

Several institutional models have been tested to integrate farmers into the value chain. The producer's cooperatives have the most popular model for farmers to organize themselves as collectives. These were registered with the Registrar of Cooperative Societies under the Cooperative Societies Act (1969). Many cooperatives covering a wide range of sectors are in vogue. However, India's cooperative experience was not all pleasant, being state-sponsored that focused on welfare rather than business or commercial strengths. Further, the political interference and skewness rendered the cooperative experience unsatisfactory in serving the members' interests. Many states countered the malady through similar progressive legislation that could ensure a viable and sustainable market economy, especially for the agricultural producers. This marked the transition of agriculture from a source of livelihood to agribusiness, which led to the emergence of Farmer Producer Organizations (FPOs). A mix of strategies related to crop production, post-harvest operations, and value addition based on nature and quantity of demand has been promoted through FPOs to stay viable and sustainable in the market. Further, small and marginal farmers who could not meet the economies of scale through a simple aggregation were institutionalised to create post-harvest investments and brand-building through collective contribution. The need for these business-oriented institutions in the competitive agricultural scenario was first addressed by Prof. Y. K Alagh's committee (2002) constituted by GOI. According to the committee recommendations, the Parliament of India passed the producer company legislation in 2002. Collective marketing through these institutionalised mechanisms has been promoted to integrate market demands and ensure higher returns to producers.

It later evolved into Cluster-Based Business Organizations (CBBOs) like Farmer Producer Companies (FPCs). Producer Companies were then legally incorporated into

Section IXA in the Companies Act of 1956 under articles 581A to 581ZJ, categorized as seven chapters. The areas of this article corresponding to each chapter are mentioned in Table 1.1. The provisions made under the law include business-like legality and cooperative-like protection. The same conditions have been retained for FPCs even after the Companies Act amendment in 2013. Under the existing law following provisions are included for the PCs:

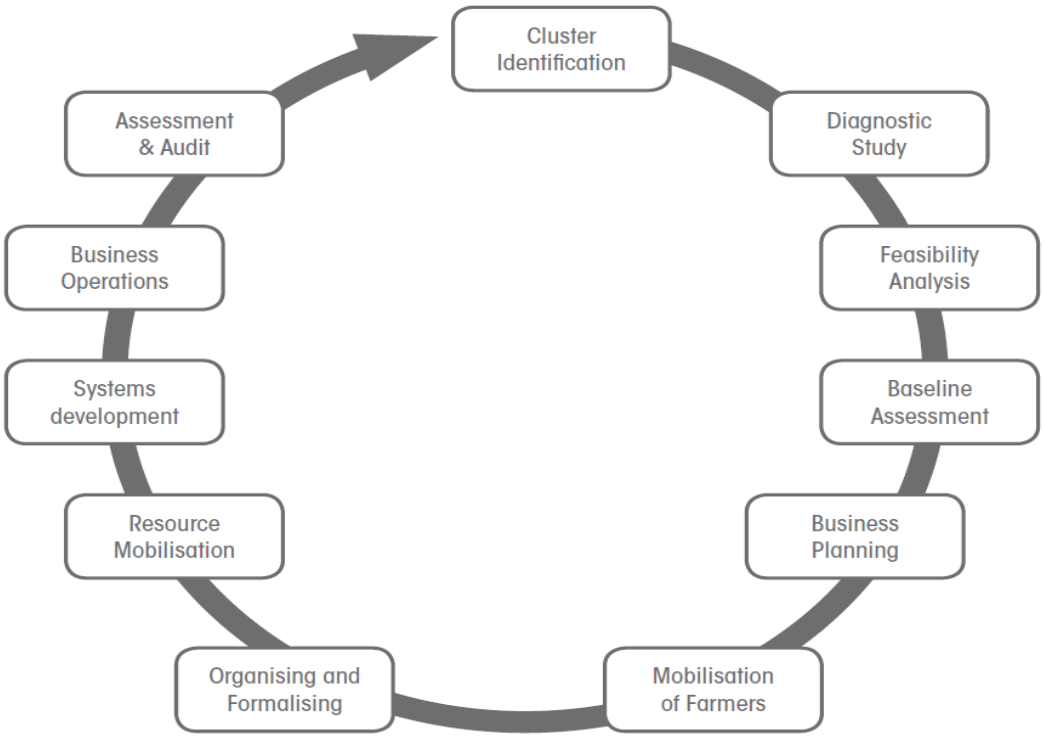
- An effective organizational form that acts as an alternative opportunity for competing with another business offering for rural producers
- Professional management and flexibility in organizational operations, including joint ventures that would be necessary to optimize the benefits to their producer members in the changing economic and market environment
- Equal treatment under the law as a business organization.
- Combination of the co-operative principles and liberal regulatory framework as well as strict disclosure norms that the company offers
- Leverage to observe cooperatives' unique practices, including democratic approach and mutual assistance.
- One member one vote system for regular shareholders and functionaries while patronage-based voting for producer institutions that have taken shares.
- Limited interest on shares
- Returns to members in proportion to their participation.
- No trading of shares
- Users alone are the owners

This change in the organizational type of farmers is mainly attributed to the demand generated by a growing population of brand-conscious consumers and the liberalization of the economy. Identifying the importance of such institutions, a national policy for the promotion of Farmer Producer Companies (FPC) was put forth by the GOI in 2013. The Department of Agriculture and Co-operation formulated the policy document, which held the vision to build a thriving and sustainable agriculture sector by promoting and supporting member-owned Producer Organizations. The document laid out an eleven-step model for forming FPCs, as illustrated in Figure 1.1.

FPCs enabled farmers to increase productivity through efficient, cost-effective and sustainable resource use and helped realize higher returns for the produce. This was possible through collective action supported by the government and fruitful collaboration with academia, research agencies, civil society, and the private sector. Understanding the growing relevance, the GOI allocated a budget of 200 crore rupees under the Producer Organization Development and Upliftment Corpus (PRODUCE) Fund through NABARD to promote FPCs in 2014. This has led to the establishment of many FPCs in the country. Moreover, in the Union Budget for 2019-20, the Government of India stated its desire to promote 10,000 FPCs over the following five years to assure economies of scale for the country's farmers

Table 1.1 Provisions under Producer Company Acts

Sl. No	Chapters	Legal provisions
1	Producer companies	Definitions of functionaries and terms of everyday usage
2	Incorporation of producer companies and other matters	Objectives, formation, and registration of PCs, membership and its benefits, voting rights and concessions, articles, memorandum, and incorporation mechanisms for cooperatives
3	Management of producer company	Selection of board, number, duties, power, and responsibility of the board, including directors and CEOs, the quorum for board meetings, and voting rights of board members.
4	General meetings	Annual general body
5	Share capital and members' rights	Share capital, user rights, and transferability of shares.
6	Finance, accounts, and audit	Book of accounts, audit, and reserves
7	Loans to members and investments	Loans to shareholders and investments in other companies.



. **Fig 1.1. Process of formation of FPCs**

The government launched a new Central Sector Scheme titled Formation and Promotion of 10,000 Farmer Producer Organizations (FPCs) to realize this. It had a clear strategy and committed resources to form and promote 10,000 new FPCs across the country, with a budgetary allocation of Rs 6865 crore.

The formation and promotion of FPCs were initiated through selected Implementing Agencies (IAs) under the Central Sector Scheme. Accordingly, nine Implementing Agencies (IAs) have been finalized, which included the Small Farmers Agri-Business Consortium (SFAC), National Cooperative Development Corporation (NCDC), National Bank for Agriculture and Rural Development (NABARD), National Agricultural Cooperative Marketing Federation of India (NAFED), North Eastern Regional Agricultural Marketing Corporation Limited (NERAMAC), Tamil Nadu-Small Farmers Agri-Business Consortium (TN-SFAC), Small Farmers Agri-Business Consortium Haryana (SFACH), Watershed Development Department (WDD)-Karnataka and Foundation for Development of Rural Value Chains (FDRVC)- Ministry of Rural Development (MoRD). These implementing agencies provide handholding support to the FPCs through Cluster-Based Business Organizations (CBBOs). Financial permission of up to Rs 18.00 lakh per FPC will be granted for three years. In addition,

a matching equity grant of up to Rs. 2,000 per farmer member of an FPC with a limit of Rs. 15.00 lakh per FPC has been made. Also, a credit guarantee facility of up to Rs. 2 crores of project loan per FPC from an eligible lending institution to ensure FPCs' access to institutional credit is facilitated under the scheme. It enabled better access to inputs, investments, and resources by undertaking various service functions from input supply to marketing and networking. This helped farmers to gain better income and led to their development.

As per the study put forth by Neti *et al.,* (2019), in the first financial year after the amendment of the Companies Act to incorporate PCs (April 1, 2003, to March 31, 2004), a total of only five producer companies were registered. While in the first ten years of the amendment, which is up to March 31 of 2013, only 445 companies were registered. The Department of Agriculture and Cooperation, Government of India, drafted and published the National Policy for promoting Farmer Producer Organizations in 2013. The Government of India formed the Producers' Organization Development and Upliftment Corpus (PRODUCE) fund, which was implemented through NABARD from 2014 to 2015 as a specific project to develop and nurture new FPOs. As of May 31, 2018, NABARD had promoted 2154 FPOs under this fund, with around 70% of them registered as Producer Companies and the rest as cooperatives/societies. As a result, a surge in FPCs during the policy period could be observed in Table 1.2 and Figure 1.2. However, in FY 2018, there was a noticeable reduction in producer firm registrations, which appears to be linked to the end of the PRODUCE program's term.

As a result of these national initiatives, 7374 FPCs have been registered till March 2019 (Neti *et al.,* 2019). Around 3629 FPCs were promoted under various government initiatives like NABARD, SFAC NRLM, and state governments by 2019. The report also included details of an additional 559 registrations of FPOs and 657 under the registration process as of January 31st, 2022 (SFAC, 2020). It is estimated that only about 30% of these FPCs are now operational, with the remaining 20% battling to stay afloat. Around half of them are still in the process of mobilisation, equity gathering, company planning, and other management-related stages of development. This is comparable to the success rate of new business start-ups in India's manufacturing and processing sectors, according to SFAC (2020).

Table 1.2 Number of producer companies registered by year, India, 2003-2019

Sl No.	Financial year	No of FPCs registered
1	2004	5
2	2005	16
3	2006	24
4	2007	32
5	2008	18
6	2009	41
7	2010	28
8	2011	52
9	2012	78
10	2013	151
11	2014	497
12	2015	551
13	2016	1691
14	2017	1477
15	2018	909
16	2019	1804
	Total	7374

Source: Neti *et al.,* (2019)

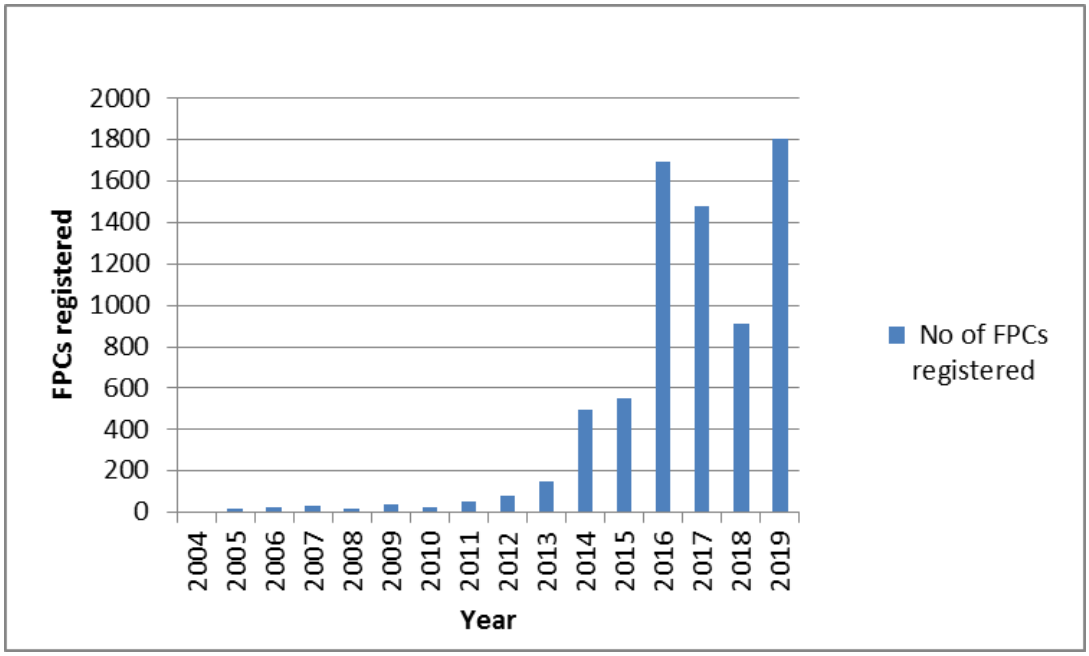


Figure 1.2 Distribution of FPCs registered over the years of amendments

Even though these indicated a steady increase in the number of farmer organizations in the country, many constraints plague its growth. Especially the FPC, which acts as an effective linkage between farm production and the market, faces many constraints in its formation, functioning, and service delivery. This is evident from the reports that many registered producer companies could not continue their operations due to technological, marketing, and policy constraints (Thamban *et al.,* 2020).

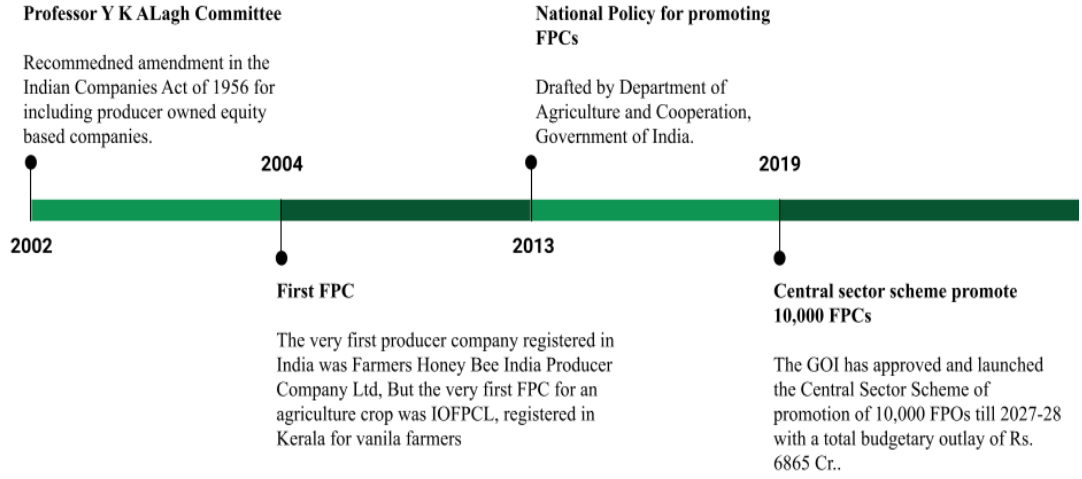


Figure 1.3 Timeline of the history of FPCs

Scope of the study

These suggested that the FPCs poised to ensure tremendous socio-economic impact in the agricultural sector needed a reformed support system and strategies to ensure the desired outcome. The financial results are envisaged in terms of increased productivity, net returns, increased input availability, forward and backward integration, job creation, increased food and nutrition security, and reduced migration. However, building social capital included improving gender relations, increasing bargaining power, reducing social inequities, producing leadership roles, and enhancing members' health and nutrition. The study focused on understanding the factors affecting the performance of FPCs which is critical in enhancing the functions and roles served by them. Also, a quantitative performance index that evaluates its function and roles could be used to suggest improvements. In this context, the study was designed to delineate factors that affected the performance of FPCs. The study also tried to understand the constraints and issues faced by FPCs based on stakeholder perceptions and tried to recommend good management practices. The specific objectives laid out in the study were as follows:

Objectives of the study

- To delineate the factors affecting the performance of FPCs in Kerala
- To develop a performance index to evaluate and grade the FPCs based on performance
- To recommend good management practices for improving the functions of FPCs

Limitations

Being a student investigator, the constraints of time and resources posed several restrictions and regulations during the study. As the survey selected FPCs from every district of the state, traveling to all these locations for personal interviews and primary data collection was tedious and time-consuming, especially under the COVID situations that prevailed during the study. Further, the COVID-19 pandemic restricted private meetings and interviews, which had to be conducted with the associated risks of observing the COVID protocols. Many stakeholders even showed hesitance due to the ongoing pandemic to participate in the interviews. Torrential rains and flood risks also affected the data collected from the high ranges and delayed the same.

Despite all odds, no effort was spared to ensure that the investigation was completed perfectly. The information was gathered from all the stakeholders, including the board members and CEOs. Often, the board members tend to provide only positive aspects of the firm. Hence, care was taken to ensure the validity of the information as such opinions could affect the research outcome.

Presentation of the study

Five chapters have been used to present the study details. The first chapter begins with an overview of the issue, a statement of the problem, the objectives pursued, its significance, and the limitations of the study. The second chapter, titled review of literature, covers the critical literature accessible about the topic, aims, and the chosen variables. The methodology section in the third chapter covers the inquiry process, data collection method, sample size, sampling design, variables to be measured, and statistical methods used. The study's findings and appropriate discussions and inferences are provided in the fourth chapter, titled results and discussions. The work is summarised in the fifth chapter, and the thesis report concludes with a list of references and appendices.

Review of Literature

2. REVIEW OF LITERATURE

One of the most critical and preliminary tasks in a research study is to review related literature. It helped to familiarise the researcher with the concept development processes in the field of interest. It aided in conceptualizing a theoretical framework for inquiry and establishing links between what has previously been investigated and what is planned to be examined. It also allowed us to demonstrate how new knowledge is added to an existing body of knowledge. Accordingly, the chapter is dedicated to the ideas, concepts, and definitions related to Farmer Producer Companies (FPCs) derived from research in the area over the years. This enabled us to understand, estimate, and present the results of the objectives pursued in the study in a better theoretical perspective and relate them to the findings of other published works in the area.

2.1. Farmer Producer organisations (FPO)
2.2. Farmer Producer Companies (FPC)
2.3. Organisational Performance
2.4. Measures of performance
2.5. Indicators of performance
2.6. Socio-Psychological variables
2.7. Constraints in the functioning of Farmer Producer Companies (FPCs)
2.8. Theoretical framework of the study

2.1 FARMER PRODUCER ORGANISATIONS (FPO)

Over the last decade, the policy shift towards agribusiness has helped the formation and promotion of FPOs in the agricultural sector. This has resulted in a spurt of research studies regarding FPOs on various levels. Like any other organisation, it has been considered essential to assess the performance of FPOs and understand the factors affecting to provide for improvement of such institutional models. As FPOs hold a huge role in influencing the agricultural value chain, these organisations create social value (Varga, 2015). Hence the standard measures of the financial analysis could not reflect the overall performance of these organisations. This warranted the investigations of non-profit or mission-driven characteristics of FPOs in terms of activities that had a significant impact on their performance.

A legal entity formed by the primary producers' collectivization has been termed a producer organisation (PO). These primary producers could be farmers, milk producers, fishermen, even weavers, rural artisans, and craftsmen (NABARD, 2015). As drivers of rural development, POs represented an innovative way of socio-economic regulation. These organisations are considered a hybrid of the public and private institutions, mainly to build on their respective advantages. Many reports considered them default institutions that filled the gap that the public system failed to address. But the private system had not taken over due to its unprofitable nature. Hence, any form of investment in these organisations has been considered an investment in social capital that reduces poverty and turn-on investments in the sector (Rondot and Collion, 2001).

The world bank sponsored document on Agricultural Producers Organizations (2001) laid out two important principles concerning identifying and strengthening the capacity of such organisations. The first principle, the *Principle of Utility*, suggested that an organization qualified as a producer organization (PO) when its members found it helpful and committed to achieving the objectives, irrespective of its size or origin. The second principle identified as the *Principle of Identity* mentioned three factors that governed the identity of an FPO. They included the geography and history shared between the members, the relationship among members and between them and the outside world and the rules regulating it. Finally, the vision about the future access to services required for increased production has been a significant area of focus for FPOs. This entailed ensuring access to inputs, markets, financial institutions, processing of agricultural products, and technical services as part of the objectives and decision-making structure. If farmers felt that they belonged to the organisation and had a say in its decisions, they would be willing to pay for the services they could benefit from (Rondot and Collion, 2001).

POs in which farmers are members are known as Farmer Producer Organisations. Sharing profits/benefits among its members is the basic premise of a PO. It could be of many legal forms, such as producer companies or cooperative societies based on the act under which it is registered. Further, different forms had different provisions. For example, institutions of primary producers could also become members of producer companies. The list of legal provisions under which POs can be registered includes the following:

a. Cooperative Societies Act / Autonomous or Mutually Aided Cooperative Societies Act of the respective State / Multi-State Cooperative Society Act, 2002
b. Producer Company under Section 581(C) of Indian Companies Act, 1956, as amended in 2013
c. Section 25 Company of Indian Companies Act, 1956, as amended as Section 8 in 2013
d. Societies registered under Society Registration Act, 1860
e. Public Trusts registered under Indian Trusts Act, 1882

2.2. FARMER PRODUCER COMPANIES (FPCs)

The agricultural sector transformations indicated that PCs were unique organisations compared to others as they provided much scope for the inclusion of the small and marginal farmers.

Murray (2008) pointed out that the main objective of FPOs included production and procurement of the primary produce of its members along with pooling, grading, processing, and marketing of the same.

In PCs, cooperative principles were combined with the direction of mutual assistance in a regulatory framework that was liberal but at the same time provided the strict norms of disclosure offered by the company law. This enabled these organisations to compete with the private sector firms in achieving the targets professionally (ACCESS, 2009).

In contrast to the cooperative structure, primary producer companies could hold both individual and institutional membership as these organisations needed institutional support at the grassroots level. These organisations included Self Help Groups (SHGs), Common Interests Groups (CIGs), and farmer business groups (Nadiia, 2011).

A**s** producer companies were formed through the equity contribution of the farmers, they were allowed to own the company themselves (GOI, 2013). Due to statutory demands for better disclosure and reporting, PCs could achieve legitimacy and credibility. The regulatory act controlled the membership of PCs by restricting it to

primary producers and producer organisations only, which also protected the company from invasions by business firms (Singh and Singh, 2014). A set of unique regulations that provide a competitive edge for PCs are presented in Table 2.1.

Table 2.1 Comparison of regulatory features of Producer Companies with Cooperatives

Feature	**Co-operative**	**FPC**
Registration	Co-operative societies act	Companies act
Membership	Open to any individual or co-operative	Only to producer members and their agencies
Professionals onboard	Not provided	Can be co-opted
Area of operation	Restricted	Throughout India
Relation with other entities	Only transaction-based	Can form joint ventures and alliances
Shares	Not tradable	Tradable within membership only
Member stakes	No linkage with no. of shares held	Articles of association can provide for linking shares and delivery rights.
Voting rights	One member one vote but RoC and government have veto power	Only one member one vote, and a nonproducer cannot vote
Reserves	Can be created if it made a profit	Mandatory to create reserves
Profit-sharing	Limited dividend on the capital	Based on patronage but reserves must and limited to dividend
Role of government	Significant	Minimal
Disclosure and audit requirements	Annual report to the regulator	Very strict as per the Companies Act
Administrative control	Excessive	None
External equity	No provision	No provision
Borrowing power	Restricted	Many options
Dispute settlement	Through co-op system	Through arbitration

Source: Singh & Singh, 2014

Small and marginal farmers could not invest in post-harvest infrastructure and meet the requirements of brand-conscious consumers and corporate buyers. Aggregating these farmers into producer organisations and companies is useful as collective contribution creates such investments. Mainstreaming industrial ideas like economies of scale to the small and marginal farmers was possible through producer companies, as shown by empirical evidence (Nayak, 2014).

With varied scope from single to multiple products to improve the value chain of agricultural products and achieve beneficial prices for them, producer companies have proved to be very useful (Nayak, 2014; CAB, 2018).

The access to financial and non-financial inputs, services, and technologies through the bargaining power received by effective collectivization helped FPCs reduce member farmers' transaction costs. This enabled them to gain entry to high-value markets through partnerships with private entities on equitable terms (MANAGE, 2018).

The results of a study conducted by Hosmani and Kar (2019) also showed that large holding size, large household size, and higher farm, and non-farm income were positive factors for farmers to become FPC members.

Analysis of the socio-economic characteristics of member farmers by Manaswi *et al.,* (2019) found that all categories of farmers had access to FPCs, irrespective of size. But large farmers as the members provided strong leadership, capital, member contribution, and land needed for activities.

According to GOI (2021) FPOs helped farmers to reduce the cost and improve earnings through collectivisation, productivity enhancement, and improving the economies of scale.

2.3 ORGANISATIONAL PERFORMANCE

The set of standards used to assess performance would be different for different types of organisations. For example, in a multinational company, the standards for performance might be the targets like products sold, revenue generated, and turnover.

While there is no denying that the profitability of operations is a significant measure of performance, the same cannot be said for a service-oriented or public sector organisation. It was on these premises that the findings from major works on organizational performance were reviewed in the study. Significant literature has been included here.

Organizational performance was subjective and interpretative (Lebas, I995; Whooley, 1996) which depended on factors like employee performance, leadership competency and environment (Almatroshi *et al.,* 2016).

Performance assessment reflected the future of the organisations as it was linked to the causal model of components and products (Lebas, 1995). Thus, performance could be positive or negative based on the past results.

The over-emphasis on financial performance as a measure of organizational performance was because it had the benefit of using commonly available methods (Wall and Wood, 2005).

Matei (2006) suggested that the notion of performance for a public sector organisation could be based on the focus on the target groups, effective utilisation of resources and policy implementation. Performance could also be related to the appropriateness of the services offered by the organisation, along with the efficiency and effectiveness of the same. This was particularly true in terms of organisations like FPCs.

Rizov and Croucher (2009) in their studies concluded that HRM practices were related to firm performance.

Management characteristics, institutional setup and group characteristics also affected the performance of FPCs (Rohitha *et al.,* 2012).

The concept of profitability was primarily used to assess the performance of private business-oriented organisations but for the public, non-profit organisations, and private service-oriented organisations, relevance, effectiveness, efficiency, and sustainability were the criteria used for assessing performance (FAO, 2017).

Table 2.2. Criteria and indicators for assessing PC formation process and functioning

Criteria	Indicators
Characteristics	Size: good enough to be viable and socially cohesive Social homogeneity: kinship or other social ties, absence of dependency on relations. Not dominated by politically/economically powerful members ¸ Poor and women are included (if mandated)
Identity and structure	Members know the purpose of forming PC Members represent their households There is continuity in household representatives. All members can give an account of all the PC's activities. ¸ All members can give an account (General) of the PC's finances
Leadership	Leadership roles change, fixed tenure Leaders have been elected/selected by the members. ¸ Selection/election of leader based on desired characteristics
Functioning	PC has a set of rules (by-laws) which have been discussed and agreed upon as well as sanctions for rule breakers ¸ Regular BOD meeting and AGM take place with significant attendance The majority of members (X%) contribute to BOD/AGM discussion and decision making Up to date maintenance of records and statutory compliances
Independence	X% meetings of BOD/AGM regularly take place in the absence of promoting institution or with diminishing support Records are maintained without or with little support from the Promoting Agency (PA) ¸ X% decisions are taken independent of the PA
Resource mobilisation	PC raises funds to carry out business Overhead expenditure met with the own resources Reserve funds builds up to X% PC mobilises specialist skills or services from the government and private sources PC obtains govt. scheme to meet identified needs (convergence with other schemes)
Resource management	PC develops business plan and implementation is as per the plan PC has shown ability to negotiate with the various stakeholders PC effectively oversees/manages the work of executives working as salaried persons Budget control Transparency
Skill acquisition and use	X% of BOD members have attended training programmes (including specialised training) BOD has used planning skills to identify and solve operational problems.
Distribution of benefits	Equitable distribution of benefits (dividends and services) ¸ Mechanism of benefits-sharing developed and adhered to

Source: GOI (2013)

Action for Social Advancement (ASA) used a set of criteria and institutional maturity indicators to measure the performance of PCs and strengthen the governing system as presented in Table 2.2 (GoI, 2013).

The actual results and outputs of an organisation compared to intended outputs has been defined as the organisational performance (Tomal and Jones, 2015). The intended outputs consisted of the goals and objectives set by the organisation either during its conception or course of time. Hence performance could not be seen as just an outcome but a comparison between the outcome and the objective. These outcomes and objectives varied according to the field of activity (Elena and Maria, 2016).

Singh *et al*., (2016) reported that from an objective standpoint the complete attention has been shifted to the financial performance of an organization. They conceptualised organisational performance as a multidimensional construct that involved innovation, internal organisational process, financial performance indicators, and customer-related outcomes.

As per Dey (2018) governance structure, network with external agencies, capital, and technology access contributions by members and financial parameters were the determinants of performance for FPCs.

The business performance of FPCs in Maharashtra was analysed by Hosamani and Kar (2019) using liquidity ratios, capital structure ratios, and other financial measures. Log-linear regression model based on farmers' income was also formulated to measure the impact of the FPCs. The results of the study suggested the selected FPCs had a positive business performance and they were effective in improving the farmer's income. Regression results of the study showed that there was a likelihood of an increase in income by 9.6 per cent.

2.4. MEASURES OF PERFORMANCE

Organisational structure and behaviour are assumed to have a significant role in determining the performance of an organisation. It has been observed that a single set of measures could not adequately measure performance related to different types of organisations. Hence, it has been found necessary to devise a set of specific measures for each organizational category, and the findings from pertinent earlier studies to devise such measures have been presented here. The measures related to FPCs covered

the Rubric method, structure conduct performance, OPA framework, and the NABARD tool.

2.4.1 Rubric method of performance analysis

Rubric is an objective method of performance assessment based on an explicit set of criteria. It is typically designed in a grid, with task description, criteria, levels of performance, and associated description. The feature or dimension that need to be measured was set as the criteria which were developed based on literature review and practical experience.

Rubrics method of assessment has been generally used in the education sector for assessing the performance of students and has been very popular in the United States (Rezaei and Lovorn, 2010).

Rubric required a facilitator who could explain the assessment criterion to the evaluators. The facilitator must be clear about the criteria and the target groups (Holmes and Oakleaf, 2013).

Labelled adjectives were used to denote the levels of performance. These levels of performance helped the user to understand the performance or the degree to which it had been met. Scoring was done in the form of a scale against the levels of performance and their description. In a particular assignment, overall behaviour was the task descriptions provided (Stevens and Levi, 2013).

Silva (2014) in a study on rubrics among secondary school students and its impact on self-assessment found that the group of students who received a proper explanation of the grading procedure and meaning of each criterion performed better in the assessment and obtained high post-test scores compared to the control.

Ramakrishnan (2018) developed a unique analytical Rubric framework for analysing the performance of FPOs. The supply chain was assessed using 20 selected criteria which were categorised into three parts viz. input side, output side, and institutional structure. Each criterion was evaluated against a fourfold scale namely missing, developing, proficient, and exemplary with scores ranging from 0 to 4. He observed in his results that 24 per cent of FPCs were at high risk of sustenance and the same per cent of FPCs could continue business as usual.

Chowdhary (2019) reported that even though the rubrics method was considered an exceptional tool for grading, many considered the method rigid and unworkable. However, a variety of student tasks such as oral presentation, critical thinking, class participation, literature reviews, and reflective writings could be assessed through rubrics.

2.4.2 Structure Conduct Performance

The traditional structure conduct performance approach (SCP) was first developed by Bain (1951). Structure conduct performance studies were used by industrial economists from 1960 onwards to assess industries and markets. In the SCP method regression analysis was carried out between variables of structure and conduct on performance.

Conduct was considered as the interactive strategic behaviour which influenced the performance. The traditional assumption was that the structure of the market or firm influenced conduct and performance while most recent studies revealed that structure in turn was influenced by both conduct and performance (Delrome *et al.,* 2002).

Wurff (2003) studied the SCP of agricultural trade journals of the Netherlands and found out that moderate competition in the market of such journals improved the diversity and performance of firms behind these journals.

Shaik *et al.,* (2012) found out that with respect to agricultural commodities, a negative correlation was found between market share which affected profitability and structure conduct variables on performance like technical efficiency. The results suggested that the firms needed to reduce some market share by losing unprofitable customers in order to improve technical efficiency and profitability.

The study conducted by Funke *et al.,* (2012) on market structure, conduct, and performance in processing industries of South Western Nigeria employed a multi-stage sampling technique to study marketing. It revealed that there was a significant relationship between market structure, conduct, and performance.

A major structural characteristic of a market has been identified as the degree of concentration. This helped in understanding the level of competition in an SCP

paradigm. The competitive conditions influenced the behaviour of companies and this affected their performance (Boru and Kuhil, 2018).

Performance and relation between conduct and structure of FPCs in Krishna district of Andhra Pradesh were studied by Vedashri (2018). Concentration ratio was used to study structure and conduct was studied using market share. Performance of FPCs was measured as efficiency using Data Envelopment Analysis (DEA). Further, year-wise performance of the FPCs was measured using return on assets, return on equity, and debt-equity ratio. Results suggest that the performance of FPCs are influenced by structural features like, the age of members, group membership, and farm size.

2.4.3. OPA Framework

Developed by Luthans (2002), Organisational Performance Assessment (OPA) framework (Figure 2.1) is a comprehensive model used to evaluate and describe organisations. The systems approach of an organisation considers organisation as an entity that is goal oriented and influenced by the external environment. This is the basic idea inspiring OPA framework. It considers the interactions among the elements of the systems and its relationship with the external environment. The quality of the linkages among elements is also considered in the framework (Figure 2.1).

Fig 2.1 OPA Framework

In the framework stakeholder satisfaction, changes in services, mandates, roles and priorities, and changes in quantity and quality of funds are some of the indicators used

to measure relevance of the PC. Effectiveness is measured in terms of achievement of goals, number of clients served, quality of services, access to services, quantitative and qualitative changes in quality of life of stakeholders. Cost per service or programme provided, total cost programme cost, outputs per staff, turnover rate, and absenteeism rate are examples of indicators used for measuring efficiency in the PC. Level of diversification of funding, levels of innovation, regular reviews, number of new programmes and services, ratio of current assets to current liabilities are measures used to assess sustainability of organisation (FAO, 2013).

Organisational performance is assumed as a function of three areas in the OPA framework viz., organizational motivation, organizational capacity and external environment. The ability to adhere to the goals, rooted in the vision and mission of the organisation and achieve them by mobilising resources is referred to as the organisational motivation. The human, physical, financial and capital resources along with the systems and processes to manage these in the organisation is referred to as its organisational capacity. The external socio- cultural-political and economic factors that influence the organisational decision belong to the external environment (FA0, 2013). The performance criteria used in the OPA framework are listed as follows:

- Relevance: Extent of response of organisation to the stakeholder needs
- Effectiveness: The ability of an organisation to achieve its goals.
- Efficiency: Comparison of cost incurred in generating the outputs and organizational outputs.
- Sustainability: The adaptability of the organisation to its evolving environment.

However, the main drawback of the OPA framework is that it requires too many indicators and makes it too costly or impractical to measure. Further it is hard to measure unexpected changes using predetermined indicators.

2.4.4. Rating tool developed by NABARD

NABARD developed an arbitrary rating tool to measure the performance of FPOs in Kerala. The rating tool considers age, governance, management of staff and FPO, infrastructure, membership, percentage of total members contributing to share capital, total share capital collected and other financial measures like turnover and financial assistance availed. Percentage of members receiving services, the market linkages created by the FPO and legal compliances are also awarded scores. All these

indicators are given arbitrary scores on the basis of their importance to obtain a maximum score of 100. FPOs are evaluated on the basis of the score obtained for meeting the requirements in each category and the total score. These FPOs are then categorised based on the percentage of marks obtained for further actions like detailed assessment, capacity building and credit linkage (NABARD, 2019).

2.5. INDICATORS OF PERFORMANCE

Based on the review of literature following indicators were chosen for assessing the performance of FPCs and the related findings are included.

2.5.1 Institutional linkages

Organizational ties with well-established institutions helped to improve the legitimacy of the concerned organization and provided a prescription for appropriate conduct. Legitimate linkages between organisations reduced organizational failures. Linkages between corporations and charitable societies helped to enhance their image of social responsiveness. Collaborations, contracts, contacts, and associations, all qualified as forms of linkages. These linkages were formed to achieve objectives that could not be achieved independently. Access to capital, technology, market information, and superior management capability were benefits of linkages.

In the study of the impact of organizational linkages and failure of child care services in Canada, Baum and Oliver (1991) reached the conclusion that non-profit nurseries with site sharing arrangements with other institutions had a lower mortality rate.

Choung and Hwang, (2000) studied the relationship between institutional linkages and performance, and found that there existed a positive interaction between linkages and scientific as well technological performance of the concerned institution.

Bingen *et al*., (2003) studied food security implications in smallholder farmers of Kenya and suggested that capacity of farmers was influenced by different types of investments and targeted interventions helped to improve the value chain in terms of market opportunities, food security and processing.

In order to have a mutually beneficial relationship between farmers and the organized sector, government intervention in the form of policies is important.

Governments can play significant roles in extension activities and linkages with farmers along with investing for their development (Mittal, 2007).

According to Murray (2008) large capitals were required for FPCs from the banking system and banks served as incubators for the development of many such institutions. However, the banks showed go out of their conventional roles as member equity, reputation and principles are the only tangible assets the producer company can offer to leverage borrowings.

Linkages helped to reduce marketing costs, and improved firm performance by enhancing skill and firm flexibility as reported by Rosemary (2009). She observed significant difference in production volume between firms favouring relationships and not favouring relationships. Such enterprises which had associations with similar enterprises and financial institutions showcased stability which translated to performance.

Ajith (2018) studied the FPOs of Idukki district and found out that these FPOs are primarily supported by NABARD and SFAC through financial and technical linkages. Producer Organisation Promoting Institute (POPI) acts as a channel between FPOs and other agencies. Existence of marketing linkages for selling products of FPOs was confirmed with the example of Neyassery Agro Producer Company conducting sales of their products through Sulabha stores and KARDS.

Gupta (2018) after his study on producer organizations in northern hills region of Chhattisgarh, identified that linkages helped FPO members to receive inputs at low prices even while shortages in supply existed in the market. He also opined that FPOs had to sell products through agents due to the absence of proper marketing linkage.

According to Kumar *et al.,* (2021) unawareness regarding the credit facilities available, and high-interest rates for personal loans are problems occurring due to a lack of institutional linkages for the farmers. The formation of small groups of farmers can help achieve these linkages and solve the constraints faced at an individual level.

Sharma *et al.,* (2021) opined that FPOs can be formal or informal institutions that act as an interface between farming communities and supporting institutions. According to him even though smallholders show high efficiency in production, they face a disadvantage in the marketing side of their products. FPCs help link farmers to

the market which is beneficial to both farmers and consumers. With such linkages, farmers are benefited from better prices, and consumers are benefitted from quality produce.

2.5.2. Group dynamics

Any organisation could be classified at three levels viz., individual, group, and organisation. Group dynamics were concerned with the group level which emphasized the mutual influence between the members of the group. The establishment of the group, the norming and condensation of it, the pattern of interaction, decision making, and groups within the group were parts of the dynamics of the group (Chang *et al.,* 2006). Empirical analysis by them proved that interrelationships existed between organisational learning and innovativeness which was proved to have a significant effect on performance. They concluded that there existed an interrelationship between organisational performance and group dynamics as well.

Bhatt (2009) calculated the group dynamics effectiveness (GDE) index for the members of tribal women SHGs of Gujarat and found that majority of the members fell into the category of medium to high GDE. It was inferred that all the activities taken up by SHGs required the full cooperation of members and their group dynamics had a significant role in group interaction and performance of these SHGs.

Banwo *et al.,* (2015) studied the impact of group cohesiveness on organisational performance among 180 employees in four commercial banks in Nigeria. Shared values, information flow, and willingness to leave the group were measured to understand group cohesiveness. According to the study it was revealed that the high group cohesion in the groups with more organizational tenure outperformed other groups.

According to Saim *et al.,* (2015) the social process of face-to-face relationship with each other is termed group dynamics in a smaller group. Just like individual groups also have the constructing and unifying features based on physical and social order. Struggle for survival, and development using the environmental resources and opportunities are also seen in groups. But members of the group may show conformity behaviour based on the group atmosphere and requests even with the knowledge that group decisions are wrong. Saim *et al.,* (2015) also held the opinion that group influenced the attitude of the individual. Also, the level of effort invested by an

individual was proved to be more when he was part of a group. During the decision-making process the group facilitated better conviction of ideas among the members. However, the proportion of decisions is dependent on the ability of the leaders to convince other members. Simulation studies proved that it was possible to improve individual performance with the presence of other members and this, in turn, could affect the performance of the organisation.

A significant positive relationship between participation in decision making, job satisfaction, and group learning was seen in the study conducted by Saha and Kumar (2017). Among 397 managerial level employees working in the public sector undertakings across India were studied and the results also suggested that participation in decision making elevated employee identification in the organization.

Ajith (2018) estimated the correlation between group dynamics and performance for selected FPOs in Idukki district and found that there existed a positive relationship between group dynamics and performance of the selected FPOs.

A study conducted by Aishwarya and Karuna (2020) on the impact of group dynamics and organisational productivity revealed a positive correlation between the variables.

According to Sudip (2020) high performing FPCs of West Bengal had better group dynamics than low-performing ones.

2.5.3. Social entrepreneurship

Social entrepreneurship as a concept was first introduced by Banks in 1972. He considered social entrepreneurs as persons who used managerial skills to solve social problems. Even though it sounded advanced, social entrepreneurship as a practice had a long history. As per the conceptualisation of Banks, Florence Nightingale, who revolutionized the theory of hospital services in the 1800s and John Durand who started working with mentally retarded people also qualified as social entrepreneurs (Alter, 2007; Bornstein, 2007). The same could be stated about the father of our Nation, Mahatma Gandhi, who founded the Sabarmati Ashram.

In the scenario of for-profit enterprises, social purpose business was performed with the aim of achieving sustainability. Commercial activity formed the backbone of a firm's financial independence in carrying out the social mission and monetary gain for investors. The definition proposed by Abu-Saifan (2012) puts forth an important

perspective that underlined the fact that social entrepreneurs designed their revenue-generating activities and strategies around the delivery of social value, directly serving their social mission. This function of social entrepreneurs set them apart from other socially oriented practitioners like philanthropists, activists and environmentalists.

ADB report (2012) suggested that livelihood promotion in agriculture formed a key social enterprise investment sector in India (Satar, 2012). With the concepts of livelihood security and food security deeply embedded within, agriculture served as a social enterprise and as such, agricultural entrepreneurship formed a type of social entrepreneurship.

Environment and people formed the center stage of the solutions put forth by the social enterprises. Further, these solutions could help recuperate the cost of services or products by providing benefits and income gains to the smallholder (ODI, 2014).

However, Verma and Vohra (2014) after their descriptive study comparing commercial and social entrepreneurship found significant differences between both. In a non-profit scenario, social entrepreneurs gave rise to social enterprises with the goal of achieving self-sufficiency in the delivery of social values. This objective was achieved through commercial and social activities ie., revenue generated from commercial activities was utilised in social value creation and delivery with little profit or personal gain.

Swissnex (2015) published a report on the Social Entrepreneurship aspects of India. The report underlined that there were many social enterprises in the agricultural sector of India and 44 per cent of them were launched in the period 2010 to 2011. Among these social enterprises, more than one third provided some kind of services to the producers including financial and technical services. They also suggested that these enterprises could be broadly classified into three in terms of their objectives and the type of operations they supported as given in Table 2.3. In line with this categorization, Farmer Producer Companies (FPCs) were grouped as classical examples of social enterprises. It held the virtues of community concern and democratic control. FPCs were involved with the education, training, and welfare of their member farmers and other stakeholders. The collective purchasing power helped them to provide quality inputs to farmers at a low cost. They provided end-to-end services to farmers covering all aspects of cultivation, including financial, business, and welfare services. These

organisations coordinated demand and supply, and facilitated linkages between farmers, traders, retailers and even other FPCs (Reddy, 2021).

As per Mohapatra *et al.,* (2018), economic development through sustainable livelihood development is possible through social entrepreneurship. In India, social entrepreneurship is essential particularly in the agriculture sector due to its diversified cultural and environmental conditions. Contracting out organic farming and seed production to smallholders, and identifying and supporting budding agri-prenuers are viable social enterprising options in India.

Twenty-eight per cent of the social enterprises in India are focussed on agriculture-related activities. These social enterprises have a strong character of creating jobs and making a socially just and inclusive business model according to Pandey and Senthil (2020).

Table 2. 3. Types of social enterprises in agriculture based on objectives pursued

Sl. No	Objective	Operation supported	Type	Examples
1.	Increase agricultural yield in a sustainable manner.	Pre-harvest value chain	For-profit Non-profit	Aakruthi Agricultural Associates Janani Agriserve
2.	Eliminate supply chain inefficiencies to ensure postharvest revenue.	Post-harvest supply chain	For-profit	Field Fresh Food Mother Earth Star Agri
3	Dairy farming, fisheries and allied sectors.	Dairy/fisheries value chain.	For-profit	AMUL

2.5.4. Managerial competency

Leading and managing are two roles important for the success of any business. While both roles were conceptually distinguishable, practically both were indivisible. Section 581 W of Indian companies act, described that the selected CEO of an FPC shall manage the affairs of the company and be accountable for the performance of the same. Some of the wide range of duties vested with the CEO included, furnishing information to board for appraisal of activities, giving legal and regulatory advice to the board, conduct administration of routine nature, sign comments and handle the custody of cash on behalf of the company and maintenance of proper books of account.

Hence assessment of managerial competency of the CEOs of FPCs remained vital for understanding the performance levels of FPC.

Stede and Cohen, (2005) opined that competency systems were used in various organisations to promote managers but the relationship between managerial competency, individual and organisational performance had not been investigated enough. They studied both individual level data and unit level data collected from 807 respondents and 51 sites. The regression models for individual level performance rating suggested that higher the competency level higher the performance. The study also established a positive correlation between intermediate competency level of managers but a negative correlation between site performance and managers having advanced competency.

Rose *et al.,* (2006) studied the effect of managerial competency and leadership of CEOs on organisational performance. Leadership characteristics selected included persistence, confidence, honesty, vision, and intelligence. Strategic thinking and learning, motivating and leading people, business acumen, and building collation and communication skills were the indicators selected for managerial competency. The study indicated that leadership characteristics and managerial competency had a significant effect on organisational performance.

According to Wickramasinghe and Zoyza (2009) competencies could be measured based on characteristics like the ability to do a task, and the skill to communicate and behave. The study assessed the managerial competency needs in the field of the Sri Lankan telecommunication sector. Competencies of group managers of telecommunication service providers were listed. Current competency level, competency importance for the current job, and competency importance for future success were measured. Customer relations knowledge was identified as the competency gap.

Managers from four airline organizations in Jordan were selected for exploring the link between managerial competencies and a firm's performance by Hawi *et al.,* 2015. The selected competencies included leadership, problem-solving, strategic competency, and customer focus. The analysis of the data obtained from the two-stage data collections using multiple regression techniques indicated that all the competencies

selected had an effect on the performance of the selected organisations and out of all the selected competencies, strategic planning had a major impact on the organisational performance.

Wahab, *et al.,* (2015) studied the relationship between managerial competency and performance of public sector university leaders of Pakistan using structural equation modelling. Results of the study indicated a positive relationship between managerial competency and performance.

The impact of managerial competency on job performance among 384 individuals working in the software industry was studied by Niazi *et al.,* (2020) using the structural equation modelling technique. The study revealed the existence of a positive relationship between managerial competency and job performance.

2.5.5. Socio-economic efficiency

Cowan *et al.,* (2012) in their recommendations to the National Center for Education Statistics, U.S.A defined socio-economic status as the access one has to the resources like social, cultural, financial, human, and capital resources. Hence any activity in improving such status may be defined as socio-economic efficiency.

CAN (2014) analysed the socio-economic status and membership relations among small ruminant breeders of Turkey and emphasized the importance of livestock producer organisations in sustainable production and rural development. According to him socioeconomic status, and membership relations of breeders had a strong relationship with the success levels of the stakeholder organizations.

After assessing the effectiveness of POs in Poland and Romania, European Commission (2014) concluded that an increase in farmers' income and agricultural productivity is possible through such institutions. Increased income and productivity is directly linked with the improvement of the livelihood of member farmers.

Sahoo (2014) studied the FPOs from Rajasthan and Punjab viz. FAPRO and UAPCL respectively. The study analysed the solo-economic impact of these FPOs and found that members of these FPCs achieved higher levels of production, income, and employment compared to the non-members. Food security and social empowerment

also had significant differences and no difference was seen in terms of habitat, health, and educational security when compared between the two groups. Thus, a direct relationship between membership and socio-economic development was observed.

Ajith (2018) studied the socio-economic development of FPO members in the Idukki district of Kerala and identified that a medium to a high level of socio-economic development was visible among the majority of the respondents due to their membership in FPOs.

Descriptive analysis of the gains received by beneficiaries of FPOs of Odisha by Nath and Padhi (2020) indicated that members of FPCs received better income, packaging, technical benefits, and better livelihood along with other operational benefits. It was also identified that the benefits of FPOs had a positive relationship with performance.

2.5.6. Marketing strategy

Due to the unique attributes of the agricultural sector such as perishability and seasonality, marketing of the agricultural products and manufactured commodities warranted special treatment. It assumed high significance in increasing farm income, optimization of resource use, and output management. The growth of agro based industries and creation of market networks relied on the marketing strategies adopted.

According to Hassan *et al.,* (2013), creative marketing strategies helped a firm to achieve market objectives and remain competitive. He studied the impact of marketing strategy on organisational performance of companies listed on the Karachi stock exchange. The results revealed that when an organization developed a creative marketing strategy, the performance of the firm was optimized.

The effect of marketing strategies including production, promotion, placing, and pricing on the performance of Nigeria bottling company was studied by Daniel (2018). The standardization of these factors was found to have an impact on the performance of the firm on the fronts of sales, customer, and finance. The study also suggests that this impact is mediated by the success of the implementation of the marketing strategy.

Marketing strategies and their impact on the organizational performance of Small and Medium Enterprises (SMEs) in Kwara State, Nigeria were analysed by Abiodun and Kolade (2020). A linear regression model was applied to the data obtained from respondents of pharmaceutical companies and the results revealed that factors like product, promotion, packaging, and price were better indicators of business performance for both staff and individual owned small-scale businesses.

Al-Surumi *et al.,* (2020) studied the relationship of organisational performance with triadic strategic alignment (TSA) which consisted of business strategic orientation, IT strategic orientation, and market strategic orientation. The results revealed that better organisational performance was linked with triadic strategic alignment and any misalignment among the components could affect the business performance adversely.

Activities, marketing strategies, and brand performance of FPOs of Odisha was studied by Nath and Padhi (2020). The results of the study indicated that the challenges in marketing such as, lack of market information, weak participation in the consumer's market and the dominant role of traders caused major market failures and adversely affected the branding performance of the selected FPOs.

2.5.7. Services offered

Stockbridge *et al*., (2003) argue that farmers' organisations apart from traditional services linked with supply and value chain can also provide services like policy advocacy and common property resources management.

Rendering consultancy services, promoting techniques of mutuality and mutual assistance, and providing welfare services like insurance, education, and credit are major objects of an FPO according to Murray (2008).

In order to determine the effectiveness of services in dairy goat production systems Bett *et al.,* (2009) evaluated services like extension, marketing, monitoring and evaluation, performance recording, and provision of water among 311 farmers in Kenya. Among the services provided, it was understood that marketing service was the most important service per priority for farmers.

According to Sayuj (2012) VFPCK through the formation of SHGs helped members gain access to more credit, input supply and technology

As per GoI (2013), a variety of end-to-end services are provided by FPOs to member farmers. These enabled the members of FPCs to benefit from the availability of seeds, fertilizers, and extension services on a timely basis. Moreover, section 581ZK of the Producer Companies Act suggested that through provisions made in the articles the board could provide loans to the members. This enabled FPCs to extend credit facilities to the members for a period of 6 months depending on the business of the company. These services also helped in coordinating the supply and value chain so that members could benefit from the collective action based on the key business information regarding technology and the market. The FPO Service model is given in Fig.2.2.

Ajith (2018) studied the performance of services provided by 13 FPOs in Idukki district and found out that these organisations, even the ones with the highest score, do not provide all the services to the farmers. Credit, financial, and insurance are the services that these organisations are unable to provide to the members.

Results of the study by Bikkina *et al.,* (2018) suggested that through collective action FPOs can provide several benefits to the member farmers.

The study by Babu and Patoju (2021) on the FPCs of Osmanabad, Maharashtra found that the pre-harvest services and value added services had a good impact on the marginal farmers and the latter had a very good impact on the small farmers' category.

According to Rajini (2021), FPCs provide a variety of services like pre-sowing services, production management, capacity building, networking, advisory, and value-addition services.

2.5.8. Market gains

The European Commission (2014) after assessing the effectiveness of Producer Organisations in Romania suggested that these institutions are able to obtain higher prices compared to individual farms by pooling members' output. This collective marketing technique helps the farmers become negotiators of price rather than takers of price.

Previous investigations by Parthiban *et al.,* (2015) on Tamil Nadu Mango Growers Federation (TAMAFED) suggest that reduction of transactional costs is possible through FPOs.

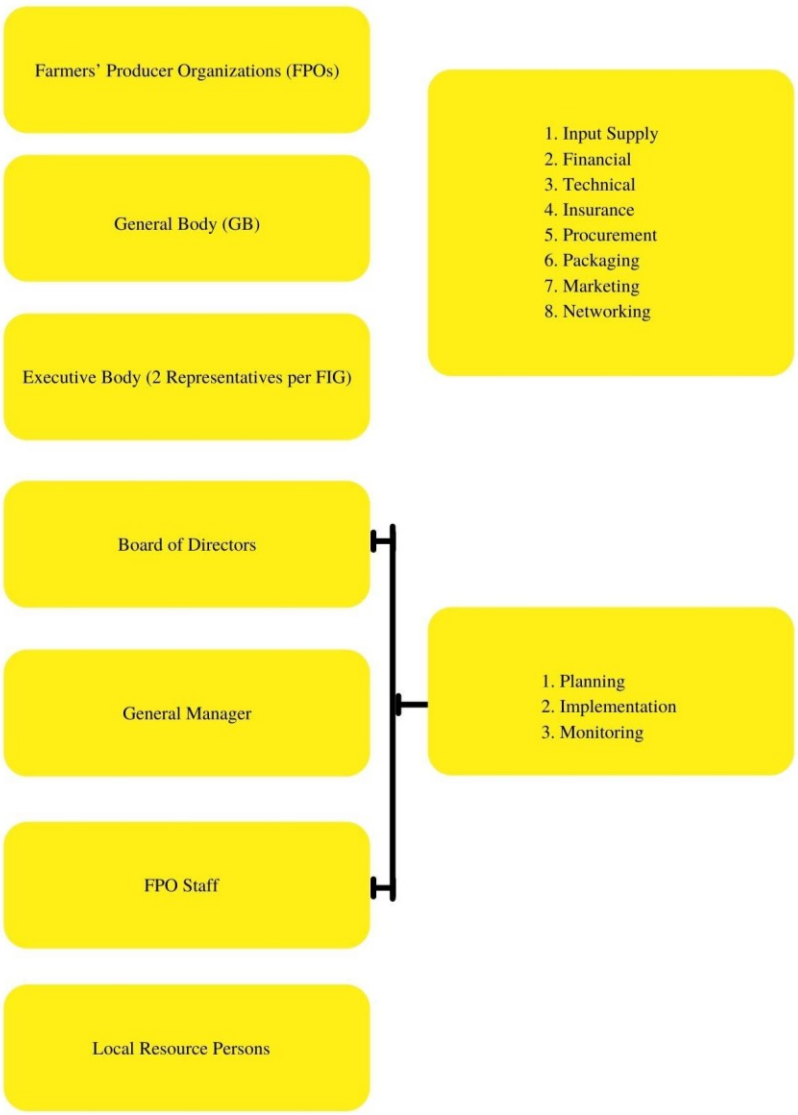


Fig 2.2. FPO service model (GOI, 2013)

Bikkina *et al.,* (2018) through the case study method explored the potential of FPOs as collectives in reducing transaction costs and enhancing the income of farmers of the Avirat District of Gujarat.

Kumar (2019) opined that the presence of FPOs promoted direct marketing among farmers. In Maharashtra out of 1024 marketing licenses issued 400 marketing licenses were given to FPOs which helped them market their produce directly in the market and improve their turnover.

Based on the logistics of the produce marketing of produce through pooling help member farmers get better terms of trade. According to Phansalkar (2020) FPCs help

reduce the asymmetry of market information and promote sharing of marketing costs otherwise spent by individual farmers. Thus, farmers are able to save their expenses and time, which can be utilised elsewhere.

2.5.9. Responsibility awareness

While analysing the performance of SHGs formed by VFPCK, Sayuj (2012) noted that a medium level of responsibility was shown by 62.24 per cent of men and 77.78 per cent of women members. He opined that women members showcased better levels of personal initiative and responsibility because most of them belonged to the age group of 35-55 years while men belonged to an age group of 55 years and more.

Can (2014) randomly selected 38 small ruminant breeders of producer organisations from twelve villages of Hatay Province of Turkey and studied their social, democratic, and legal responsibilities. The responsibilities were analysed using six responsibility items which were evaluated on the basis of 3 levels viz., basic, extended, and total. Observing the result of the study only 20% of the members showed a total level of responsibility while 24 per cent and 16 per cent of members had extended and basic levels of responsibility. Not all members have fulfilled their responsibilities which is critical to the successful performance of an organization as it is dependent on the members' contribution.

Cattle producers of different producer organisations of Turkey were selected at random by Can and Yalcin (2015) for investigating both their responsibility and satisfaction level. Responsibility levels were analysed by modifying the six responsibility items proposed by Can (2014) and it was found that the members showcased only medium to the medium-low level of responsibility and it was far from desirable. Can and Yalcin (2015) indicated that the performance of the organisation was affected due to this and the irresponsible behaviour could be attributed to the poor management practices.

The study of Joshi and Choudhary (2019) on FPCs in Chhattisgarh indicates that companies in which members had better awareness about the company and social empowerment due to its activities were the companies with higher performance.

Yadav (2020) studied the awareness of farmers about the activities and their duties in the FPCs of Chattisgarh plains. It was noted that in high-performing FPCs most of the producers showcased a higher degree of awareness about activities and responsibilities. Overall Chattisgarh plains, the producers exhibited an awareness level of more than sixty.

After conducting a comparative study among the FPCs of Telengana, Rajini (2021) concluded that the majority of the producers exhibited a medium level of participation in the FPC activities.

2.5.10. Member satisfaction

While conducting the socio-economic analysis of small ruminant breeders' membership relationship and organizational effectiveness comparisons were also drawn among satisfaction levels of member breeders and non-member breeders of producer organizations by Can (2014). Even though members depicted more satisfaction than non-members, they were neither very satisfied nor satisfied with the services of the POs. Herd size and total satisfaction score also had a negative correlation.

Similarly, Can and Yalcin (2015) also investigated the satisfaction level of cattle producers who are members of producer organizations. Findings indicate a medium or moderate level of satisfaction implying that members were dissatisfied with the few numbers of visits by extension professionals, marketing of products, and input supply services. Can and Yalcin (2015) also mention that a strong relationship was seen between responsibilities and satisfaction.

Ajith (2018) measured the increase in income, savings, reduction in debt and other parameters to measure the perceptions of the impact of services provided by FPOs of Idukki district of Kerala to its members. The percentage analysis of scores indicates that members of Kumily Agro Spice PC Ltd were satisfied with the services provided. But the overall analysis concluded that farmers could only perceive a moderate level of impact from services offered and were not very satisfied.

Yadav (2020) after his study on FPCs of Chhattisgarh plains explained that almost 52 per cent of the farmers are satisfied with the activities of the FPCs. Major

factors influencing these satisfaction levels were the quality of inputs and HR practices of the management.

2.5.11. Role perception

The degree of importance attached to the roles performed by extension functionaries for the members of SHGs of VFPCK was analysed by Sayuj (2012). In the study, members were asked to assign the degree of importance to the roles like arranging loans, organising training, providing services, general body meetings, and facilitating development of SHG members. Based on the study by Sayuj (2012), the important role items as perceived by the members were, arranging loans, members development, general body meetings, and ensuring regular field center meetings.

Ajith (2018) analysed the perception of members about the role of Farmer Producer Organisations in Idukki district. Five roles were selected and the members were asked to assign the level of importance to each. The most important role of FPOs as perceived by member farmers was the facilitation of their development. This indicates that farmers perceive FPOs as institutions that help them gain better income and social development. Disbursement of services was identified as the second most important role. Member farmers believed that FPOs were able to provide services to them like input supply that would help them to save cost and time.

According to Sudip (2020) in high-performing FPCs majority of the shareholders keep a moderately positive attitude towards the company. They believe that the marketing activities carried out by the FPCs are more helpful than other organisational forms.

Supply of fertilizers, seeds and pesticides were the major activities of the FPCs of Chattisgarh plains, as per Yadav (2020).

Rajini (2021) noted that conducting training programmes and distribution of inputs were the major functions of FPCs in Telengana as perceived by the shareholders.

2.5.12. Governance

Brown (2005) evaluated six dimensions in order to investigate the potential influence of board governance activities on organizational performance. As revealed

by the findings, strategic contributions from the board have a robust influence on the financial performance of the organization.

For African producer organisations FAO (2012) developed an approach called GAIN based on the principles of governance, autonomy, integrated, and need-based approaches. The organizational capacity to respond to the member needs, the level of empowerment of members and the organisation, the responsibility sharing among members, and the relationship between these principles and the livelihood of members are explored using this methodology. Fifteen local producer organizations of the district of Cameroon were analysed using this methodology and the results indicated that the groups need to formalise their relationships among themselves with the aim of creating a consolidated organizational structure.

Indicators such as meetings and general administrations were used by Singh and Singh (2014) to measure the performance of poultry producer companies.

In order to examine the impact of board composition on the performance of the firm, Kudal and Dawar (2020) chose 24 companies listed on the National Stock Exchange for their study. Board size, number of independent directors, and number of female directors were the variables selected for measuring board composition. Also, the relationships between all three variables and firm profits were analysed using one-way ANOVA to find that the board size and number of independent directors had significant relationships.

2.5.13. Turnover

According to Shaw (2011) turnover rates affected measures like profitability and financial performance. He concluded that turnover had a strong relationship with organizational performance.

But there was also evidence that suggested that higher turnover had negative implications for several dimensions of organizational performance. Similar results were obtained through meta-analysis conducted by Park and Shaw (2013) on turnover rates and organizational performance.

Joshi and Choudhary (2019) in their study on FPCS in Chhattisgarh stated that those companies which showcased better turnover had a good performance.

Yadav (2020) noted all the FPCs of Chhattisgarh Plains were in profit with an average annual turnover of Rs. 15.14 lakhs. Comparing the turnovers for several years, he concluded that FPCs could attain a slight increase in turnover every year. It was also noted that improving the business performance improved the turnover significantly.

2.6 SOCIO-PSYCHOLOGICAL VARIABLES

2.6.1. Age

Evaluating breeding and production services for dairy goat farmers in Kenya, Bett *et al.,* (2009) established a positive relationship between the age of the producers and willingness to pay for the services.

Hanjabam (2013) studying precision farmers of Kerala found that the majority of farmers practicing precision farming belonged to the old age category and conventional farming was practiced by the middle-aged farmers.

Two different studies on SHGs conducted by Sayuj (2012) and Arun *et al.,* (2014) also reported that the majority of the members of farmer-based organsiations were middle aged farmers.

Can (2014) in his socio-economic analysis of small ruminant breeders found significant differences in the age of members of POs and non-members.

But according to Can and Yalcin (2015), responsibility level and satisfaction level had a negative correlation with age.

Nadhika *et al.,* (2019) analysed the influence of FPOs on the marketing behaviour of farmers. The results revealed that the preference of marketing channels is dependent on the age and younger category farmers belonging to the 30-50 years and middle-aged farmers under 70 years of age sold their produce directly to the traders. But veteran farmers were dependent on collection agents.

Wide variation was noted in the age of shareholders in FPCs of West Bengal by Sudip (2020). He calculated the mean age of the shareholders in the selected FPCs as 41.08. It was also noted that in high-performing FPCs the percentage of younger farmers was higher.

Dechamma (2020) studied the profile characteristics among 182 FPCs in Mysuru district. After that, they noted that nearly seventy per cent of the shareholders were middle-aged.

While comparing the status of FPCs of Telengana, Rajini (2021) noted that more than half of the shareholders were middle-aged.

Reddy (2021) after her study in Telengana, also confirmed that more than seventy per cent of the FPC shareholders were middle-aged.

2.6.2. Educational qualification

The relationship between knowledge and adoption of organic practices was explored by Jagannathan (2004). As per the results of the study education status had a positive relationship with the knowledge and adoption of organic practices.

Willingness to pay for the services provided to dairy goat farmers had a positive correlation with the formal education of the farmers according to Bett *et al.,* (2009).

According to Can and Yalcin (2015), the responsibility level and satisfaction level of members of cattle producers' organisations had a positive correlation with education level.

More than half of all respondents (55%) in the study of FPOs of Idukki by Ajith (2018) had a high school or higher secondary education, followed by respondents with a bachelor's degree or higher education (30.83 per cent). The next group of respondents had only a primary school education (11.66 per cent), and only a small proportion of respondents were illiterate (2.5 per cent).

According to Sudip (2020), the majority of members in high-performing FPCs of West Bengal had obtained higher education.

It was noted by Reddy (2021) that one-fourth of the shareholders of FPCs in Telengana was educated up to middle school.

2.6.3. Occupational status

According to Karpagam (2000), the majority of the respondents of turmeric growers in Erode district of Tamil Nadu (71.66 per cent) worked in agriculture.

Shinde *et al.,* (2000), who conducted research on the adoption of traditional agricultural practices, reported that over 90 per cent of the respondents had farming as their primary occupation.

As per Raju (2002), who conducted a study on selected elements important for the sustainability of major crops in a watershed setting, farming was the primary profession of more than half of the population (57.5 per cent).

Rahul (2013) indicated that agriculture was the primary source of income for 60 per cent of home garden farmers in his study on home gardens.

According to Can and Yalcin (2015), the responsibility level and satisfaction level of the members of cattle producers' organisations had a positive correlation with occupational experience.

Ajith (2018) reported that the bulk (78.33 per cent) of FPO shareholders of the Idukki district work solely in farming, followed by those who work in both farming and business (15 per cent). There was just a little difference between those who did farming and worked as agricultural labour (4%) and those who did farming and worked in the service sector (3.33%).

Sudip (2020) opined that only a few of the FPC shareholders in West Bengal were involved in other occupations like business, services, and wage labourers. According to him, for most of the FPC shareholders farming was the primary livelihood.

Rajini (2021) also noted that secondary occupations were less among FPC shareholders compared to non-members Telangana.

2.6.4. Social participation

Sindhu (2002), who conducted a social cost-benefit analysis of Kerala vegetable programmes, reported that the old farmers were likely to lose interest in an active engagement outside their immediate social system.

As per Sasankan (2004), social participation in trustworthy institutions/organisations of cassava growers was moderate.

According to Wattamvar (2009), 48 per cent of television viewers had a moderate level of social participation.

The variable social participation was used by Ajith (2018) to determine the nature and frequency of FPO members' participation in other social organisations. The majority of respondents (85.83%) were members of other organisations, with some (22.5%) serving as officers of these organisations. A smaller percentage of respondents (14.16 per cent) did not belong to any organisation. In terms of attendance, more than half of the respondents (57.5%) attended meetings only sometimes, whereas half (50.83%) attended meetings on a regular basis. The percentage of people who had never attended a meeting was considerably low (14.16 per cent). The overall social participation of the FPO members was moderate.

According to Reddy (2021), seventy-one per cent of the FPC shareholders in Telangana exhibited a medium level of social participation.

2.6.5 Market orientation

Market orientation referred to the disposition of producers towards the means or opportunities available to buy inputs or sell outputs.

According to Sajeevchandran (1989), who presented his study on the influence of development programmes in promoting pepper products, market orientation and adoption of scientific techniques in pepper had a beneficial link.

As per the findings reported by Wenkhede *et al.,* (1996) market orientation was high among the onion growers of Maharashtra.

Thomas (2000) testified that market orientation showed substantial association with medicinal plant knowledge and adoption in the Thiruvananthapuram area after his study on the difficulties and potential of medicinal plant production.

In an investigation on the viability of SHGs in VFPCK, Fayas (2003) found a high level of market orientation among the majority of vegetable growers (89 per cent).

In his study on the feasibility analysis of privatisation of veterinary sciences, Reddy (2008) revealed that 23.9 per cent of farmers were in the low, 60.0 per cent in the medium, and 6.1 per cent in the high market orientation categories.

According to Ajith (2018) based on the study of FPC shareholders of Idukki, the majority of respondents (80%) had a medium market orientation, followed by those with high market orientation (16.66 per cent). Low market orientation was found only among 3.33 per cent of the respondents.

Majority of the stakeholders of FPCs exhibited only a medium-level market orientation, as per Reddy (2021).

2.6.6. Entrepreneurial orientation

Engelen *et al.,* (2012) studied the relationship between entrepreneurial orientation, firm performance, and the role of transformational leadership in the relation among 790 small and medium-sized firms in six different countries. The results after regression analysis revealed that entrepreneurial orientation has performance consequences and this consequence is greater with the level of transformational behaviour to which the top management adheres.

Significant differences in the pre-test and post-test entrepreneurial orientation scores were seen among the students who had completed the entrepreneurship course as reported by Robinson and Stubberud (2014). As per the results, the changes in innovativeness and risk-taking attitude pre-course and post-course influenced the difference.

As per Gellynck *et al.,* (2015) in order to face the multi-faceted issues in agriculture, farmers increasingly required entrepreneurship and innovation orientation.

Gayathri (2020) in her study on the effects of entrepreneurial development programmes conducted by KVKs of Kerala reported that most of the trainees who attended the trainings had moderate entrepreneurship orientation. This was attributed to the moderate levels of innovativeness, risk-taking ability, and self-confidence exhibited by the trainees.

According to Xhoxhi *et al*., (2021) entrepreneurial orientation has been useful at both the organisational level and individual level of analysis. Thus, it needs to be evaluated at both farm and farmer levels.

2.7. CONSTRAINTS IN THE FUNCTIONING OF FARMER PRODUCER COMPANIES (FPCs)

With improved access to inputs and services, institutional credit, and marketing facilities, FPOs supported farmers to make informed decisions and played a positive role in their livelihood. However, there are many hurdles such as the lack of a conducive policy ecosystem that affected the formation and functioning of FPOs. Even though FPOs were meant to provide members with services like input supply, marketing, credit, extension, and insurance, many FPOs were unable to do so due to reasons like lack of profit, insufficient infrastructure, etc. A few recent studies related to constraint analysis of FPCs are presented.

Ajith (2018) in his study on FPOs of the Idukki district reported that members felt a lack in the area of extension support and services from the FPO side. Other constraints reported included, competition from existing brands, lack of financial support, lack of professional management, and absence of quality assurance and export.

According to the studies commissioned by NABARD (2019), the major constraints faced by FPOs included the following.

- Inadequate professional management
- Inadequate access to credit
- Inadequate market access
- Lack of risk mitigation mechanism
- Lack of infrastructure
- Low technical skills

As per Bishnoi and Kumari (2020) problems related to mobilization of farmers, the skill set of directors and CEOs were posing problems for the growth of FPOs. Since members' equity was the only thing to leverage borrowings from banks it was difficult for FPOs to find the financing support. Moreover, the lack of information on FPOs prevented it to take full benefits of several schemes.

According to Reddy (2021) major constraints faced by them in FPCs included irregular procurement of produce (93.33%), lack of well-developed storage facilities (86.66%), and competition among villages for getting benefits (91%) were major constraints reported by members.

Lack of financial assistance, organizational management, inadequate market information, lack of extension facility, lack of value addition and branding and poor market linkage were the major constraints identified by Singh (2021).

2.8. THEORETICAL FRAMEWORK OF THE STUDY

Based on the review of available literature, a conceptual model depicting the theoretical framework has been worked out. The model is given in Figure 2.3 below.

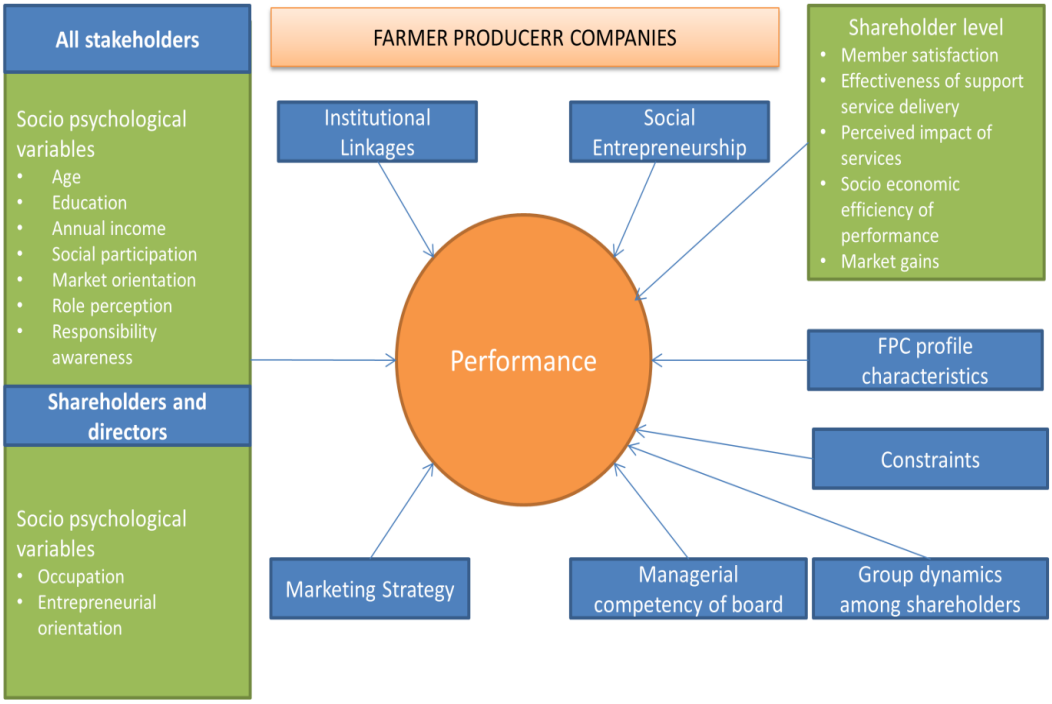


Figure 2.3. Theoretical framework of the study

Research Methodology

3. RESEARCH METHODOLOGY

Research methodology provides the contextual framework for research that guided the researcher in choosing appropriate methods and coherent logic in the evaluation of the topic under study. It helps to describe the theoretical postulates and scientific procedures followed for the systematic analysis of research work. The chapter depicts in detail the research design adopted, how the locale of the study was selected and the sampling procedure used in the choice of sample, data collection methods, and tools followed. In addition, it covers the variable selection and measurement, development, testing, and use of scales for the measurement of selected variables, and the statistical analysis used to derive the results and inferences. Besides, the approaches used in evaluating the validity and reliability of the study are also explained.

All these methods and techniques implemented in the present study on *Performance analysis of Farmer Producer Companies (FPCs) in Kerala* have been organized under the following sub-titles to present a systematic account of the methodology.

3.1. Research design
3.2. Locale of the study
3.3. Sampling methods
3.4. Selection of variables and their measurement
3.5. Data collection methods
3.6. Statistical tools

3.1 RESEARCH DESIGN

A research design is the plan to conduct research and include philosophical paradigms of research and strategies chosen for inquiry along with the specific methodology selected for the study. Creswell and Clark (2007) defined research design as the procedures used in the collection, analysis, interpretation, and reporting of the research studies which helped to connect the conceptual paradigms of the study with the relevant empirical models.

According to Kothari (2017) research design represented the plan, the roadmap, and the blueprint of inquiry perceived to find answers to research questions within the framework of available time and resources.

Based on these conceptualizations, *Ex-post facto* research design was followed in the study to pursue the major objective of estimating the performance of FPCs and

delineating the factors affecting the performance. Primarily a quasi-experimental design, which suited the study as it enquired about the cause-effect relationship of the independent variables with the FPC performance whose manifestation had already been adopted. Hence this could be considered as after-the-fact research in which the study occurred after the phenomenon had manifested. As such, the researcher lacked direct control over the studied variables.

3.2 LOCALE OF STUDY

Due to the relevance of the proposed objectives and its scope for the state, the entire state of Kerala was selected as the study area.

3.3 SAMPLING

A total of 30 FPOs that were in operation for at least two years from the date of registration were selected randomly from all the 14 districts of Kerala. The number of FPCs selected from a district was decided proportionate to the number of FPCs registered in the district (Table 3.1).

In addition, one CEO and two Directors were selected from each selected FPC to make a sample of 90. Also, a total of 120 shareholder members were selected from the selected FPCs using proportionate random sampling based on the number of members in each of these units. Thus, the total sampling size of the study was decided as 210. The flow diagram showing the study area and sampling methods is presented in Figure 3.1.

Table 3.1 Details of registered FPCs recorded from the districts of Kerala

District	No. of registered FPCs	No of FPCs selected
Trivandrum	9	2
Kollam	3	2
Pathanamthitta	6	2
Alappuzha	4	2
Kottayam	5	2
Ernakulam	6	1
Idukki	19	3
Thrissur	4	2
Palakkad	12	3
Kozhikode	7	2
Malappuram	6	2
Wayanad	11	3
Kannur	5	2
Kasargod	5	2
Total	**102**	**30**

Source: NABARD, 2021

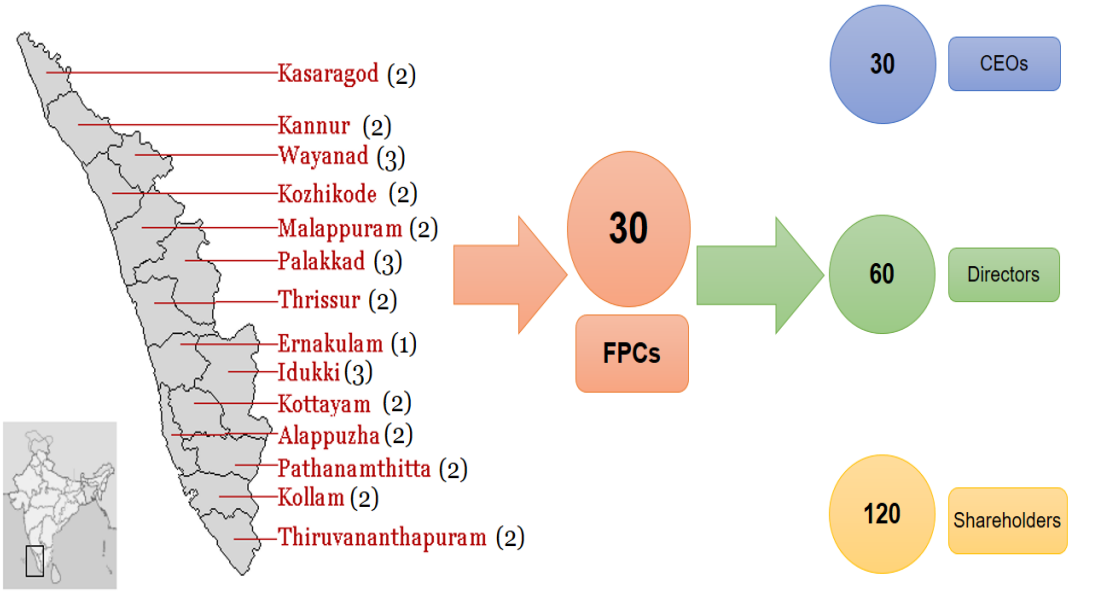


Figure 3.1. Flow diagram showing the study area and the sampling method

3.4. DATA COLLECTION METHODS

The quantitative survey design was employed in data collection. A pretested structured interview schedule prepared based on expert discussions and literature review was used in the research. Interview schedules prepared specifically for CEOs and Directors and members are included as **Appendix I**. Both personal interviews and Focus Group Discussions were conducted in each selected FPC for collecting the required information. However, due to the Covid 19 pandemic and enforcement of COVID protocols and restrictions, prefixed telephonic interviews and video calls were also used for data collection in unavoidable circumstances.

3.5. SELECTION OF VARIABLES AND THEIR MEASUREMENT

Based on the review of the literature and expert consultancy, variables were selected for each of the specific objectives set for the study. The selected variables were categorized into dependent variables and independent variables.

3.5.1. Dependent variable: Performance of FPCs

Based on the objectives pursued in the study the dependent variable selected was the performance of FPCs. Based on literature review and expert consultancy, the performance of FPCs was conceptualised as a function of dimensions related to institutional linkages, group dynamics, socio-economic efficiency, social entrepreneurship orientation, performance and impact of FPC services, socio-economic efficiency, and marketing strategy. Accordingly, the performance of FPCs was operationally defined as the weighted aggregate of the measures of the following components which are detailed under the respective subheads.

3.5.1.1. Group Dynamics

3.5.1.2. Institutional linkages

3.5.1.3. Social entrepreneurship orientation

3.5.1.4. Effectiveness of support service delivery

3.5.1.5. Perceived impact of services

3.5.1.6. Socio economic efficiency of performance

3.5.1.7. Marketing strategy

Performance of FPCs was calculated based on the aggregated dimensional component scores using the following equation

$$\text{Performance} = \sum_{i=1}^{n}(Wi \sum Dij) \text{---------- (1)}$$

Where,

Wi= Eigenvalue of the factor

Dij= Dimension index of the items under each factor

Xij= Observed item score

The dimension index of the items under each factor was calculated using the following formula (2)

$$Dij = \frac{Xij - MIn\,(Xij)}{Max(Xij) - Min(Xij)} \quad \text{----------(2)}$$

3.5.1.1. Group Dynamics

Group dynamics among the members of the FPCs were quantified using the group dynamics effectiveness index (GDEI). GDEI was operationalized as the socio-psychological variables involved when people in a group interact with each other with the aim of reaching a common goal. Adaptation of Group Dynamics Effectiveness Index developed by Bhatt (2009) included seven indicators identified based on a literature review. These indicators were rated on a five-point continuum scale that ranged from 1 to 5. Negative statements were rated in the reverse order of scores. The maximum score possible for each statement included are provided in Table 3.2. The factor analysis of the indicators revealed that each indicator contributed to over 72.3 per cent of the variance for GDI. Factor loading obtained for these factors having 72.3 per cent variance and eigenvalues above one for each indicator was selected as the corresponding weight.

Table 3.2 Weightage and maximum scores of group dynamics indicators

Sl No	Group dynamics indicators	Weightage	Maximum Score
1	Participation	2.237	50
2	Teamwork	2.849	50
3	Group Atmosphere	3.750	50
4	Decision making	5.861	50
5	Group Cohesiveness	2.356	50
6	Group leadership	1.659	40
7	Interpersonal trust	1.776	45

The formula (3) was used to determine the group dynamics index for each FPC and FPCs were categorised based on the scores.

$$GDI = \frac{R_1}{M_1} X\ W_1 + \frac{R_2}{M_2} X\ W_2 + \frac{R_3}{M_3} X\ W_3 + \ldots\ldots$$

---------- (3)

Where,

R=Score obtained for one indicator

M= Maximum score obtainable

W= Weight of the indicator

3.5.1.2. Institutional linkages

Institutional linkages are operationalised as the existing formal and informal arrangements made by the FPC with other institutions to facilitate the function and activities of the FPC. Such linkages existed to facilitate credit, marketing, extension, and other functions. Directors were asked for the institutions with which corresponding linkages were created. Each linkage was assigned a unitary score and the aggregate scores were used in the analysis. Participatory mapping tools were used for the visual depiction of the delineated linkages.

3.5.1.3. Social entrepreneurship orientation

Operationalized as the level of orientation towards social value creation in the community from which the producers become members of the FPC. The scale developed by Kraus *et al.,* (2017) was adapted to measure the variable. The scale had the following four components each with items answered against a four-point continuum.

1. Social innovativeness
2. Social risk-taking
3. Social pro-activeness
4. Socialness

The items of measurement included under each are presented in Appendix I (Part 1).

3.5.1.4. Effectiveness of support service delivery

The effectiveness of various support services delivered by FPCs was assessed using a modified version of the scale by Sayuj (2012) for assessing the efficacy of VFPCK services. The scale comprised of five assertions on a four-point scale, with responses ranging from high to medium to low to no increase. Scores ranged from 3 to 0 on a scale of one to ten. (Appendix I - part 2)

3.5.1.5. Perceived impact of services

The perceived impact of FPC services was assessed using five statements on a three-point scale adapted from Sayuj (2012) (Appendix I - part 3). It provided an overall picture of how satisfied member farmers were with the services they received, as well as how much their revenue was increased as a result of the services.

3.5.1.6. Socio economic efficiency of performance

Operationalized as the perceived efficiency of socio-economic development achieved by the FPC shareholders. Socio economic efficiency was measured using the following components, each of which are detailed under the respective sub-heads

3.5.1.6.1 Food security

3.5.1.6.2 Habitat security

3.5.1.6.3 Educational security

3.5.1.6.4 Health security

3.5.1.6.5 Social empowerment

3.5.1.6.1 Food security

Food security was defined as the year-round availability and accessibility of a well-balanced diet among the FPC members. The study adopted the scale developed by Sahoo (2014) for its measurement. Four statements ordered on a three-point continuum with responses not true, slightly true, and fully true was used (Appendix I- part 4). Scores ranged from 3 to 1 and for negative statements, reverse scoring was used.

3.5.1.6.2 Habitat security

The presence of basic facilities and the type of dwelling in which the member resides were operationally characterised under this variable. The scale devised by Sahoo (2014) was used (Appendix I- part 5). The first two assertions had a score range of 2 to 1, while the next four statements were of the Yes or No category with respective score of 1 and 0.

3.5.1.6.3 Educational security

The operational definition of the variable, educational security, was stated as the access of FPC member's children to higher education. Sahoo's (2014) scale was improved to make it suitable for the measurement (Appendix I- part -6). Yes and No responses were used to rate the six assertions with respective scores of one and zero. The maximum possible score was 6 and minimum score was 0.

3.5.1.6.4 Health security

Health security variable was used to assess the access of FPC members and their family to health care facilities and the status of health care provided to them. The scale devised by Sahoo (2014) was utilised in its measurement with dichotomous scores of 1

and 0 for agree and disagree responses respectively. The scale with scoring pattern is given in Appendix I- part 7.

3.5.1.6.5 Social empowerment

Social empowerment was defined as the ability of a person to make strategic decisions about society and group, as well as the acknowledgment he or she received. The scale developed by Sahoo (2014) was modified and used for the measurements. The scale employed fourteen statements on a five-point scale, with scores ranging from 1 to 5 and responses ranging from very low to very high as given in Appendix I- part 8.

3.5.1.7. Marketing strategy

The plan of action of the FPCs to promote, distribute and sell their produce and products to the consumers was adopted for the operational definition of the marketing strategy. The measurement of the variable was done by modifying the scale developed by Ahemad *et al.,* (2013) which measured the impact of marketing mix strategy on performance of hospitals in Jeddah. The marketing strategy of FPCs with respect to the marketing mix viz., place, price, promotion and product were measured in a five-point continuum scale as detailed in Appendix I- part 9.

3.5.2. **Independent variables**

Independent variables are the cause variables which assumed to have a deterministic effect on the dependent variables**.** The independent variables selected under the study and the measurement tools used are detailed under the following respective sub-heads**.**

3.5.2.1. Socio-economic profile of members

3.5.2.2. Socio-economic characteristics of FPCs

3.5.2.3. Managerial competency

3.5.2.4. Products and services offered

3.5.2.5. Quality standards followed

3.5.2.6. Procurement process

3.5.2.1. Socio-economic profile of members

Socio-economic and psychological attributes of FPC members, Director Board members and the CEOs were used as independent variables that were assumed to influence the performance of FPCs. The independent variables selected and the scaling tools used in their measurement are detailed under the following subheads.

3.5.2.1.1. Age

Age of FPO members was determined in terms of the number of calendar years he or she has lived up to the time of observation. After data collection, the respondents were categorised into three groups based on the system followed in the population census of India as presented below (GOI, 2011). The scoring pattern followed in the study is also included.

Age group & (Category)	Score
< 35 years (Young)	1
35-60 years (Middle Age)	2
> 60 years (Senior citizens)	3

3.5.2.1.2. Educational qualification

Education is a crucial aspect in associating with and managing the day-to-day activities of FPCs. According to the operational definition adopted for the study, it represented the academic qualification earned by an individual through formal and non-formal education that enabled him to grasp and interpret information. Scoring pattern adopted by Fayas (2003) and modified by Sayuj (2012) was used to categorise the data from the study.

Category	Score
Illiterate	1
Upto primary classes	2
High School/ Higher secondary school	3
Degree and above	4

3.5.2.1.3. Occupational status

The farmer's major vocation at the time of the interview was deemed his occupational status. The scoring method as presented below designed by Anantharaja (2002) was employed in the study.

Category	Score
Farming as a sole profession	4
Farming + Agri Labour	3
Farming + Business	2
Farming + Service	1

3.5.2.1.4. Annual income

Annual income represented the total earnings of a FPC member, director or CEO over the period of one year calculated in lakhs. It included income from different sources such as farming, other businesses etc. during a financial year indicated in terms of rupees. The respondents were classified into annual income groups based on the state average.

3.5.2.1.5. Social participation

Social participation was operationalised as the degree of interest and participation of member farmers in formal and informal organisations other than having a membership in the FPO. It was measured in terms of their involvement either as a member or as an office holder in organizations. Sayuj (2012) used the scale that contained two dimensions viz. nature and frequency of participation.

In the event of participation, a score of 0 was assigned if the respondent had no membership, a score of 1 if the respondent had a ‘Membership,' and a score of 2 if the respondent was a ‘Office Bearer.' For ‘Never attending,' ‘Sometimes attending,' and ‘Regularly attending,' 0, 1, and 2 were allocated, accordingly, for ‘Never attending,' ‘Sometimes attending,' and ‘Regularly attending.'

Type of participation	Score	Regularity of participation	Score
Non member	0	Never	0
Member	1	Irregular	1
Office bearer	2	Regular	2

3.5.2.1.6. Market orientation

Market orientation conceptually represented the priorities followed by the FPC members towards satisfying market needs in the production and processing of products. It has been operationally defined as the means or chance to obtain inputs for production as well as the sale of the products based on consumer preferences as members of FPCs. The study adopted the method devised by Samantha (1977) which was modified by Vani (2018) to measure the market orientation of FPC members. It comprised five statements scored on a two-point continuum. Scores of 1 and 2 were awarded to disagree and agree responses respectively as given in Appendix I- part 10.

3.5.2.1.7. Entrepreneurial orientation

Individual-level entrepreneurship orientation is important in understanding the strategic decision process of organizations. Conceptually entrepreneurship orientation referred to the processes, practices, and decision-making activities that promoted innovations in an organization (Lumpkin and Dess, 1996). The variable was used in the study to assess the innovativeness, risk-taking ability, and proactiveness of the respondents with respect to production and marketing processes. The scale used by Xhoxhi *et al.,* (2021) was modified and adapted in the study (Appendix I- part 11). Agreement and disagreement with the statements were measured at a two-point continuum with scores 1 and 2.

3.5.2.1.8. Perception of members on functional roles of FPCs

Different stakeholders have different perceptions of the functional roles of FPCs. The variable was used to measure the variations in perceptions held by different members with respect to the most important functional role of FPCs. The study adopted the scale by Sayuj (2012) with suitable modifications. It included five statements organized on a five-point scale, with scores ranging from 1 to 5 for responses that varied from not important to very important as included in (Appendix I- part 12).

3.5.2.1.9. Awareness of rights and responsibilities

Members and management who had better awareness of their rights and responsibilities could contribute more effectively to the functions and roles of FPCs. The variable operationally defined as the perception of members' awareness of rights and responsibilities regarding the FPC was measured by modifying the responsibility components identified by Can (2014). The scale consisted of five statements arranged over a five-point continuum of agreement with a score range of one to five (See Appendix I- part 13).

3.5.2.1.10. Perceived member satisfaction

Member satisfaction measured the perception of members on the contentment derived from being the members of FPCs. The scale used by Can (2014) was modified to accommodate the perception of satisfaction level exhibited by the FPC members. A five-point scale with five statements indicating the satisfaction of different aspects of membership was used (See Appendix I- part 14).

3.5.2.2. FPC profile

The composition of the director board and staff along with the services offered, regularity in the conduct of meetings, training attended, commodities marketed, years in business, and CEO types were assessed under this variable. Further, the economic position of FPCs were also profiled using variables related to turnover, share capital, infrastructure, asset position and membership. Appropriate scoring was adopted for each of the selected variables on the basis of importance. The details of selected profile characteristics of FPCs and the operationalization and measurement adopted in the study are presented in Table 3.3.

Table 3.3. Operationalization and measurement tools of selected FPC profile characteristics

SL No	Profile Characteristic	Operationalization and measurement
1	Director board composition	Composition of director board measured on the basis of gender representation
2	Regularity of meetings	Intervals and regularity of meetings in the FPCs
3	Type of CEO	The regularity of the CEO position assessed on the basis of full time and part time arrangements of posting

SL No	Profile Characteristic	Operationalization and measurement
4	Staff pattern	The number of paid and honorary staff (where shareholders act as staff) present in an FPC
5	Trainings attended	Number of trainings attended by the stakeholders in the previous financial year
6	Services offered	Number of services offered by each FPC
7	Turnover	The turnover obtained by each FPC in the last financial year
8	Share Capital	Share capital collected by each FPC
9	Infrastructure	Ownership status of infrastructure under each FPC
10	Assets position	Measured on the basis of land, machinery and equipment owned/ leased/ rented by FPC
11	Marketed commodities	The type and number of commodities produced and sold by the selected FPCs
12	Year of registration	The year of official registration of the PC
13	Membership number	The number of fully paid shareholders in an FPC

3.5.2.3. Market gain

Market gain was conceptually defined as the perceived gains in marketing received by FPC members being part of FPC through its activities. Four statements derived based on literature review were arranged in a five-point continuum to assess the extent of market gains the members of the FPCs received through the activities of the FPC. The reliability analysis of the scale on Chronbach Alpha gave a satisfactory value of 0.782. The selected statements along with the scores are listed in the following table.

Sl. No	Statements	Score
1.	Able to market all surplus produce through FPC	1-5
2.	Marketing cost is less when marketed through FPC	
3.	It is easier to market the products through FPC	
4.	Marketing produce through FPC fetches better price	

3.5.2.4. Procurement process

Procurement process is viewed as critical in maintaining quality standards of products. In order to ensure uniformity of standards FPCs followed many strategies to improve quantity and quality in procurement. It procured produce from members to sell the same in bulk so that the benefit from collective bargaining could be ensured. Therefore, the study attempted to assess the various procurement strategies followed in FPCs. The means of procurement were assessed on the basis of the number of means used in the procurement and accordingly respective scores were assigned. The major procurement strategies delineated in the study and each strategy was assigned a score of one as presented below.

Sl. No.	Procurement process	Score
1	Farm gate	1 per process
2	Designated off sites	
3	On site	
4	Company vehicle	

3.5.2.5. Quality standards

One of the major activities of FPCs is value addition and the variable related to quality standards was used to measure the number of measures followed by each FPCs to ensure the quality. The FSSAI safe food checklist was used to measure the quality assurance followed by the FPCs. The scoring corresponding to the number of standards followed, not applicable and not followed was given as 2, 1 and 0 as presented in the following table.

Sl. No	Quality parameters	Response scores		
		Yes	No	NA
1	Whether procured from authorized/ certified sources	2	0	1
2	Fresh appearance (intact, without bruises/spots, patches, shrivelled etc.)	2	0	1
3	Products are free from any physical impurities (e.g. dirt, dust, stones, wood, signs of	2	0	1

Sl. No	Quality parameters	Response scores		
		Yes	No	NA
	infestation, pest or their remains, metal pieces or any other foreign matter)			
4	Processing/cooking is done in clean and hygienic area	2	0	1
5	Clean equipment and utensils are used for cooking/processing	2	0	1
6	Processing of food/handling/serving is done in covered areas	2	0	1
7	Water used in the food processing, washing is potable	2	0	1
8	All products are stored covered in clean and intact containers/packs	2	0	1
9	Packaging and pack seals are air/vacuum intact	2	0	1

3.5.2.6. Managerial competency

CEOs and the board are responsible for managing the day-to-day activities of the FPCs. They engage in activities that promote innovations and ethical conduct of transactions that aid in bringing efficiency to the institution. The ability of the CEO, and directors to assess the needs of the community, legal compliances required, understand and act on potential business opportunities along with the overall management style was measured under the variable. The scale items for the measurement of management competency were adapted from the assessment instrument developed by Sherman *et al.,* (2000). The level of agreement to the selected twenty statements under each dimension was measured on a four-point scale. The mean score for each of the six competencies were assessed and overall competency was calculated as the average. The reliability analysis of the adapted scale gave a Chronbach Alpha value of 0.943 which is considered a highly satisfactory reliability score

The number of statements under each of the competency dimensions of the scale is presented in the following table. The items included under different dimensions of managerial competency scale can be observed from (Appendix I- part 15).

Sl No	Competency	Number of Statements
1	Leadership	7
2	Resource Management	2
3	Human Resource Management	2
4	Programme Monitoring	3
5	Professional Development Practices	3
6	Community Collaboration	3

3.6. Constraints in the functioning of FPCs

Analysis of the constraints in the functioning of FPCs as perceived by the members, directors and CEOs was also attempted in the study. Each category of respondents was asked to rank the constraints listed based on research reports and expert consultancy. Constraint analysis focussed on blocks and limits within the organization and the existing policy environment which have an impact on the overall performance. Kendall's coefficient of concordance was used to evaluate the constraints which is detailed under the statistical tools.

3.7. STATISTICAL TOOLS

The data compiled from the survey conducted in the study were scored, tabulated and analyzed using appropriate statistical tools. Statistical methods were selected based on the objectives pursued in the study and the type of data. A brief description of the major statistical techniques employed in the study are presented.

3.7.1 Percentage analysis

Among the descriptive statistical methods, percentage analysis was used to determine the distribution of respondents on selected variables, so that easy comparisons were possible. The values were rounded to two decimal places wherever appropriate.

3.7.2. Quartiles

Respondents were categorized into low, medium, and high groups using Quartiles of respective characteristic variable. The number of respondents in each category was determined using the score values. The number of items in the low category had values less than Q1, those in the medium category had a value between Q1 and Q3, and those with values above Q3 were in the high category.

3.7.3. Spearman Correlation

Spearman's correlation coefficient (r_{sp}), represented the nonparametric test that measured the strength of association between two ranked variables. The test helped to assess how well the relationship between two variables can be described using a monotonic function. It gave an account of the kind of linear relationship among the variables studied. The relationship between different independent variables and performance of FPCs was investigated using the tool.

3.7.4. Factor analysis

Factor analysis was employed in situations where systemic interdependence existed among the observed variables and the researcher wanted to identify the latent factors that caused the commonality. It enabled to reduce a large number of multidimensional variables into fewer factors which could be treated as new variables. The major steps involved in the analysis are described as follows:

A. Development of a correlation matrix of the items

The first step involved in FA has been the establishment of inter-relationship among the variables studied. This was used in the selection of those variables which showed significant interrelationship expressed in terms of large correlation coefficients.

B. Factor extraction

Centroid method, the principal component method and maximum likelihood method are the different methods available for factor extraction. The study followed the Principal Component Analysis, being the simplest and widely used method (Kothari, 1985). Principal Component Analysis is a multivariate statistical method for developing and validating psychological theories and assessments. In PCA, the linear combinations were listed in descending order of their capacity to explain total variance. The first linear combination or factor explains the maximum variance and the second factor explains the second maximum variance and so on. The communality (h^2) of a variable was defined as the proportion of total variation described by the common factor. The rest of the variance not explained by the common factor was explained by the 'unique factor' specific to that variable. The extraction of factors allowed a group of similar variables to be grouped together under one factor. The coefficients under each of the factors determined the factor loadings. Through factor analysis, only those components that were sufficient to explain the data and loaded heavily on it were chosen. The process of extraction of factors helped to group a set of related variables under one factor. The coefficients given under each factor showed factor loadings. Factor analysis aimed to select only those factors which were sufficient to explain the data and loaded significantly on it. The factor loadings also gave the standardized regression coefficient in the multiple regression equation where each variable is expressed as a function of all the extracted factors. The factor extraction depended on the Eigen

Value, which explained the per cent of variance accounted by a factor. Extractions of factor generally stopped once the Eigen value dropped below unity.

C. *Factor rotation*

The eigenvalues of a factor revealed how much of the overall variance is explained by that factor. More than one Eigen value was used as the criterion for the selection of factors. It is difficult to identify the important components from the less important ones in the initial matrix since the factors and variables were intertwined. Rotation was used to transform the original factor matrix into one that was easier to understand. Rotation of the components had no effect on the commonality or the percentage of total variation explained. However, the percentage variance explained by the retained components changed. For factor rotation though any of the approaches termed as Quartimax, Varimax, or Equimax, could be used, the study followed the varimax rotation method. It had the advantage to sort out the given data on a minimum set of factors and as the factors were unrelated to each other could be used in the development of indices.

D. *Interpreting the rotated factors*

Significant factors were selected based on factor loadings values that were greater than 0.33 (Jambu, 1991). However, the largest factor loadings were taken into account in interpreting the results of factor analysis. This method was used to validate the scale and in the analysis of data related to the FPC performance.

In the study, PCA was used to validate the relationship between the performance of FPC and the selected components. Also, the eigenvalue of each component for which the maximum variance was explained was selected as the weightage for the same in performance index development. The weights obtained and components delineated are given in the results and discussion chapter.

3.7.5. Kendall's Coefficient of Concordance (Kendall's W).

Kendall's Coefficient of Concordance was used to measure the agreement between the respondents on selected variables. Kendall's coefficient of concordance (W) measured the degree of agreement among ordinal ratings made by different appraisers while evaluating the same samples. Kendall's coefficient values varied

between 0 and 1. The stronger the agreement, the greater was the Kendall's value. The significance of W was tested using Chi-square.

3.7.6. Structural Equation Modelling

Structural Equation Modelling (SEM) is a statistical method widely used to explain and predict social behaviour or processes, using the latent constructs and their interrelationships in a specific context. SEM used specialised estimation methods to identify the factors and assess the interrelationships between the manifested and latent variables associated with a social phenomenon so as to explain and predict it. The latent constructs are abstract variables that could only be observed indirectly through configuration of multiple observed variables or indicators. These latent variables and their relationship with directly observed variables were studied using this technique. These observed variables could be discrete, continuous or even categorical. But latent variables used in SEM need to be always continuous (Kline,1999).

SEM combined the multivariate techniques of factor analysis and multiple regression that allowed simultaneous examination of the interdependence of directly observed variables and latent constructs. The results obtained using SEM could be used to represent theoretical concepts, improving statistical estimation and understanding direct and indirect effects. This helped in theory development, construct validation and scale development (Hair *et al.,* 2006). The steps involved in the conduct of SEM are detailed as follows.

A. Specifying the conceptual model

In order to specify the relationships, based on the research questions, conceptual model based on theory needed to be prepared. The conceptual model consisted of complex interrelations exhibited between variables latent in nature with the observed variables. This model was tested through hypotheses for validity. This model essentially is a path model of variables and their relationships. The model was prepared on the basis of existing theory or the research questions addressed in the study. Based on requirement even a new model could be developed or an existing model could be tested for refinement or confirmation.

B. Improving measurement model

The latent variables or constructs and their indicators are specified in the measurement model. How well the indicators represent the latent variables was investigated using measurement model. Construct validity and reliability was measured through confirmatory factor analysis (CFA) which was sample sensitive. The minimum estimates of sample corresponding to the number of constructs and commonalities are given in Table3.4.

Table 3.4 Minimum requirement of sample size for SEM

Number of constructs	No of items per constructs	Minimum sample size
Five or less	>3	100
Seven or less	>3	150
Greater than 7	<3	500

Based on the values obtained from the measurement model, model fit assessment was done using the criteria for item validity, reliability and goodness of fit indices.

(i) Construct validity: For estimating the construct validity, the AVE value of the constructs is calculated. The AVE value estimates the divergent validity of the selected constructs. Divergent validity is the highest form of construct validity that establishes the uniqueness of the construct. Divergent validity demonstrates that each construct is different from one another and can have a significant relationship with the observed variable or each other. An AVE value of >0.05 suggests good divergent validity. (Netemeyer *et al.,* 2003)

(ii) Construct reliability: Construct reliability is estimated using the CR value obtained during the test. The construct reliability account for the internal consistency of the indicators representing the construct. This implies the reliability of the selected construct. Construct reliability is helpful to avoid the bias of covariance among the selected indicators for the constructs. The CR value of >0.6 indicates higher construct reliability (Netemeyer *et al.,* 2003).

(iii) Goodness of fit indices: The goodness of fit between the proposed model and the sample data is determined based on the values of certain indices. The indices used commonly for this purpose are, Chi-squared test, RMSEA, GFI, NFI, CFI and TLI.

The criteria used for assessing the goodness of fit based on these values are given in Table 3.5.

Table 3.5 Criteria used for assessing the goodness of fit of SEM

Absolute measures of fit	**Suggested value of fit**	**Reference**
Chi-square – Likelihood ratio	Small and insignificant (p >0.05)	Joreskog and Sorbum, 1996
Goodness of Fit index (GFI) Overall degree of fit of the squared residuals from prediction compared with the actual data	>0.95	Hu and Bentler, 1999
Normed Fit Index (NFI) A relative comparison of the proposed model to the null model	>0.90	Hu and Bentler, 1999
Comparative Fit Index (CFI) Estimated based on non-central chi-square distribution.	>0.90	Daire *et al.,* 2007
Root Mean Square Residual (RMSEA) The square root of the difference between the residuals of the sample covariance matrix and the hypothesised covariance model	< 0.06	Tabachnick and Fidell, 2007
Tucker Louis Index (TLI) or NNFI A comparative index between the proposed and the null model	> 0.90	Hair *et al.,* 2006
Root mean Square Residual (RMR)	<0.07; <0.03 excellent fit	Steiger, 2007

C. Structural model

The resultant path diagram explaining the relationship of latent variables is known as structural model. The directional effects of the latent variables are explained using regression coefficients. The directional effects between latent variables, latent and indicator variables and residual in indicator variables are considered.

3.7.7. Multiple correspondence analysis

Multiple correspondence analysis (MCA) is a data analysis approach for describing, exploring, summarising, and visualising information contained in a data table of N individual observations with Q categorical categories. This strategy is frequently used to analyse data from questionnaires. It can be viewed as a categorical counterpart of principal component analysis (PCA) for categorical variables (rather

than quantitative variables) or as a multi-categorical extension of correspondence analysis (CA). MCA was used in the study as a statistical visualisation tool for visualising the relationship between categorical variable levels. This method could evaluate two-way and multi-way data.

The main goals of MCA are to: (1) provide a typology of observations, that is, to study the similarities between them from a multidimensional perspective; (2) assess the relationships between the variables and study the associations between the categories; and (3) link the individual observations and variable studies together in order to characterise individual observations using variables.

The visualisation of association, are done using the biplots obtained as result of plotting the first two components contributing the maximum variance. Biplots combine the following data matrix quantities into a single display.

(i) If the fit is excellent, the variance-covariance structure of the variables, i.e. the inner product of two variables and the cosine of their angle, approximates their correlation with equality.

(ii) It investigates the connections (interrelationships) between rows and columns.

(iii) In multidimensional space, the Euclidean distances between observations are also shown.

In the bi plot when the angle between two column vectors is small, they are closely related. As a result, a small angle between two vectors denotes a high degree of correlation between the two variables. When two vectors make a 90-degree angle (>90-degree angle), the variables are uncorrelated (negatively correlated). If all vectors have equal lengths, the length of the biplot vector reflects how well the variables are represented by the graph with a perfect fit. In particular, the longer the vector, the stronger the discrimination ability.

3.8 STATISTICAL SOFTWARES USED

The softwares used for statistical analysis included MS Excel, IBM SPSS Statistics V.21.0 and AMOS V.23.0. Most of the descriptive analysis was conducted using MS Excel, IBM SPSS Statistics V.21.0. AMOS V.23.0 was used for conducting Structural Equation Modelling.

Results and Discussion

4. RESULT AND DISCUSSION

The empirical evidence and qualitative understandings regarding the selected FPCs obtained through the study were analysed in line with the set objectives and the conceptual framework. The results thus obtained along with the pertinent interpretations that were necessary under the scope of the study are presented under the following subheads.

4.1. Profile of FPCs in Kerala

4.2. Strategic functions of FPCs

4.3. Measures of managerial efficiency in FPCs

4.4. Role of POPI in FPC development

4.5. Personal and socio-economic attributes of FPC stakeholders

4.6. Performance of FPCs

4.7. Factors affecting performance of FPCs

4.8. Constraints and issues affecting performance

4.9. Good practices for FPC management

4.1. PROFILE OF FPCS IN KERALA

Profiling of FPC was done in terms of baseline attributes related to the year of registration, membership, turnover and equity share collected from the selected FPCs in the study. The crops and commodities covered by the companies, the number and gender composition of directorial board members, staff pattern, functional roles, management practices, and infrastructure and asset structure were also studied and the results with detailed analysis are presented under the following sub-heads.

4.1.1. Baseline attributes

Base line characteristics of FPCs related to the year of registration, membership, share capital and turnover were studied in detail. The baseline data on the profile attributes of FPCs studied are depicted in Table 4.1.

The results from the table showed that the membership of FPCs ranged from 47 to 995 with a mean membership score of 319. It was also interesting to note that the FPCs were registered in all the districts of the state. Further the average equity

share raised by the registered FPCs was estimated at Rs. 23 lakhs and the share capital showed a wide variation that ranged from Rs 1.0 to 177 lakhs.

Table 4.1. Baseline profile of FPCs

Sl. No.	Name of FPC	Year of registration	Members (No.)	District of operation	Share capital (Rs. in Crores)
1.	Tulunadu Ecogreen	2016	119	Kasargod	0.08
2.	Gramalakshmi	2016	416	Kasargod	0.074
3.	Mayyil	2017	328	Kannur	0.18
4.	Tejaswani	2013	368	Kannur	1.77
5.	Niravu	2016	124	Kozhikode	0.1
6.	North Malabar	2013	416	Kozhikode	0.49
7.	WAMPCO	2015	124	Wayanad	0.134
8.	Loga	2015	56	Wayanad	0.014
9.	Wayfarm	2014	524	Wayanad	0.057
10.	Edakkara	2015	995	Malappuram	0.22
11.	Maranchery	2016	432	Malappuram	0.17
12.	Srikrishnapuram	2020	292	Palakkad	0.026
13.	Polima	2017	119	Palakkad	0.011
14.	Palakkad	2015	911	Palakkad	0.10
15.	Thrissur	2016	736	Thrissur	0.62
16.	Pananchery	2017	148`	Thrissur	0.36
17.	Kothamanagalam	2016	208	Ernakulam	0.28
18.	HOPCL	2016	528	Idukki	0.25
19.	Green Vivo	2016	162	Idukki	0.49
20.	Thodupuzha	2016	306	Idukki	0.52
21.	Neeloor	2016	510	Kottayam	0.63
22.	Kanjirappaly	2017	108	Kottayam	0.04
23.	Onattukkara spices	2017	236	Alappuzha	0.03
24.	Odanadu	2019	47	Alappuzha	0.01
25.	Karshakajyoti	2016	506	Pathanamthitta	0.083
26.	Preeminent	2017	126	Pathanamthitta	0.03
27.	Pallaruvy	2017	455	Kollam	0.18
28.	Green Orchid	2020	55	Kollam	0.039
29.	Kadali	2020	113	Thiruvannathapuram	0.26
30.	Panasa	2016	102	Thiruvannathapuram	0.027
	Mean		**319**		**0.23**

Though, IOFPCL, the first in FPC Kerala was registered in 2004, the concept gained momentum in the state only from 2013. The needed impetus was provided with the support grants distributed under the PRODUCE project of NABARD. This is

evident from Figure 4.1 which revealed that the number of FPC registrations from 2013-2020 recorded a steady increase till it peaked in 2016 after which it indicated a fall. The growth trend indicated maximum registration in the year 2016 which could be attributed to the support of NABARD grants. But the registrations reduced to zero in the year 2018 which was the terminal year of the NABARD project. However, there is consistent increase in FPC registrations from 2019 and is expected to grow further with the advent of new policy regime announced in Union budget (GOI, 2019).

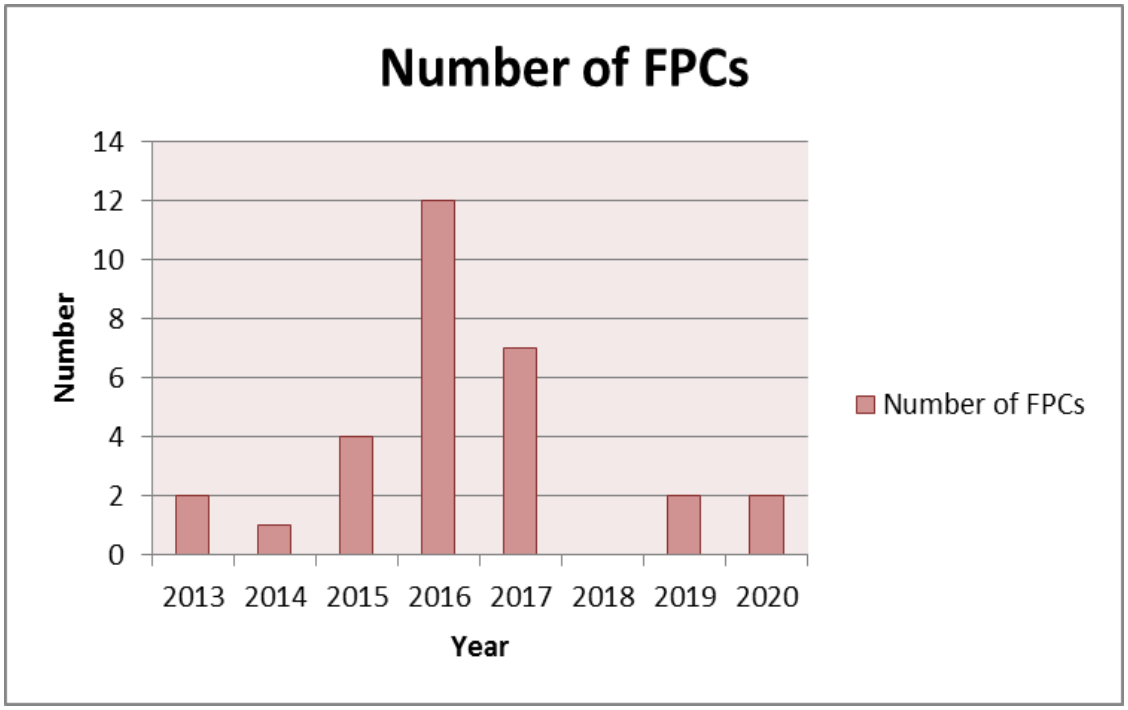


Figure 4.1. Distribution of FPC registration in Kerala during 2013-2020

The turn over and share capital recorded from the selected FPCs in the study was compared using a multiple bar diagram which is presented as Figure 4.2. It was quite evident from the results that there existed huge variation in both the parameters among the FPCs. The maximum turnover was recorded in Thrissur FPC followed by Thodupuzha FPC. However, it was more significant to note that majority of the FPCs did not have sufficient turn over or equity shares. This was a cardinal challenge that impacted the adoption of technical and managerial professionalism in its operations and functions.

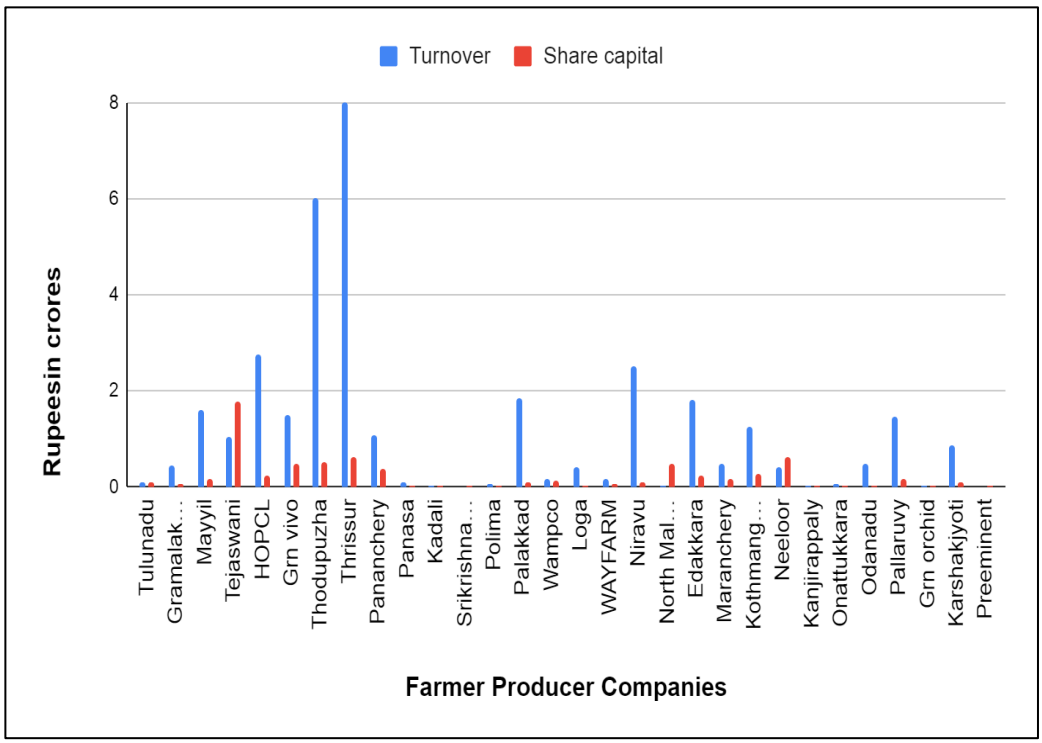


Figure 4.2. Comparison of FPCs based on turnover and share capital

4.1.2. Major crops and commodities covered by FPCs

The diversity of crops and commodities handled by the FPCs was analysed and the results were used as a profile attribute in describing the FPCs. The results included as Figure 4.3 revealed that coconut and Jackfruit, each with a share of 10 per cent had the maximum coverage under individual crops dealt by FPCs. This was followed by vegetables and honey with respective share percentages of eight and seven. The analysis revealed the presence of products from honey, coconut, cocoa, rice, mushroom, vegetables, fruits (Jack fruit, banana), spices, and orchids as the lead products dealt through FPCS as reported in Table 4.2. The table also included information about the subsidiary products dealt by the FPCs.

It could be observed from the results in Table 4.2 that coconut oil was the lead product in majority of the FPCs that accounted for 23.33 per cent. This could be explained in terms of popularity of coconut both as a homestead crop and monocrop in the state. In fact, Kerala led in terms of area (760946.63 ha) and production (5,384 million nuts) of coconut in the country and is a part of socio-economic and culture of the state (APEDA, 2018). This implied that there was assured supply of raw materials

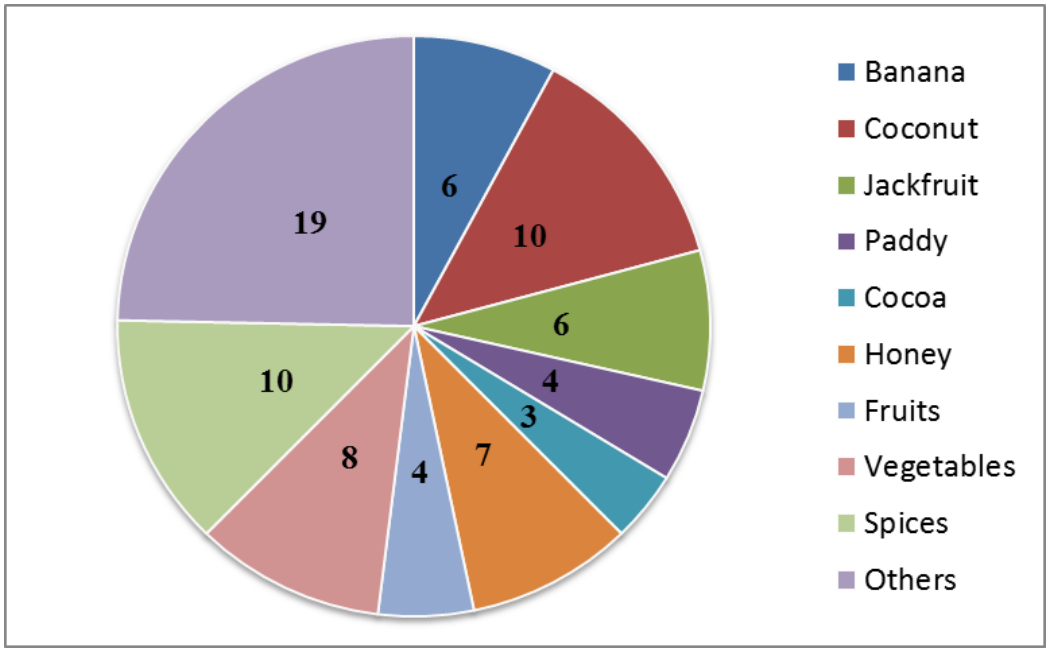


Figure. 4.3. Percentage share of major crops and commodities handled by FPCs (N=30)

for the enterprises based on coconut in the state. Moreover, coconut products has gained credentials as eco-friendly, safe to health products amidst the gaining popularity of concepts related to green economy and health consciousness in the society as reported by Shilpa (2021). This reflected in coconut oil emerging as the major product for majority of FPCs in the state. This also confirmed the results of crop wise evaluation that showed coconut as the major crop covered by FPCs in this study.

The results from the table also revealed that there were 16.67 per cent FPCs that dealt with Jackfruit products in the state. This made jackfruit products the second major product covered by FPCs. It could be the result of large-scale availability, organic quality and cheap prices of fresh fruits. Also, new technologies have improved the versatility of value-added products from it and the growing awareness about jackfruit as a fibre-rich carbohydrate substitute for diabetic patients has made the products a hit in the markets (Mittal *et al*., 2018). Banana, rice vegetable, honey and cocoa products also served as lead products for 13.33, 10.0 and 6.67 per cent each FPCs respectively

Table 4.2. The major and subsidiary products of FPCs in Kerala

Sl. No.	Name of FPC	Lead product/s (%)	Subsidiary products
1.	Tulunadu Ecogreen FPC	Honey (6.67)	Ecogold cream, seeds
2.	Karshakajyoti		Coconut oil, Chilly powder, Corriander powder, Local rice, Rubber sheet, scrap
3.	Gramalakshmi	Coconut oil (23.33)	Chilly powder, Turmeric powder, Pepper, curry powder, Rubber
4.	Thodupuzha		Rubber, Coco, Cattle feed and Supermarket
5.	Tejaswani		Soap, Curry powder
6.	Niravu		Vegetables, Rice, fruits, Honey, Jaggery, Bamboo rice, Dairy, Seedlings
7.	Maranchery		Fertilizers, Coconut seedlings, Seedlings, Equipmnets, Nursery Items
8.	Thrissur		Sesame oil, branded rice, banana and tapioca chips and bakery
9.	Odanadu		Coconut seedlings, Micro nutrient mixture, Turmeric powder, Coirpith block, cowdung powder,
10.	North Malabar	Cocoa products (6.67)	Vegetable cutlet, Banana
11.	HOPCL		Spices, Pepper, Cardamom, Nutmeg
12.	WAMPCO	Rice products (10)	Honey, Banana, Pickle
13.	Palakkad		Coconut oil, Rice flakes, Honey, Curry powders, Vegetables
14.	Mayyil		Dried pulses, coconut oil, *puttupodi*, *pathiripodi*
15.	Edakkara	Mushroom (3.33)	Poultry, Goat Villages
16.	Loga	Vegetables (6.67)	Fruits, Spices
17.	Pallaruvy		Seedlings, Fertilizers
18.	Polima	Jackfruit products (16.67)	Pickle, chutney powder, jack in honey
19.	Neeloor		Tapioca chips, dried, Dammer honey
20.	Kanjirappaly		Vegetables, dried tapioca
21.	Preeminent		Spices
22.	Panasa		
23.	Kadali	Banana products (13.33)	-Vegetables, Tubers
24.	Pananchery		
25.	Kothamanagalam		Dired meat, Coconut oil, *Puttupodi*, *Appam* podi, Dried tapioca, Honey,
26.	Wayfarm		Dairy, Egg, Mushroom, Spices and Curry powders
27.	Srikrishnapuram	Cattle Feed (3.33)	Agri-inputs, equipments
28.	Green Vivo	Spices (6.67)	Agrl Chemicals
29.	Onattukkara		Turmeric powder, Pepper, Ginger seed, turmeric seed
30.	Green Orchid	Orchid plants (3.33)	Banana peel powder, Pots, Seedlings, plants

4.1.3. Composition of Board of Directors (BoD)

The Board of Directors of FPCs served as the governance body engaged with the managerial functions of the company. Decisions regarding legal framework of operations, finance, vision and mission of the company remained their responsibility. Also, the BoD was in charge for the appointment of CEOs of the company, and reporting to the shareholders about the progress of the company. Compared to private limited companies, FPCs had to keep the democratic firm wire unhinged. This also gave BoD the additional duty of coordinating the shareholders and their opinions as well as smooth conduct of the annual general body. Further to avoid nepotism, blood relatives were not included in the BoD. The composition of BoD of the selected FPCs categorised on the basis of gender has been depicted in Table 4.3.

Table 4.3. Gender ratio of BoD composition

Sl. No	Gender composition (no.)	
	Male	Female
1	200	46
Gender Ratio 100:23 (1:0.23)		

The results indicated the gender ratio represented by the ratio between the number of male and female members in the FPC BoD at the time of survey. Gender ratio of 100:23 suggested low representation of women in the boards. It revealed that there were only 23 women members for every 100 men present in the FPC Board of Directors in the state. The skewed gender ratio against women in the FPC DoB could be considered a reflection of the general invisibility of women in Indian agriculture as reported by Pachauri (2019). However, the most significant inference that could be derived from the results was that even in Kerala, which is ranked best on many gender parameters is no exception in the case of balanced gender representation in BoD of FPCs. This critical issue needed redressal by granting property rights and tenure security of farm lands to women which warranted better gender friendly policies that could address the prevailing gender gap effectively.

A more detailed evaluation of the variable with respect to the gender composition of BoD of FPCs is presented in Table 4.4. The results indicated extreme variations in the gender composition among the BoD of FPCs. There were FPCs having

Table 4.4. Composition of Board of Directors of FPCs (N=30)

Sl. No	Name of FPC	Male (no.)	Per cent	Female (no.)	Per cent	Total
1.	Tulunad	13	86.67	2	13.33	15
2.	Gramalaksmi	9	81.82	2	18.18	11
3.	Mayyil	10	90.91	1	9.09	11
4.	Tejaswani	15	100.00	0	0.00	15
5.	WAMPCO	4	80.00	1	20.00	5
6.	Loga	0	0.00	5	100.00	5
7.	WAYFARM	9	81.82	2	18.18	11
8.	Niravu	7	87.50	1	12.50	8
9.	North Malabar	4	80.00	1	20.00	5
10.	Edakkara	0	0.00	10	100.00	10
11.	Maranchery	5	100.00	0	0.00	5
12.	Srikrishnapuram	10	90.91	1	9.09	11
13.	Polima	4	80.00	1	20.00	5
14.	Palakkad	4	80.00	1	20.00	5
15.	Pananchery	10	90.91	1	9.09	11
16.	Thrissur	15	100.00	0	0.00	15
17.	Kothamangalam	5	83.33	1	16.67	6
18.	HOPCL	6	85.71	1	14.29	7
19.	Green vivo	9	81.82	2	18.18	11
20.	Thodupuzha	5	83.33	1	16.67	6
21.	Neeloor	10	100.00	0	0.00	10
22.	Kanjirappaly	5	100.00	0	0.00	5
23.	Onatttukkara	3	42.86	4	57.14	7
24.	Odanadu	4	80.00	1	20.00	5
25.	Karshakajyothi	5	100.00	0	0.00	5
26.	Preeminent	4	80.00	1	20.00	5
27.	Green orchid	3	60.00	2	40.00	5
28.	Pallaruvy	4	80.00	1	20.00	5
29.	Kadali	11	100.00	0	0.00	11
30.	Panasa	7	70.00	3	30.00	10
	Total	**200**		**46**		**246**

100 per cent male members and also FPCs with cent per cent female representation in the Director Board. However, on an average the per cent of female membership in the boards was less than 20 per cent. This needed to be viewed against the concerted efforts envisaged in all government policies for equal participation of women and called for a better understanding of women's interests and the prevalent gender relations. However, mostly the issue remained entrenched with the existing social power structures and related imbalances in the ownership and control over resources as reported by Godbole (2002).

4.1.4. Staff pattern

Each FPC formed with the share capital of members from a regional community was expected to generate employment opportunities for the community especially the youth as well as others of that region. The study observed that in many FPCs, the shareholders themselves served as the honorary staffs for most of the time. However, there were also FPCs that recruited paid staffs for carrying out the daily activities. The data regarding the number of paid and honorary staffs employed by the selected FPCs were collected and reported in Table 4.5

The results from the table showed that the number of staff employed by an FPC ranged from 01 to 86. The central tendency measure of mode of both paid staff and honorary staff was found to be two. This indicated that majority of FPCs had two paid or honorary staff. A comparison of paid and honorary staff based on percentage (Figure 4.4.) found that overall, the FPCs relied more on honorary staff (64.44 %) for its functioning than on paid staff (35.56%). The results suggested that currently the performance of PFCs relied mostly on local honorary leadership and as such it was important to create policy environment that attracted people with leadership skills into FPC management.

Table 4.5. Staff pattern in FPCs (N=30)

Sl No	Name of FPC	Paid staff	Honorary staff	Total
1.	Tulunad	0	3	3
2.	Gramalaksmi	1	5	6
3.	Mayyil	0	7	7
4.	Tejaswani	2	2	4
5.	WAMPCO	2	0	2
6.	Loga	2	0	2
7.	WAYFARM	3	0	3
8.	Niravu	3	0	3
9.	North Malabar	2	0	2
10.	Edakkara	12	14	26
11.	Maranchery	0	3	3
12.	Srikrishnapuram	1	0	1
13.	Polima	1	2	3
14.	Palakkad	0	6	6
15.	Pananchery	3	2	5
16.	Thrissur	0	7	7
17.	Kothamangalam	15	0	15
18.	HOPCL	1	0	**1**
19.	Green vivo	6	5	11
20.	Thodupuzha	10	5	15
21.	Neeloor	6	80	**86**
22.	Kanjirappaly	0	5	5
23.	Onatttukkara	5	0	5
24.	Odanadu	0	5	5
25.	Karshakajyothi	1	0	1
26.	Preeminent	0	2	2
27.	Green orchid	1	1	2
28.	Pallaruvy	5	0	5
29.	Kadali	2	0	2
30.	Panasa	1	0	1

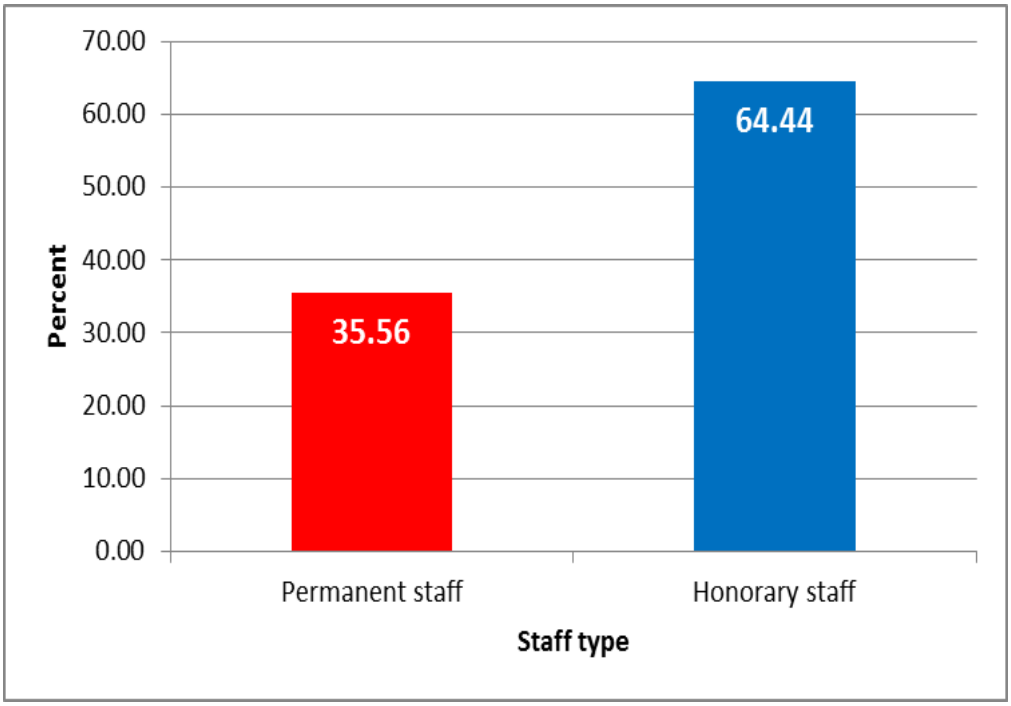


Figure 4.4. Percentage of permanent and honorary staff in FPCs

4.1.5. Types of CEO

The Producer Company Act clearly stated that every company should have a full time CEO appointed by the board, who served as an ex-officio Director. The qualification and eligibility were decided by the board and he was responsible for handling the day-to-day activities and financial transactions of the FPC. Each CEO was also entrusted with additional duties and responsibilities as decided by the board. Thus, the presence of a CEO with appropriate qualifications was essential for the FPCs to have efficient decisions on resource management and other functional dilemmas. The distribution of FPCs on the basis of the type of CEOs is shown in Table 4.6.

Table 4.6. Distribution of FPCs with part time and full time CEOs (N=30)

Sl No.	Type of CEO	Number of FPCs (%)
1.	Full time CEO	26 (86.67)
2.	Part time CEO	04(13.33)

The results from the table demonstrated that among the selected FPCs majority (86.67 %) had the services of a full time CEO. However, 13.33 per cent worked with part time CEOs which suggested that they did not devote their full time and resources

in the management of the FPC due to other commitments. The major reasons given by these firms who employed part-time CEOs were job migration and lack of business to pay the mandatory salary of twenty-five thousand rupees to the full time CEO. This indicated the need for enabling policies to bring professionalism in the form of trained experts into the management of FPCs. If this could not be achieved the very premise of treating agriculture as a business on which the FPC model was built would be forfeited.

4.1.6. Infrastructure facilities in FPCs

As organisations, FPCs required infrastructural backing to conduct their operations including, meetings, value addition, storage and other necessary functions. Many FPCs worked under constraints of land and investments in buildings and machineries. This was addressed by renting production units and warehouses to FPCs either from the POPI or other facilitating agencies. The distribution of FPCs on infrastructure ownership status is included as Table 4.7. A graphical representation of the result is also included as Figure 4.5.

Table 4.7. Distribution of FPCs based on ownership of infrastructure (N=30)

Sl. No.	Ownership status	Number of FPCs (%)
1	Owned	05 (16.67)
2	Rented	23 (76.67)
3	Both	02 (6.66)

It could be observed from the table that only 16.67 per cent of FPCs had owned infrastructure. Majority of FPCs (76.67 %) functioned on rented facilities and 6.66 per cent had both rented and owned infrastructure. The results were evaluated based on the research reports of Vedasri (2018) who studied the performance of FPCs. He found that poor infrastructural facilities affected the performance of the FPCs significantly. However, when the farmers were asked to prioritise the constraints, the problems pertaining to the ownership of infrastructure and related assets was ranked low as seventh out of the eight factors considered. This called for a more realistic prioritisation of constraints and a better transparent, professional management of infrastructure in FPCs.

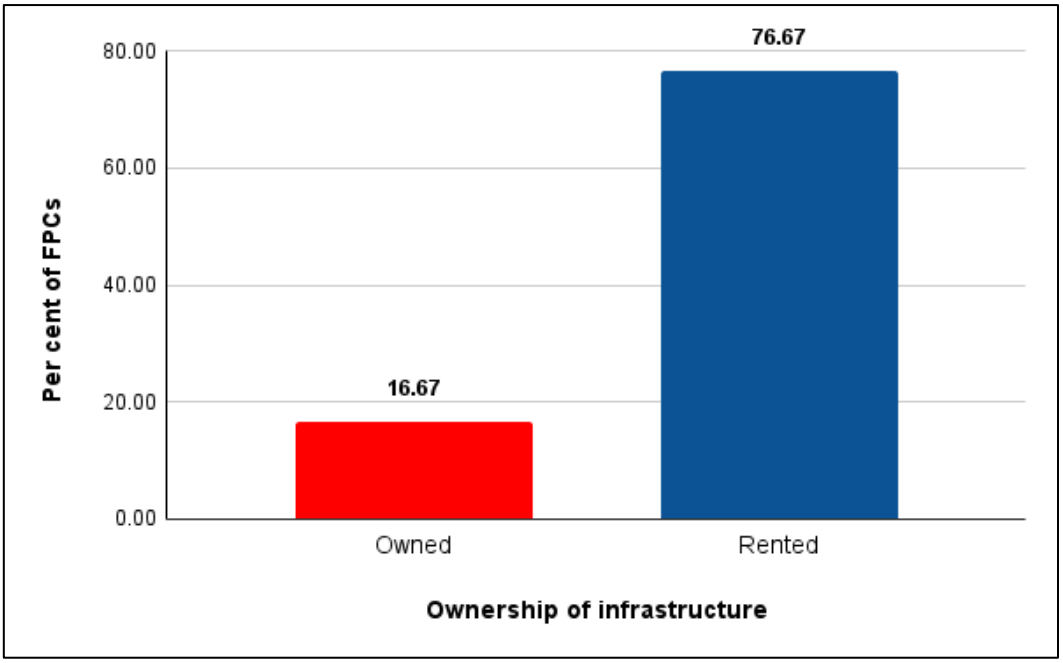


Figure 4.5. Ownership status of infrastructure among FPCs

4.1.7. Asset structure of FPCs

The asset structure of the selected FPCs was analysed on the basis of the ownership status of land, machinery and equipment possessed by it. An illustration of the asset position of the FPCs are presented as Figure 4.6. The most significant result revealed from the illustration was that there were only five FPCs that functioned on owned land and the extent of land owned ranged from 250 – 10 cents. Land was a critical determinant in the expansion of production and infrastructure of FPCs and as such needed strategic interventions to improve the ownership status. Pulper, boiler, pulverizer, expeller and dryer were the machineries commonly used in FPCs. It could be observed that most of the FPCs had machineries and equipment that enhanced their capacity for value addition. Moreover, there were equipment that were specific to certain FPCs which depended on the type of activities followed. The detailed observations made on asset entitlements was compiled and included as Appendix II

4.2. STRATEGIC FUNCTIONS OF FPCs

Major functions served by the FPCs could be categorised into back-end activities and front-end activities. The critical back-end activities included administration, legal compliance activities, farmer group mobilisation, procurement of

inputs and account keeping. However, the front-end activities were mostly related to the post production handling, facilitation of processing and value addition, product distribution and transportation and market strategies. The functional activities elucidated suggested the need to build a holistic business model for FPCs. An illustration of major activities taken up by FPCs at the respective ends is presented as Figure 4.7.

In fact, performance of FPCs critically depended on operational efficiency of these strategic functions which could be achieved through collaborations and partnerships with insurance companies, credit agencies, agri-tech companies, market intelligence firms etc. It could also be inferred from the results that integration of both professional competence in management and technological solutions in operations was essential for the success of FPCs. The results could find confirmation in the report of NABARD (2019) that called for the integration of digital monitoring and forging of risk mitigation measures as future strategies for scaling up of FPCs.

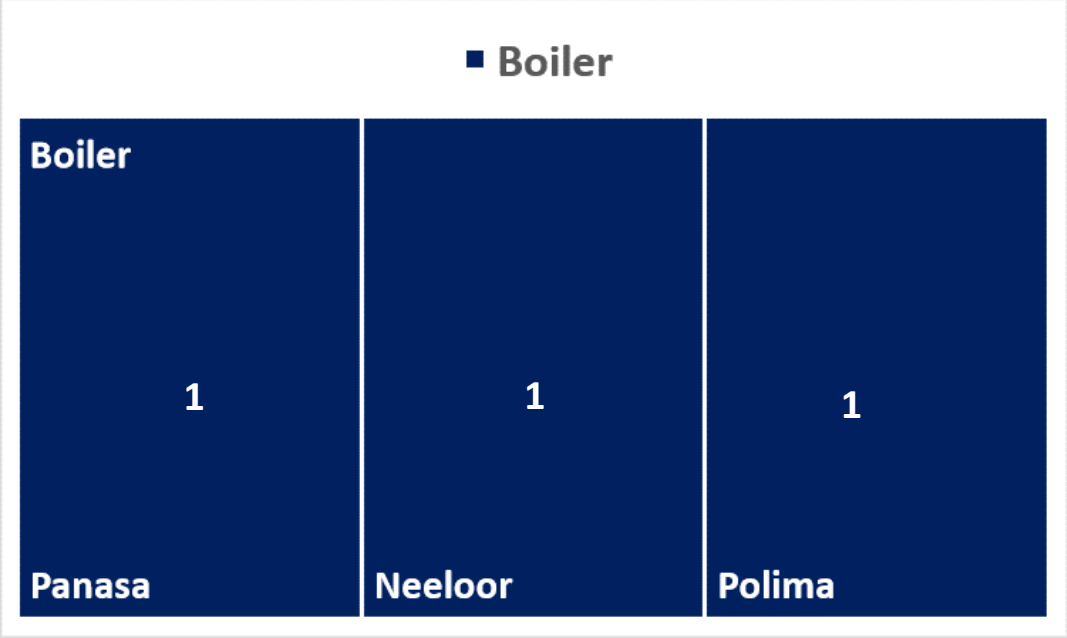


Figure 4.6.a Asset structure of FPCs based on land and machinery

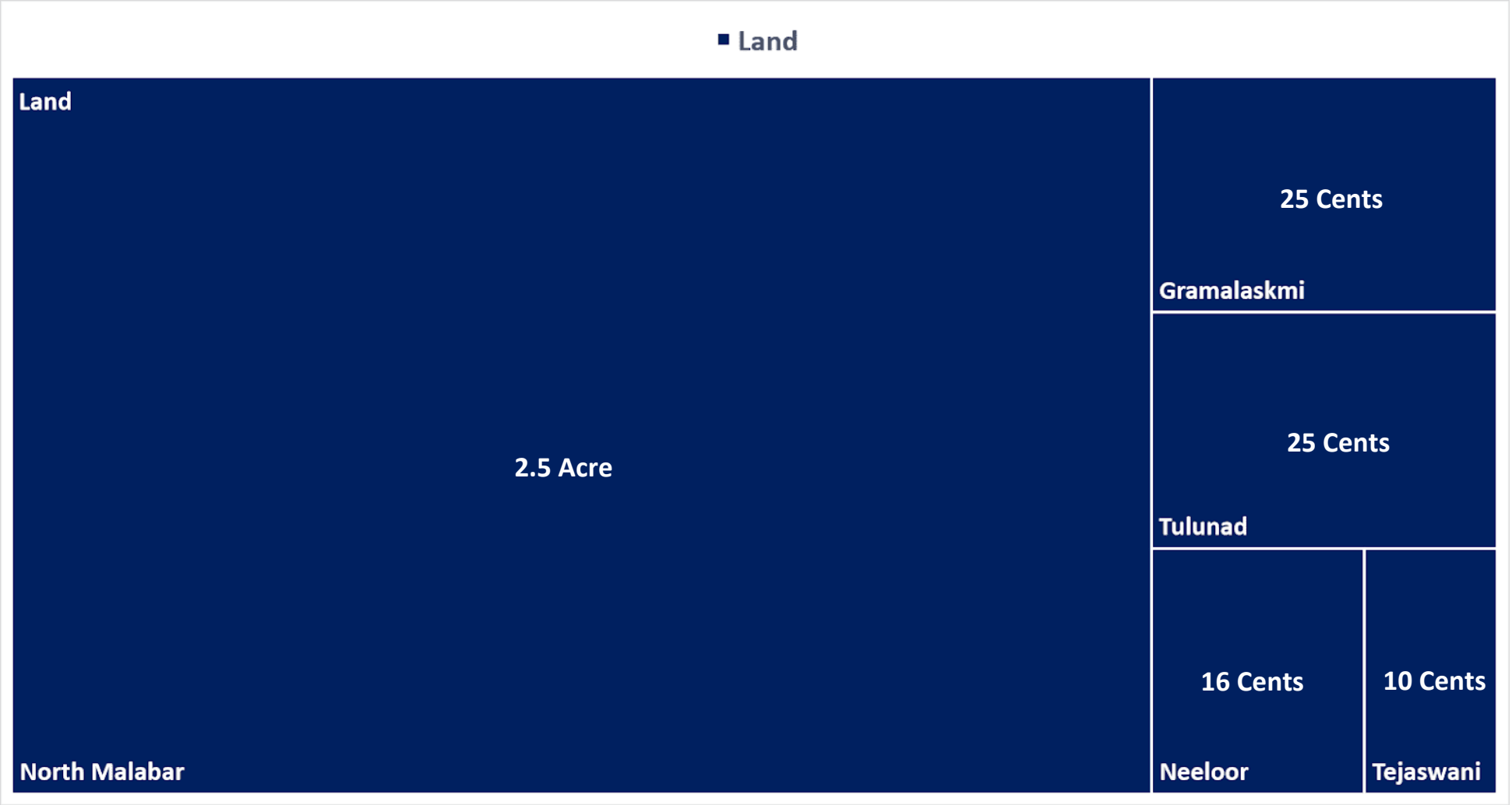


Figure 4.6.b Asset structure of FPCs based on land and machinery

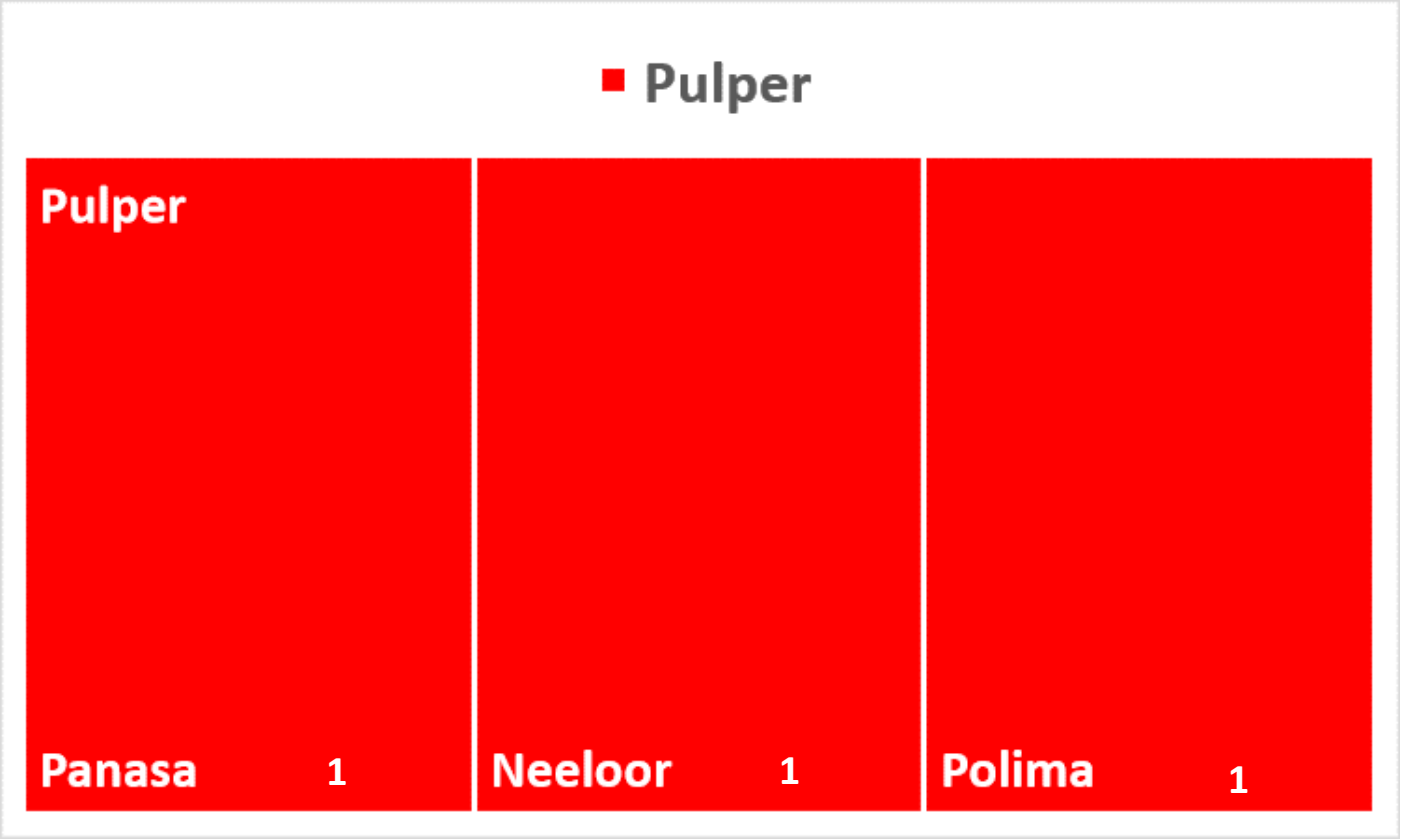


Figure 4.6.c Asset structure of FPCs based on land and machinery

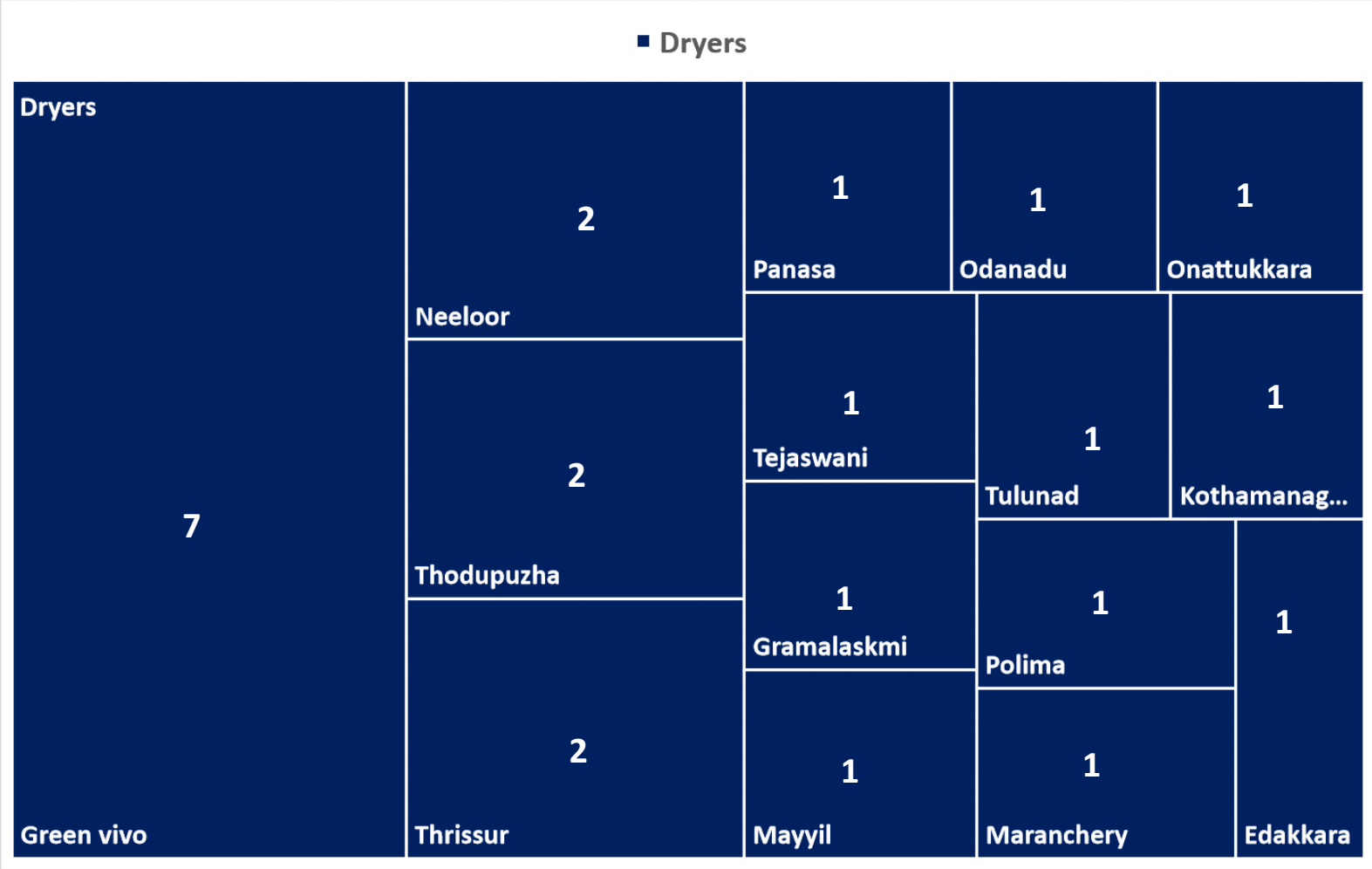


Figure 4.6.d Asset structure of FPCs based on land and machinery

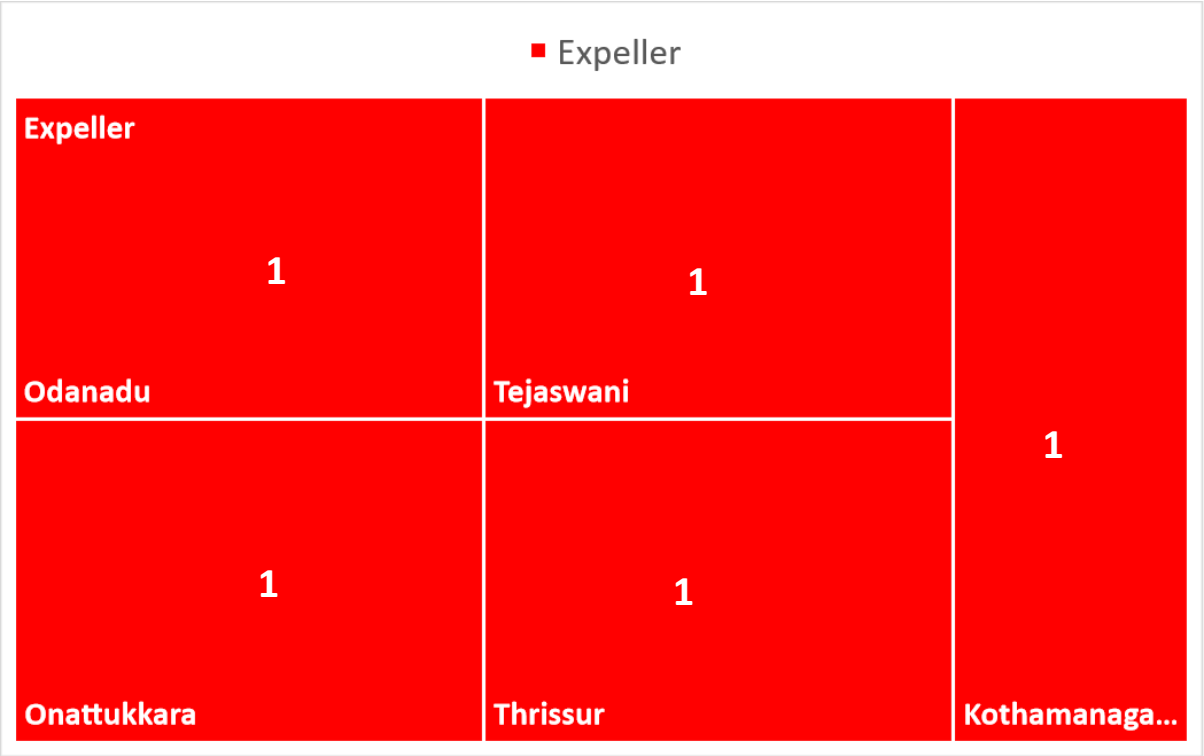


Figure 4.6.e Asset structure of FPCs based on land and machinery

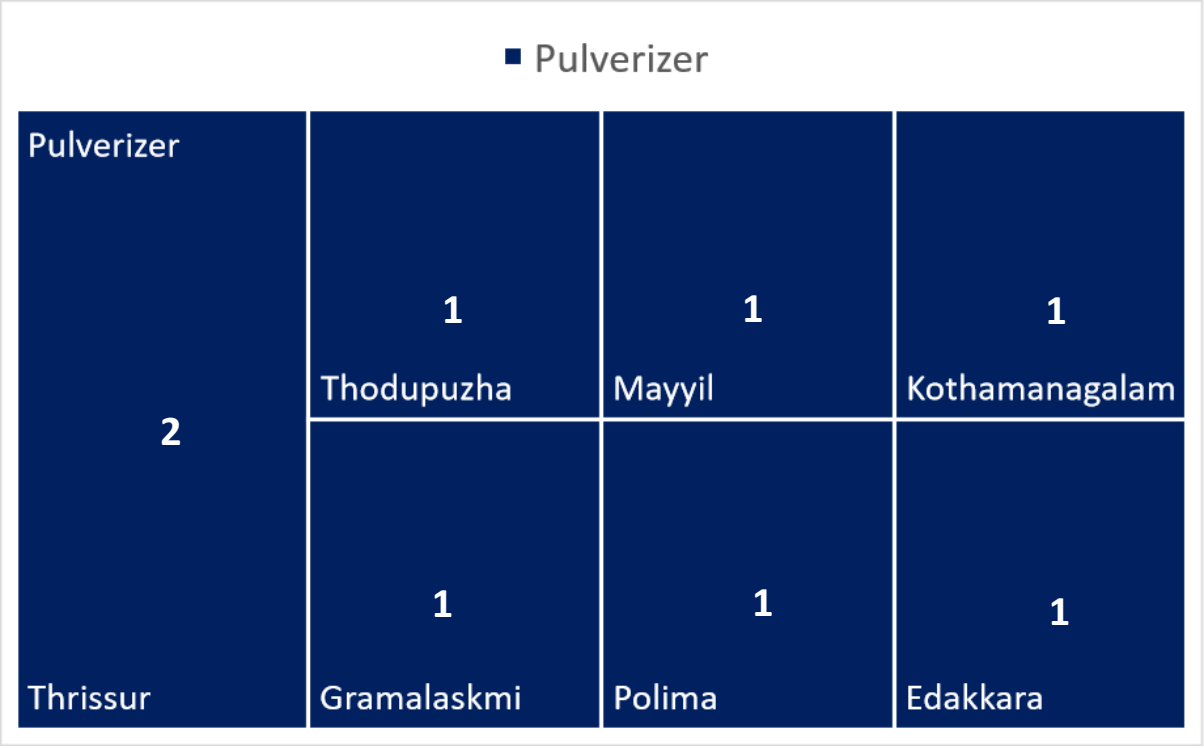


Figure 4.6.f Asset structure of FPCs based on land and machinery

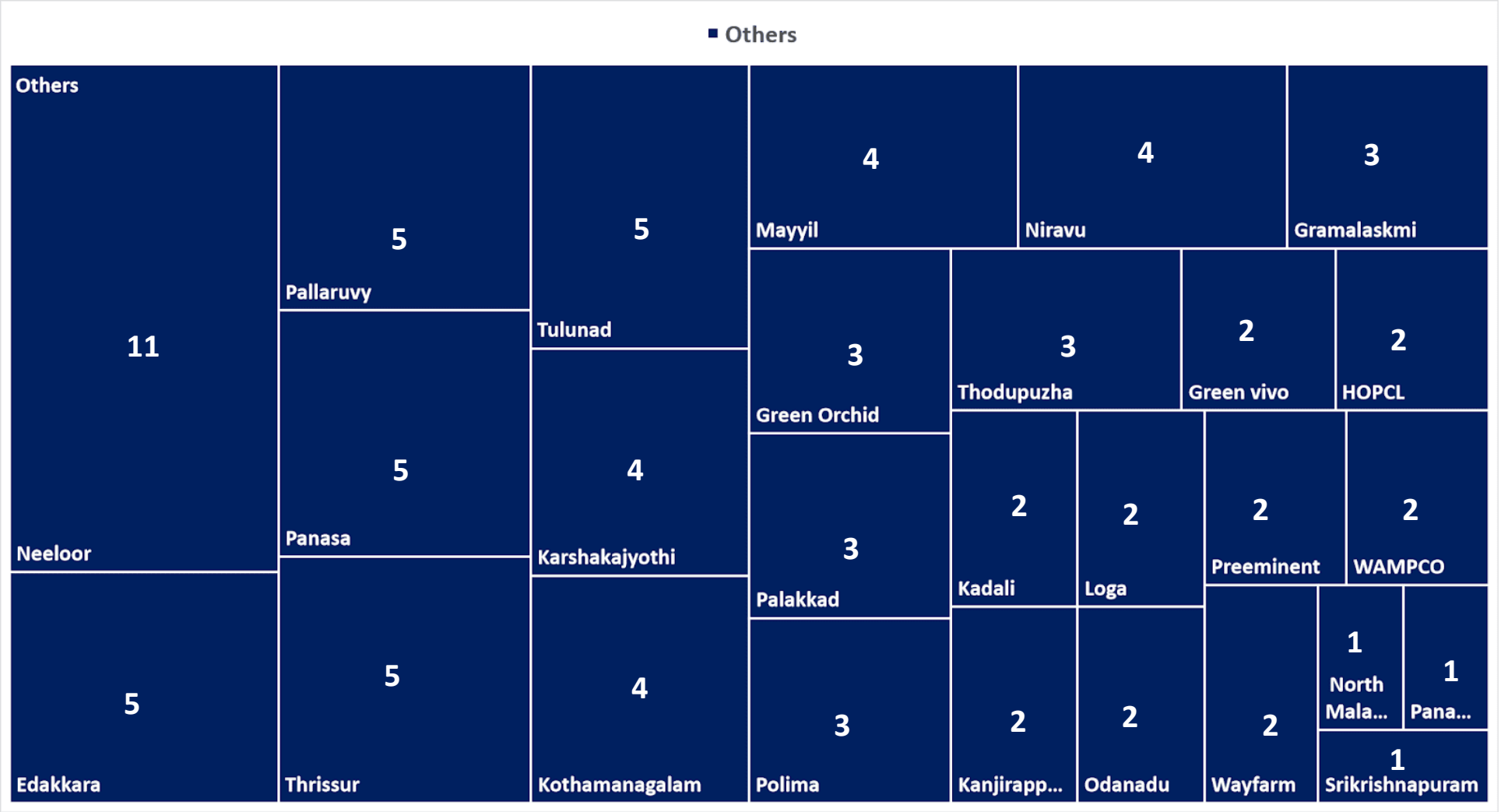


Figure 4.6.g Asset structure of FPCs based on land and machinery

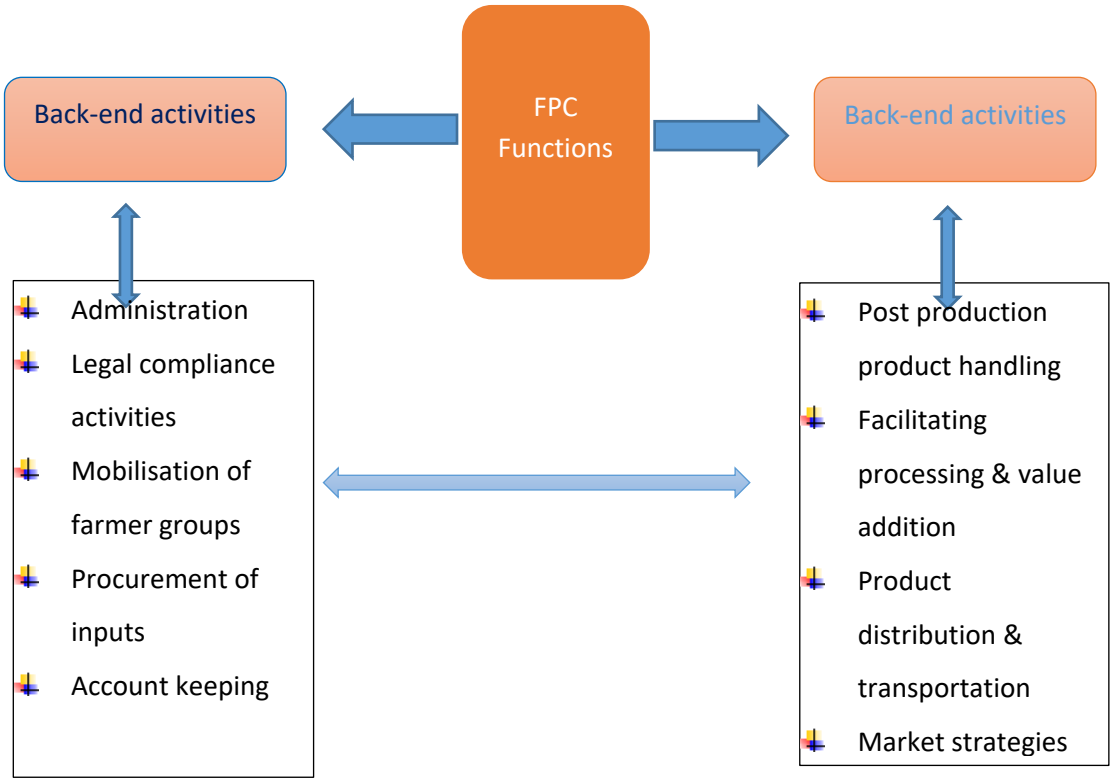


Figure 4.7. Critical functions of FPCs

4.3. MEASURES OF MANAGERIAL EFFICIENCY IN FPCs

Each FPC is unique in terms of crops, commodities, governance, pursued objectives and services offered. The management efficiency determined the organisational culture and future course of action of the firm. It was determined and measured in terms of variables such as regularity in the conduct of meetings, record keeping and auditing, business plan, delivery of services, procurement process, quality assurance and managerial competency of the CEO and the Board of Directors which are detailed in the following sub-heads.

4.3.1 Regularity in the conduct of meetings

Other than the annual general body meeting (AGM), it was imperative that the directorial board of FPCs meet to make critical contingency decisions for the effective function of the PC. The frequencies by which the directorial board met to discuss the functioning of FPCs were assessed. The data was classified on the basis of the interval of meetings, as weekly, monthly, yearly and others. From the classified data presented in Table 4. 8 it could be understood that 19 (63.33 %) of the selected FPCs had an

arrangement of monthly meetings of the directorial board. However, 8 FPCs (26.7 %) had contingent arrangements to meet once in three or four months, and there were two FPCs (6.7%) whose directorial board met only once in an year, prior to the AGM. But there was one FPC (3.33%) that had created arrangements for weekly meeting of the directorial board. Distribution of FPCs based on regularity in the conduct of meetings is given as Figure 4.8.

Table 4.8. Meeting intervals of FPCs (N=30)

SL No	Meeting interval	Frequency of FPCs
1.	Weekly	01 (3.3%)
2.	Monthly	19 (63.3%)
3.	Yearly	02 (6.7%)
4.	Others	08 (26.67%)

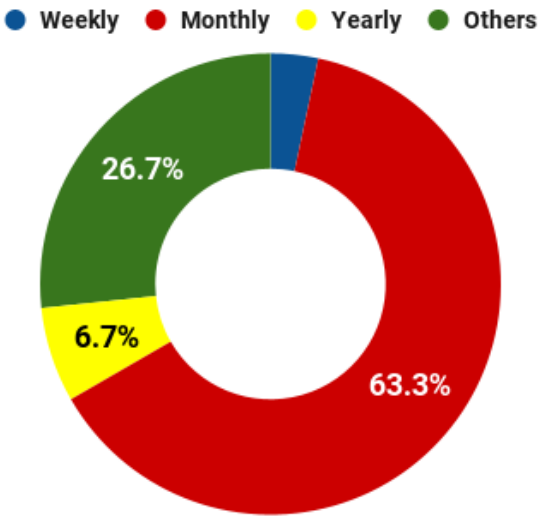


Figure 4. 8. Distribution of FPCs based on regularity in the conduct of meetings

4.3.2. Record keeping and auditing

Recording the transactions of FPCs helped to track the accounts and other transactions involved. This also enabled to bring transparency in the business processes of FPCs which formed the cardinal principle on which all social institutions were build.

As per the section 581ZE of the Producer Company Act all the FPCs had to keep books of account with respect to the following:

(a) Income and expenditure and the matters with the receipts and expenditure

(b) Sales and purchase of goods

(c) The instruments of liability executed by or on behalf of the company

(d) The assets and liabilities of the company

(e) Stock register including the particulars relating to utilisation of materials/labour /other costs

(f) Balance sheet

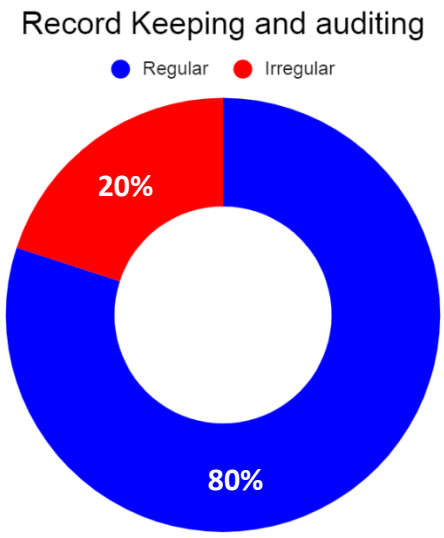


Figure 4.9. Distribution of FPCs based on regularity of record keeping and auditing

The practice of record keeping and the regularity of the same were assessed in the study based on the listed factors. The results of the analysis presented in Table 4.9 and Figure 4.9 indicated that 24 companies (80%) regularly kept their records and only six (20%) were not regular in the maintenance of all the records. The results were in conformity with the findings of Musah and Ibrahim (2014) who found a weak but positive correlation between record keeping and business performance in small and medium enterprises. Unlike record keeping, auditing was mandatory and failure for furnishing the annual audited report timely was met with a fine. Hence, all the FPCs

strictly complied to the annual audit requirements and as such no variability was observed among the FPCs.

Table 4.9. Distribution of FPCs based on regularity of records and audits (N=30)

Sl. No	Regularity	Number of FPCs (%)
1	Regular	24 (80%)
2	Irregular	6 (20%)

4.3.3. Business plan

Business plan served as a document of the plan of action. It helped to give a sense of direction to the FPCs in its drive to the envisioned goals. According to Koh and In-Kon (2011) the components of the business plan were the factors that determined actual performance and as such it provided an idea about what the FPC should do to reach the objectives. The results on the distribution of FPCs based on business plan is presented as Figure 4.10. According to the results it was clear that 27 organisations which accounted for 90 per cent of FPCs studied worked with a predetermined business plan. However, the presence of a business plan alone could not be taken as a guarantee for performance efficiency as reported by Radhika *et al*., 2020. This was because many FPCs prepared business plans for the sake of mandatory requirements and it mostly remained an account of intention rather than a tool for direction. Therefore, effective modes of integration of viable business plans for production, trading and services of FPCs with SMART objectives need to be evolved.

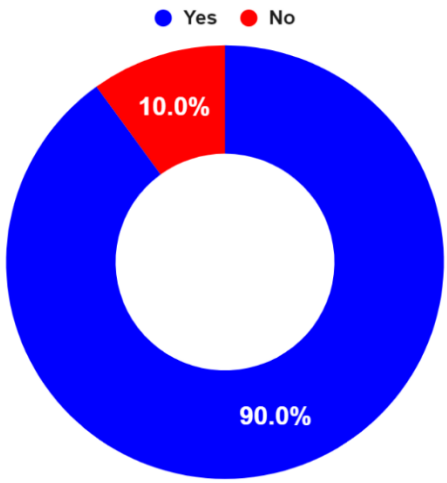


Figure 4.10. Distribution of FPCs based on business plan

4.3.4. Services delivered by FPCs

Apart from ensuring market for the commodities produced by the members, FPCs offered other relevant services that improved the profits and the agribusiness prospects that was deemed important from the point of view of the company. These services included input supply, insurance, credit, procurement and packaging, training and extension, marketing, as well as technology backstopping. Services including value addition were provided as per the mandate and products handled by the company. The services offered by the selected companies are furnished in Table 4 .10

Table 4.10. Distribution of FPCs based on services provided (N=30)

Sl. No.	Services	Per cent of FPCs involved (No)
1	Input supply	73.33 (22)
2	Procurement and packaging	76.67 (23)
3	Training and Extension	86.67 (26)
4	Credit	23.33 (07)
5	Insurance	0.033 (01)
6	Marketing	96.67 (29)
7	Technical	93.33 (28)

According to the results, marketing which was undertaken by 96.67 per cent companies was the most common service provided by the FPCs. This suggested that the shareholders depended on FPCs mostly for effective marketing of their produce which was not possible at the individual level. Bett *et al.,* (2009) also reached similar conclusions when they evaluated the services provided by FPCs in the dairy production systems of Kenya. It could also be inferred from the results that the FPCs were not able to provide essential services such as insurance and credit to the desired extent. The results indicated that the percentage of FPCs involved in insurance and credit services were as low as 0.033 and 23.33 per cent respectively. The findings were in confirmation with the results outlined by Ajith (2018) from his study on the FPCs of Idukki district. The possible reasons for the limitations in providing these professional services could be attributed to the low volume of business transactions, low profits, liabilities and other investments faced by the units which needs redressal.

4.3.5. Procurement process

FPCs collect the produce from the shareholders for either collective marketing or value addition. This process of procurement was done through pre-designated places of procurement, either at market rate or slightly higher prices as decided by the BoDs of each FPC. There were different modes of procurement followed by different FPCs. Generally, farmers brought their produce to the FPCs, through the designated collection centres operated by FPCs. This procurement was part of the main service offered by FPCs and helped members to avoid the transaction costs involved, if done individually. The mode of procurement based on the place and related data were documented, analysed and presented in Table 4.11 and Figure 4.11.

Table 4.11. Modes of procurement followed in FPCs (N=30)

Sl No	Mode of procurement	Number of FPCs (%)
1	Farm gate	11 (36.67%)
2	Designated off site	03 (10%)
3	On site	27 (90%)
4	Company vehicle	05 (16.67%)

Results furnished in the table and the figure revealed that most of the FPCs (90 %) had an arrangement for onsite procurement where the producers brought their produce directly to the company site. However, as many as 36.67 per cent of FPCs depended on farm gate collection for procurement which aided in the reduction of transportation costs. But a few, which was as low as 16.67 and 10 per cent used hired company vehicles and designated off site collection centres respectively to collect the produce. The use of off-site collection centres aided in reducing the costs and distance for the producers.

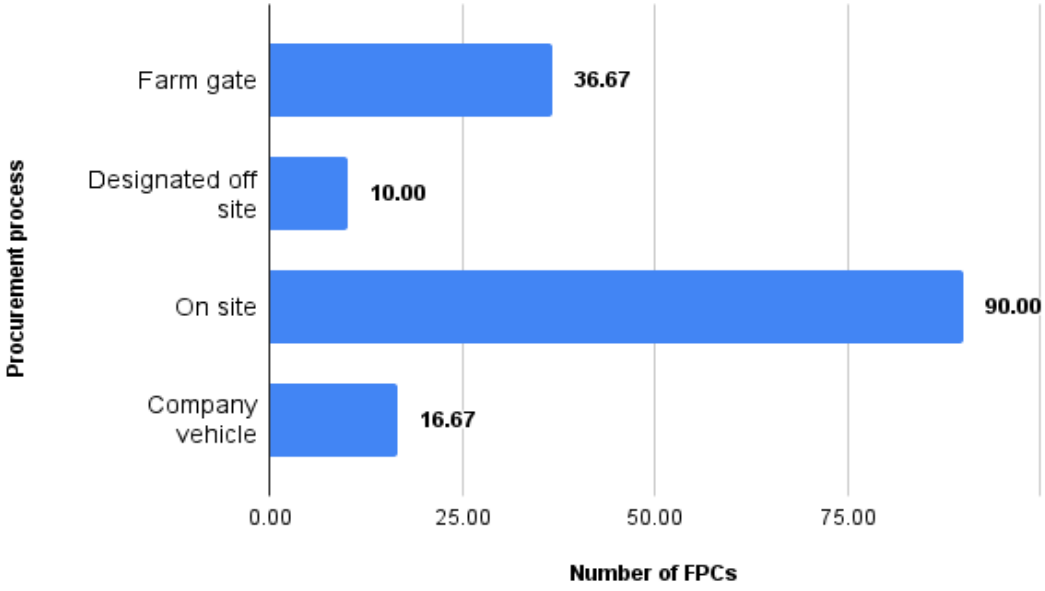


Figure 4.11. Distribution of FPCs based on procurement process (N=30)

4.3.6. Quality assurance

Quality assurance of the products and commodities marketed through FPCs brought more price share to the producer. It was instrumental in creating consumer confidence with respect to the safety and quality of the products marketed by FPCs. Petrovic *et al.,* (2017) reported an increase in sales and economic development of the producer organizations as a result of the quality assurance practices followed. All FPCs involved in the production of value-added products had the FSSAI license which was a mandatory requirement. Hence, quality assurance techniques followed by the FPCs were analyzed using the checklist of FSSAI, which was slightly modified for the purpose of the study.

The results were based on the steps followed by FPCs to maintain the quality assurance and are shown in Figure 4.12 and Table 4.12. It could be observed from the results that only seven FPCs (23.33 %) procured the produce from authorized sources. The majority (63.33 %) of FPCs did not follow any such standards. However, there were a few FPCs that accounted for 13.34 per cent which dealt with products and produces in which authorized source procurement was not applicable for quality maintenance. It was reported that fresh appearance was strictly followed as a criterion for the quality of the product in 90 per cent of FPCs.

Table 4.12. Summated responses of quality assurance parameters (N=30)

Sl No	Quality parameters	Summated responses*		
		Yes	No	NA
1	Whether procured from authorized/ certified sources	07 (23.33)	19 (63.33)	04 (13.34)
2	Fresh appearance (intact, without bruises/spots, patches, shrivelled etc.)	27 (90.0)	0	03 (10.0)
3	Products are free from any physical impurities (dirt, dust, stones, wood, infestations, pest or their remains, metal pieces or any foreign matter)	26 (86.67)	01 (3.33)	03 (10.0)
4	Processing/cooking is done in clean and hygienic areas	16 (53.33)	01 (3.33)	13 (43.33)
5	Clean equipments and utensils are used for cooking/processing	17 (56.67)	0	13 (43.33)
6	Processing of food/handling/serving is done in covered areas	18 (60.00)	0	12 (40.00)
7	Potable water used in the food processing/washing	17 (56.67)	0	13 (43.33)
8	All products are stored covered in clean and intact containers/packs	20 (66.67)	01 (3.33)	09 (30.00)
9	Packaging and pack seals are air/vacuum intact	07 (23.33)	08 (26.67)	15 (50.00)
	Mean	**17.22**	**3.33**	**9.44**

However, there was 10 per cent of FPCs that did not comply with any of the parameters. Similarly, the absence of physical impurities was considered a quality assurance criterion by a majority of 26 FPCs (86.67 %). They took measures to detect impurities and ensured that the products were free from physical impurities. Even this criterion was not applicable to FPCs like Pananchery and Srikrishnapuram which primarily dealt with input supply and bulk marketing of produce. However, there were 3.33 per cent of FPCs that failed to follow the standards even though they were involved in processing and value addition. The results also indicated that more than 60 per cent of FPCs carried out processing activities in covered areas and stored products in clean and intact containers. Moreover, more than 50 per cent FPCs adhered to prescriptions related to the use clean utensils, use of clean and hygienic areas for cooking, and use of portable water. On average 17 companies followed all the quality assurance steps mentioned and three of them did not comply any. There were 10 companies where quality assurance guidelines of FSSAI were not applicable which suggests separate guidelines based on product specifications needed to be evolved for strict compliance in all cases.

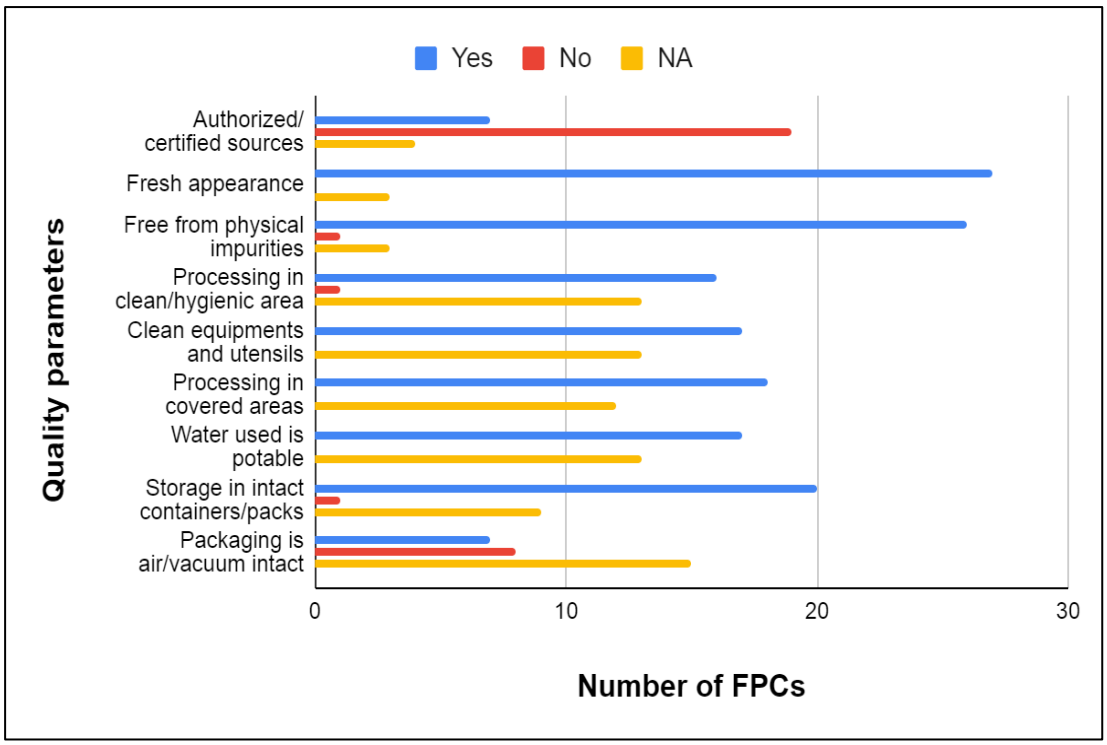


Figure 4.12. Distribution of FPCs based on quality assurance parameters (N=30)

4.3.7. Participation in Capacity building programmes by FPCs

In order to enhance the production potential functions, management and effectiveness of service delivery, various organisations offered trainings and other capacity building programmes for the FPCs in the state. The major agencies involved with these activities included NABARD, state SFAC, APEDA, central SFAC and other related institutions. However, during 2020-21, due to the pandemic restrictions, number of offline trainings were drastically reduced and the trainings were mostly organised online. But the nation-wide lock downs further restricted the online trainings to the managers as evident from Table 4.13 and Figure 4.13.

Table 4.13. Training participation of FPCs stakeholders (2020 - 21)

Category	Directors	CEOs	Shareholders
Mean participation	03	04	01

It could be inferred from the table that the shareholders received comparatively lower number of trainings in relation to the board members and CEOs. The graph

revealed that there was 80 per cent participation of the managers in trainings. The difference was observed to have impacted the training gap among the shareholder community. The inference was in confirmation of the results of Ghosh *et al.,* (2013) from the study of the impact of farmer trainings in Odisha. They proposed that farmers who had undergone trainings had a positive attitude to the use of modern technology. Later, Vedasri (2018) also noted that management trainings given to FPO board members and CEOs had positive effect on their performance. It was observed to contribute towards the creation of stronger leadership with better abilities to interact and build business networks with other organisations and service providers.

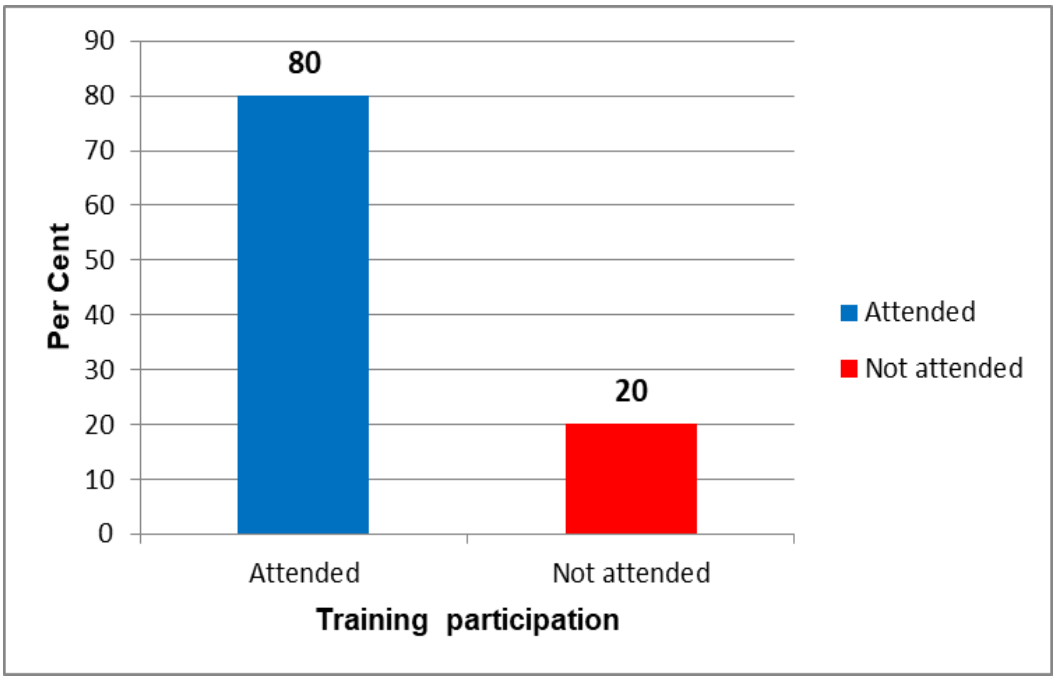


Figure 4.13. Participation of FPC Board members and CEOs in training (2020-21)

A comparison of the number of trainings attended by the FPC management and shareholders during 2020-21 is presented in Table 4.14. It is quite evident from the table that there were 20 per cent of the FPCs that did not receive any trainings in any category. Further, it could also be observed that the training beneficiaries were categorically minimum in the shareholder group. This could be attributed to the skill and infrastructure availability among the managerial category required for the prevalent online training compared to shareholder farmers.

Table 4.14. Trainings received by FPCs stakeholders during 2020-21

Sl No	Name of FPC	Number of trainings attended		
		Directors	CEOs	Shareholders
1.	Tulunad	10	10	4
2.	Gramalaksmi	20	20	9
3.	Mayyil	5	4	3
4.	Tejaswani	5	5	3
5.	WAMPCO	3	0	0
6.	Loga	0	0	0
7.	WAYFARM	5	5	5
8.	Niravu	5	5	1
9.	North Malabar	0	0	0
10.	Edakkara	5	6	0
11.	Maranchery	0	0	0
12.	Srikrishnapuram	1	0	0
13.	Polima	0	1	0
14.	Palakkad	4	4	3
15.	Pananchery	2	3	0
16.	Thrissur	0	0	0
17.	Kothamangalam	3	3	0
18.	HOPCL	3	3	0
19.	Green vivo	0	6	0
20.	Thodupuzha	1	0	0
21.	Neeloor	8	8	0
22.	Kanjirappaly	1	0	0
23.	Onatttukkara	0	0	0
24.	Odanadu	7	7	7
25.	Karshakajyothi	0	3	0
26.	Preeminent	4	4	1
27.	Green orchid	0	0	0
28.	Pallaruvy	4	4	0
29.	Kadali	0	0	2
30.	Panasa	5	5	5

4.3.8. Perceived market gains

The gains received while marketing the produces through FPCs as perceived by the shareholders was assessed as a determinant of management efficiency. The perceived market gains scores were categorised into low, medium and high levels of perception based on mean and standard Deviation as presented in Table 4.15. Also, the frequency and percentage of the shareholders under each category was also included in the table.

The results from the table revealed that majority of the respondents (54.76%) felt that a medium level of market gains was obtained when marketing was done through the FPCs and 23.81 per cent felt only low level of market gains. However, there were 21.43 per cent of the shareholders who felt a higher market gain under FPCs. This was because they perceived better price realisation could be achieved when marketed through FPC due to the reduced transaction costs involved.

Table 4.15. Distribution of FPC shareholders based on perceived market gain scores (N=126)

Perceived market gain score	Distribution of shareholders (%)	Category
Upto 12	30 (23.81)	Low (<Q1)
Between 12-14	69 (54.76)	Medium (Q1-Q3)
Above 14	27 (21.43)	High (>Q3)
Q1=12, Q3=14, Range=2		

Further, the ease of marketing through FPCs was also contributed to this. The results obtained by the previous works of Parthiban *et al.,* (2015) also suggested that FPCs helped to reduce the transactional costs involved in marketing and helped achieve better benefits from the market. However, the grievance of not able to market their entire surplus through the FPCs in which they were shareholders might have brought the majority of perception into the medium level. Graphical comparison of the results is given in Figure 4.14.

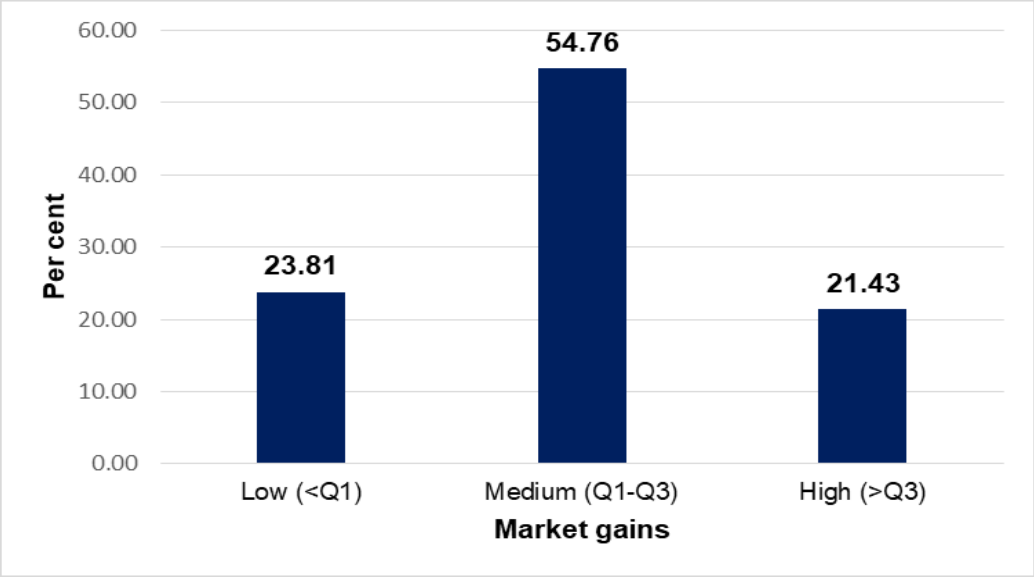


Figure 4.14. Perception of market gains by FPC shareholders

4.3.9. Managerial competency

Managerial competency (MC) is considered important in the functions of FPCs and remained linked with competence of the management team. Strategic thinking and learning, motivating and leading, business acumen and building collaborations and communication skills were the indicators used in the measurement of managerial competency. It essentially consisted of the competencies related to the Board of Directors and CEOs of the FPCs. In the study it was measured in term of six components namely leadership skills, resource management, human resource management, programme implementation and monitoring, professional development practices and community collaboration. The average score of management competency dimensions was computed to find out the overall managerial competency score. The mean score for selected dimensions of managerial competency derived from the study is given as Table 4.16.

The results from the table indicated that leadership was the most important component of managerial competency with dimensional score of 20 compared to all other dimensions. This was followed by program monitoring (9) professional development practices (9) and community collaboration (9) in that order. The distribution of FPCs on basis of managerial competency is presented as Figure 4.15. The FPCs were also arranged in the descending order of the managerial competency

scores obtained by the respective FPCs as given in Table 4.17. It could be observed from the results that the board of Thrissur Paddy FPCs had better managerial competency compared to all other FPCs studied. It was followed by Mayyil and Wayfarm FPCs, while boards of Maranchery FPC and Kanjirappaly FPC exhibited fairly poor managerial competency. The turnover of these firms the results seem appropriate.

Table 4.16. Score of managerial competency dimensions (N=90)

Sl. No	Dimensions of MC	Median	S.D
1	Leadership	20	3.53
2	Resource Management	6	1.03
3	HRM	6	1.25
4	Program Monitoring	9	1.62
5	Professional Development Practices	9	1.96
6	Community Collaboration	9	1.86
	Overall Managerial Competency score	57.5	9.81

The results also indicated that the firms with higher managerial competencies followed a participatory and open style of management where the legal obligations were well fulfilled and resource allocation was efficient. Also, the community services and identification of new business opportunities were continuously rated using modern technology available in these organisations. The results showed conceptual conformity with the research findings of Wijianto (2010) and Bahua (2018) in which positive relationship between competencies of agricultural extension agents, farmer participation and agribusiness have been explained on the basis of ability to design, implement and manage agribusiness programmes.

Table 4.17. Distribution of FPC board members on basis of Managerial Competency

Sl No	Name of FPCs	Dimensional averages of MC						Overall MC
		C1	C2	C3	C4	C5	C6	
1	Thrissur Paddy FPC	4	4	4	4	4	4	4.00
2	Mayyil FPC	3.57	3.5	3	4	4	4	3.68
3	Wayfarm FPC	3.43	4	3.5	4	3.33	2.67	3.49
4	Edakkara FPC	3.43	3.5	3	3.33	3.33	3.33	3.32
5	Pananchery FPC	3	4	3.5	3.33	3	3	3.31
6	Tulunad Eco Green FPC	3.29	2.5	3	3.67	3	3	3.08
7	Kadali FPC	2.86	3	3	3.33	3	3	3.03
8	Polima FPC	3.14	3	3	3	3	3	3.02
9	Green Orchid FPC	3	3	3	3	3	3	3.00
10	Neeloor FPC	3	3	3	3	3	3	3.00
11	Tejaswani FPC	2.86	3	3	3	3	3	2.98
12	Grn Vivo FPC	2.86	3	3	3	3	3	2.98
13	Gramalakshmi FPC	3	3	2.5	3	3.33	3	2.97
14	HOPCL	2.57	3	3.5	3	2.33	3	2.90
15	Palakkad Paddy FPC	2.71	3	3	2.67	3	3	2.90
16	Odanadu Coconut FPC	3.29	3	3	2.33	3.33	2.33	2.88
17	Kothamangalam FPC	3	3	2.5	3	2.67	3	2.86
18	Onattukkara Spices FPC	2.43	3	3	2.67	3	3	2.85
19	Niravu FPC	2.71	3	3	3.33	2.33	2	2.73
20	Thodupuzha FPC	2.71	3	3	2.67	2.33	2.67	2.73
21	WAMPCO	2.86	2.5	2	3.33	2.67	3	2.73
22	North Malabar FPC	2.57	3	2	3.33	2.33	3	2.71
23	Preeminent FPC	2.43	3	2	3.67	2.67	2.33	2.68
24	Pallaruvy FPC	2.57	3	2	3	3	2.33	2.65
25	Panasa FPC	3	2	3	3	2	2.67	2.61
26	Karshakajyoti FPC	2.57	3	2	3	2	2	2.43
27	Srikrishnprm FPC	2.43	2.5	2	3	2	1.33	2.21
28	Loga FPC	1.71	3	2.5	2.33	1.67	2	2.20
29	Maranchery FPC	2.57	2.5	2	2	2	2	2.18
30	Kanjirappaly Fruits FPC	1.43	1.5	1	1.67	1	1.33	1.32

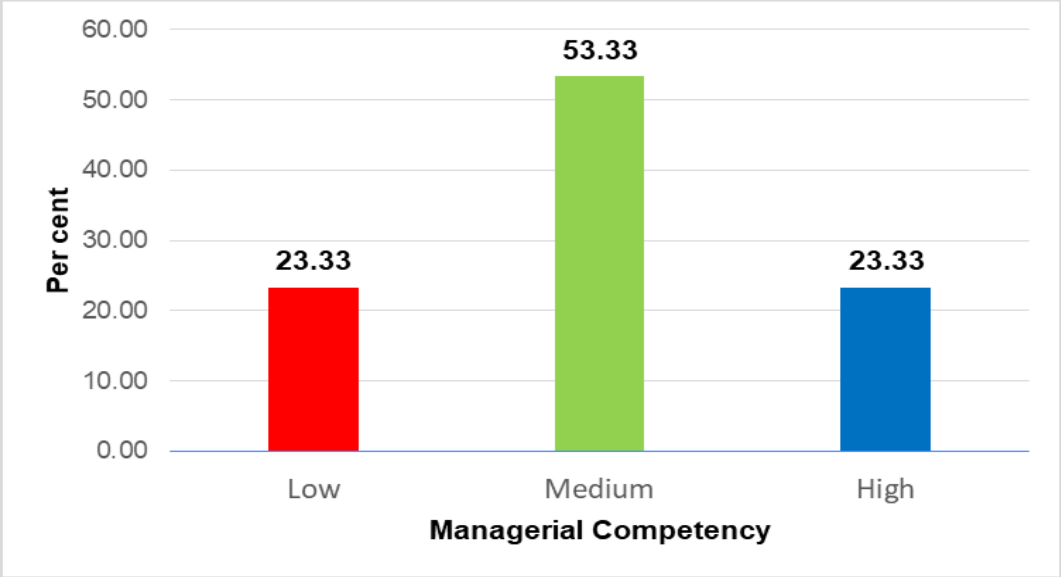


Figure 4.15. Distribution of FPCs on basis of MC

4.4. ROLE OF POPI IN FPC DEVELOPMENT

The GOI (2013) policy document for promoting FPCs in India suggested assigning several resource institutions to promote and monitor FPCs. These institutions were later known as Producer Organisations Promoting Institutes (POPI). Any legal entity such as NGOs, banks, Government Departments, Cooperative Societies or any Association or Federation that can sign a legal contract with other institutions including FPCs can serve as POPI (NABARD, 2015). POPIs are entitled to receive grant support to meet part of the recurring costs incurred for activities to promote and FPC from agencies like SFAC and NABARD. The POPI was also responsible for keeping track of FPC activities as well as their field-level accomplishments. It had the responsibility to periodically analyse the progress of work and, if necessary, advise appropriate corrections. POPIs were also entrusted to create certain formats and deliver them to the FPCs to collect data which needed to be returned to the POPI. Besides, it should keep track of staff availability for the projects promoting FPCs and responsibility of data on individual producers, costs, input availability, and volume of produce, income, and verification of the FPC account books. It also had to submit a detailed report to the funding agency at agreed-upon intervals, such as monthly, bi-monthly, or quarterly. However, the role of POPIs changed overtime as the FPCs started to evolve into self-reliance.

The study explored the type of role played by POPIs in facilitating FPC formation for which the roles were grouped into three major classes' *viz*. financial, facilitation and technical. The research studied whether single or multiple roles were taken by POPIs in FPC development and the results are included in Table 4.18.

Table 4.18. Distribution of FPCs based on role of POPI (N=30)

Sl. No	Role of POPI	Frequency of FPC (%)
1	Financial	03 (10%)
2	Facilitation	28 (93.33%)
3	Technical	28 (93.33%)

The results from the table indicated that the POPIs of Neeloor, Polima and Green Vivo FPCs played multiple roles of financial support, facilitatory roles and technical support. In 28 FPCs POPIs were involved with both facilitation and technical roles. Tejaswani and Pananchery FPCs had successfully evolved into autonomous institutions and the POPIs of both the FPCs had completed their functions and exited from their roles. The results supported the findings of Ajith (2018) that identified multiple roles of POPIs in FPCs of Idukki district as project analysis, technical assistance and financial assistance.

4.5. PERSONAL AND SOCIO-ECONOMIC ATTRIBUTES OF FPC STAKEHOLDERS

Three categories of respondents viz. the shareholders, Directors and CEOs who held a stake in the day-to-day functions of FPCs were studied. Both individual and collective contributions made by each of the category were assumed to be influenced by their personal, socio-economic and psychological attributes and were included as independent variables under the study. The variables quantified and inferences derived are discussed under the following sub-heads.

4.5.1 Age

Age of each category of respondents was recorded directly as the number of completed years from birth. Distribution of the respondent categories based on age is presented in Table 4.19. The results revealed that among the three respondent categories, about 95 per cent of shareholders, 80 per cent of Directors, and 60 percent of CEOs belonged to the middle age group of 35-60 years. Among the category of shareholders and Directors, 27 and 16.67 per cent respectively belonged to the age group of above 60 years and were categorised as senior citizens. There were 4.0 and 3.33 per cent respectively among the shareholders and directors who were below 35 years of age and were classified as young. On the contrary, 26.67 per cent of the CEOs belonged to younger population of age group which is less than 35 years and only 13.33 per cent belonged to the senior citizen category with age above 60 years. A graphical representation of the results are provided as Figure 4.16

Table 4.19. Distribution of selected categories of respondents based on age (N=210)

Age in years	Distribution of respondents (%)			Age category
	Shareholders	Directors	CEOs	
< 35	04 (3.17)	02 (3.33)	08 (26.67)	Young
35-60	95(75.40)	48 (80.0)	18 (60.0)	Middle aged
>60	27(21.43)	10 (16.67)	04 (13.33)	Senior citizens
Mean age	53.67	54.13	43.86	
SD	9.4	7.49	12.1	

The results conferred with the results of studies conducted previously on farmer-based organisations by Sayuj (2012) and Arun *et al.,* (2014). These studies also reported that the majority of the members and people associated with SHGs were middle aged farmers. The findings were also in line with the works of Venkatesan *et al.,* (2017), which reported that majority of the members belonged to the age group of 45 year or more in Ayakudi Guava Producers in Dindigul district of Tamil Nadu. But results obtained negated the results of Ajith (2018), were age group above 55 years was considered old and more than half of the population of the FPC members belonged to that category. The middle to younger aged population among CEOs suggested that FPCs provided job opportunity for them in managing FPCs.

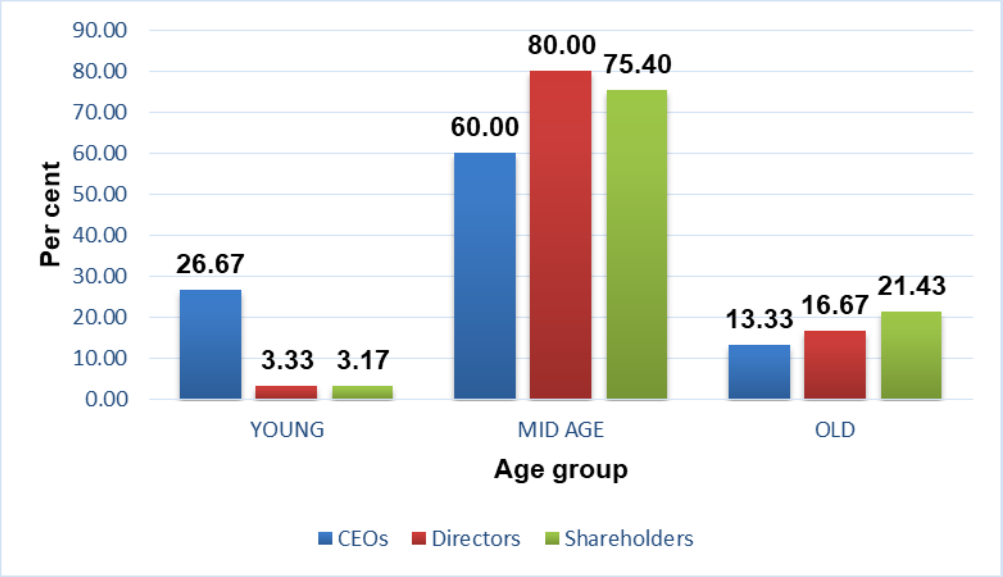


Figure 4.16. Distribution of FPC stakeholders on age groups

4.5.2 Education

Analysis of the data on education was restricted to shareholder and director categories as no variation was expected among the CEOs for whom a degree in the relevant subject was considered mandatory. The results on the distribution of selected respondents on education are depicted as Table 4.20.

The illiterate category was excluded from the results in the table as none of the directors or the shareholders belonged to the illiterate group. More than fifty per cent (59.17) of the shareholders had high school level education that enabled them to read and comprehend the bylaws and institutional documents. Further, 26.67 per cent of the shareholders had degree level education and 14.17 percent were of primary level schooling. In the case of Directors, half of the sample had an education of degree and above level, followed by 38.33 per cent with high school and 8.33 per cent with primary school levels of education. The result has been graphically depicted in Figure 4.17.

Table 4.20. Distribution of selected FPC respondents based on education (N=180)

Educational level	Category of respondents*	
	Shareholders	Directors
Primary school	17 (14.17)	5 (8.33)
High school	71 (59.17)	23 (38.33)
Degree & above	32 (26.67)	30 (50.0)
Mean score	2.97	3.31
SD	0.9	0.89

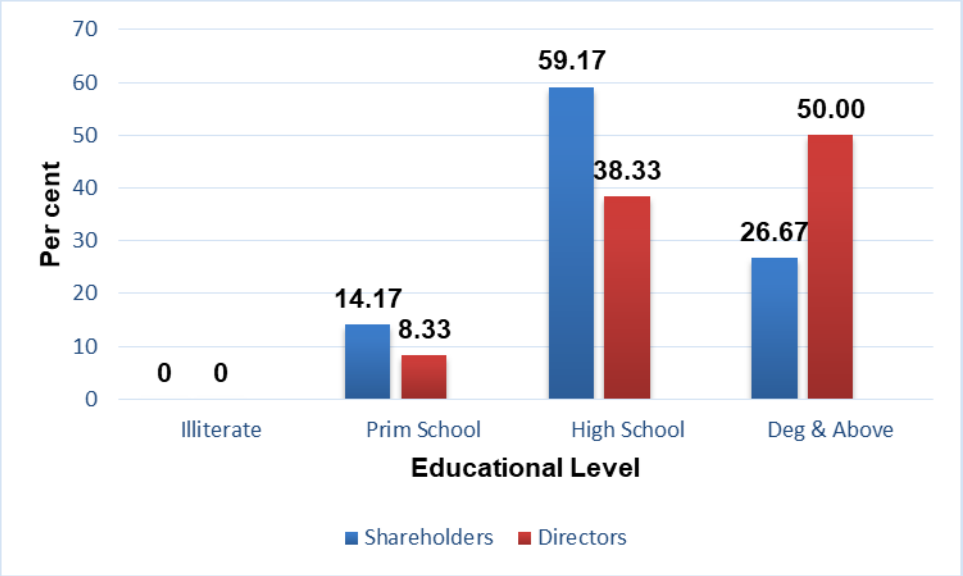


Figure 4.17. Distribution of FPC stakeholders on education

The results obtained were in line with the finding from previous studies in the field of FPCs. Venkattakumar (2017) analysed the educational qualification of members of the Ayakudi Guava Producers in Dindigul district of Tamil Nadu and found that most of the farmers were having middle to high school level of education. Ajith (2018) also has noted that the majority of the members (55%) of FPCs of Idukki district had received high school level education. Similar results were also obtained during the study conducted by Manaswi *et al.,* (2019) among the FPCs of Telengana, where 30 per cent members had primary school education and 34 per cent members had high school level education. These results suggested that the rural community, including

farmers had opportunities to receive better education which enhanced the awareness about the rights and responsibilities.

4.5.3. Occupational status

Though the actual owners of FPCs were the farmers, many of the farmers in Kerala had alternate occupations along with farming. In order to understand the occupational dynamics prevalent, data collected on occupational status was analysed to get the results presented in Table 4.21. The results on occupational status were limited to shareholder and director categories as there was occupational homogeneity among the CEOs.

Table 4.21. Distribution of selected FPC respondents based on **occupation (N=180)**

Occupational type	**Frequency of respondents (%)**	
	Shareholders	**Directors**
Farming	78 (65%)	36 (60%)
Farm +Agriculture	10 (8.33%)	5 (8.33%)
Farm+ Small Business	28 (23.33%)	14 (23.33%)
Farm + Services	4 (3.33%)	6 (10%)
Mean	3.19	3.22
SD	1.19	1.24

The results furnished in the table showed that 65 per cent of the shareholders were primarily dependent on farming. However, there were also 23.33 per cent of the shareholders who had small businesses along with farming and another 8.33 per cent of them worked as agricultural labourers along with managing their own fields. Moreover, there were 3.33 per cent of the shareholders who depended on service sectors along with farming. Similarly, among Directors, 60 per cent of the respondents were solely dependent on farming and 23.33 per cent of the Directors had small businesses along with the farming activities. Interestingly, 10 per cent of the directors functioned in service sector while managing their farms. Like shareholders, 8.33 per cent of the

directors worked as agricultural labours along with managing own farms. Graphical depiction of the result has been given in Figure 4.18.

The study by Ajith (2018) had similar findings where most of the respondents (78.33%) were exclusively farmers by profession. There were also 15 per cent of respondents who did some form of small business along with farming. Similar trend was also seen in case of members doing agricultural labour and working in service sector. The findings also indicate that the majority of the farmers of the state are sole farmers followed by the small business owners. The sole farmers may be traditionally following agriculture as a profession and rest of them might be interested in both on farm and off farm activities.

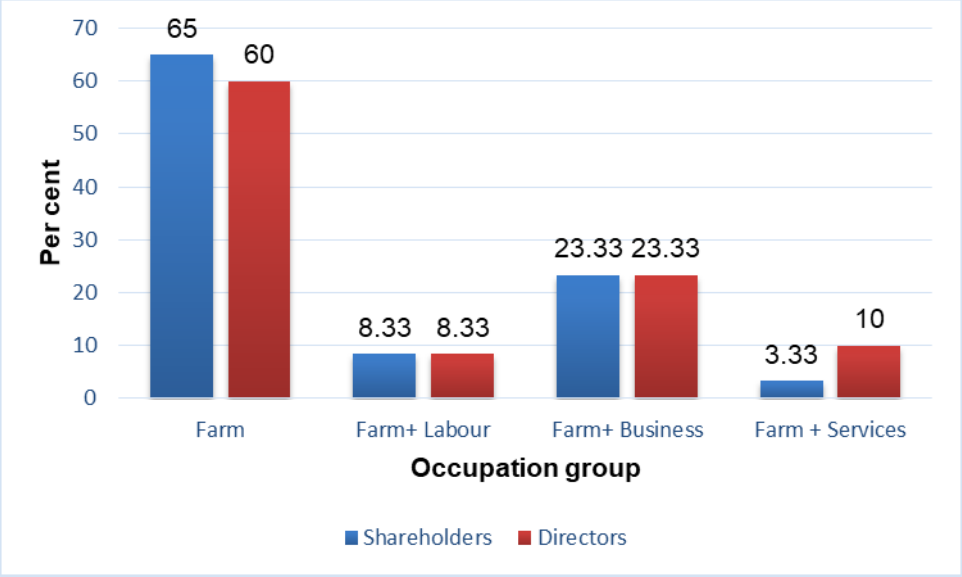


Figure 4.18. Distribution of FPC stakeholders on occupational status

4.5.4. Annual income

Income from agricultural activities influenced the retention of population in the sector, be it through FPCs or other institutional or individual mechanisms. The results of annual income documented from the three categories of respondents are presented in Table 4.22. It could be observed from the table that 42.86 per cent of the shareholders had an income of more than state mean, which was classified as high and 57.14 per cent of them had a low level of annual income which was below the state average. The category of Directors exhibited similar trends in income levels, with more than half of the Directors, (55 %) belonging to the lower income level group. Only about 45 per

cent of the Directors and 56.67 per cent of the CEOs, from the selected sample had an income above state mean.

Table 4.22. Distribution of selected categories of respondents based on annual income (N=210)

Annual income (Rs. in Lakhs)	Distribution of respondents (%)			Income category
	Shareholders	Directors	CEOs	
Below Mean	72 (57.14%)	33 (55%)	13 (43.33%)	Low
Above Mean	54 (42.86%)	27 (45%)	17 (56.67%)	High
Mean	2.77	2.74	2.55	

Only 43.33 per cent CEOs had income less than state mean. This could be attributed to the fact that as per the recent company registration guidelines, CEOs of FPCs are needed to be paid a mandatory salary of twenty-five thousand rupees. An illustration of the results are also presented in Figure 4.19.

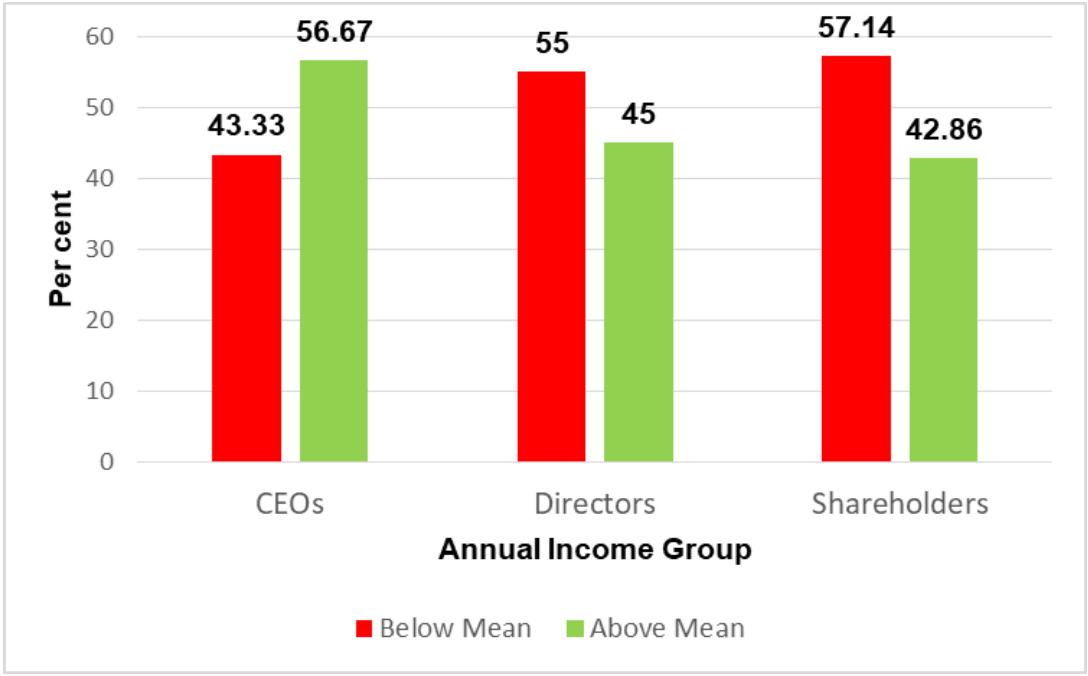


Figure 4.19. Distribution of FPC stakeholders on annual income

Venkatesan *et al.,* (2017) found that the majority of the members in Ayankudi FPC had an annual income to the tune of one lakh sixty thousand. The results obtained

by Ajith (2018) also indicated that the majority of the members, belonged to the medium to low-income class. Manaswi *et al.,* (2019) in their study on FPCs in Telanagana obtained similar results, where they found that members of FPCs obtained higher income than non-members. Thus, relatively closer distribution in annual income for members and directors with respect to state mean is a testimonial of the increase in income farmers have obtained through FPCs.

4.5.5 Social participation

The participation of all the respondents in various social institutions such as panchayats, cooperative societies, and other related organizations was evaluated under the variable social participation. Both the nature of participation and the frequency of participation in each of the selected organisations were used in the estimation of results which are presented separately for the shareholders, Directors, and CEOs in Table 4.23.

Table 4.23. Frequency distribution of respondents based on social participation in percentage (N=210)

Sl No	Category	Nature of participation in percentage			Frequency of participation in percentage		
		No Membership	Member	Office bearer	Never	Irregular	Regular
1	**Shareholders**	84.35	13.72	1.93	84.35	10.88	4.08
2	**Directors**	87.86	8.57	3.57	87.86	7.38	4.76
3	**CEOs**	87.14	9.05	3.81	87.14	6.67	6.19

Table 4.24. Distribution of respondents based on social participation (N=210)

Category	Distribution of FPC stakeholders on social participation (%)		
	Shareholders (n=126)	Directors (n=60)	CEOs (n=30)
Low (<Median)	85(67.46%)	44 (73.33%)	18 (60%)
High (>Median)	41(32.54%)	16 (26.67%)	12 (40%)
Median	2	2	2

According to the estimates given in Table 4.23, 84.35 per cent of the shareholders did not have membership in any other institutions. Consequently, they

never participated in such forums of social decision-making. However, there was 13.72 per cent of FPC shareholders who had membership in selected institutions such as cooperative societies (53.97 %), and farm clubs (11.1%). The percentage of shareholders who functioned as office bearers of the selected institutions was 1.93 per cent and only 4.08 per cent reported regular participation in the institutions.

In case of Directors, 3.57 per cent functioned as office bearers and 8.57 per cent of Directors had membership in social institutions with regular participation of 4.76 per cent. It could be noted that 87.86 per cent of the selected respondents in the category of Directors did not have membership in any of the selected institutions and never participated in the meetings. About 87.14 per cent of CEOs did not have any membership in selected social institutions. Around 9.05 per cent CEOs had membership and 3.81 per cent had the role of office bearers with 6.19 per cent participating regularly in its activities. About 6.67 per cent of the CEOs showed irregular participation in other institutions they belonged to. From the results exhibited in Table 4.24 and Figure 4.20 it could also be noted that among the stakeholder categories, 73.33 per cent of the Directors had social participation scores below the median value. The percentage of shareholders and CEOs with social participation scores below the median value was 67.46 and 60.0 per cent respectively.

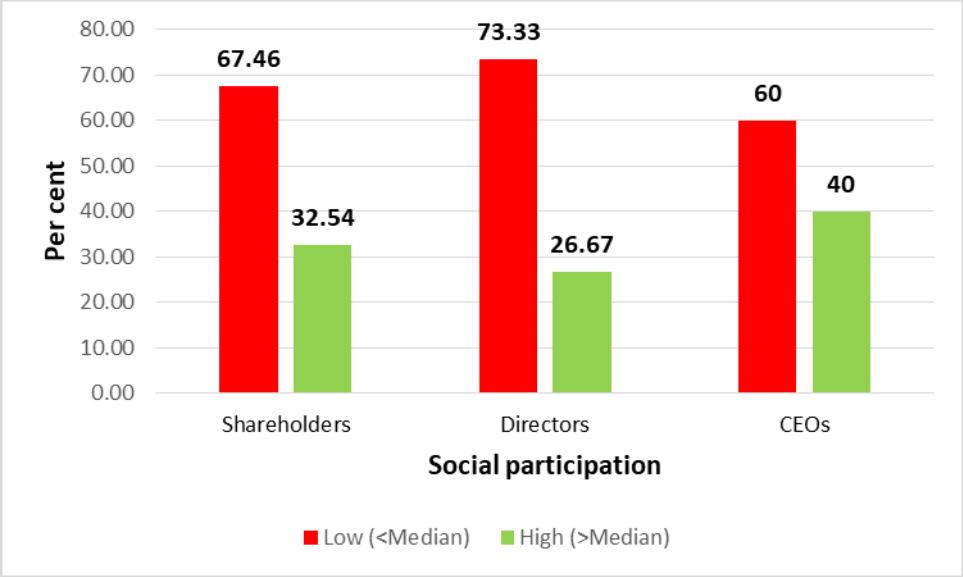


Figure 4.20. Distribution of FPC stakeholders on the basis of social participation

Ajith (2018) reported that the majority of the members of FPC had membership in at least one organisation and had occasional participation in these organisations. According to Reddy (2021), most of the FPC shareholders in Telangana exhibited a medium level of social participation. It could be observed that the results presented contradicted the reported findings as the stakeholders of FPCs showed only a low level of social participation. The low social participation of CEOs is related to the rules and regulations of their appointment. They are mostly posted by the management board under the condition that they will not serve as office bearers in any similar organization during their tenure. However, they had the freedom to be part of social networks that benefited the respective FPCs as reflected in minimum scores. In most of the cases, the Directors were involved in the initiation and development of the respective FPCs and as leaders, they remained committed exclusively to their FPC limiting their participation in other organizations. Comparatively higher social participation scores of shareholders could be attributed to the popularity of FPCs among farmers as a comprehensive model supporting their livelihood. This is further confirmed by their membership in similar community organizations like cooperatives for additional benefits. Moreover, the social restrictions that were in place due to the COVID 19 pandemic during which the study was conducted could also have influenced the social participation results.

4.5.6 Market orientation

Market orientation of people associated with FPC played a decisive role in the marketing of products and purchase of inputs. Interquartile ranges were used in the categorisation of different stakeholder groups into low, medium and high categories as given in Table 4.25. The results are also shown as a graph in Figure 4.21.

Table 4.25. Distribution of respondents based on market orientation (N=210)

Category	Percentage distribution of stakeholders on market orientation		
	Shareholders	Directors	CEOs
Low (<Q1)	7 (5.83)	3 (5.00%)	1 (3.33%)
Medium (Q1 to Q3)	109 (90.83)	52 (86.67%)	29 (96.67)
High (>Q3)	10 (8.33)	5 (8.33%)	0 (0)
Q1	3	3	3
Q3	4	4	5
Range	1	1	2

It could be observed that most of the shareholders (90.83%), had a medium level of market orientation. This could be equated with the strategy followed by FPCs to avoid middlemen and facilitate better prices for the produce. Only 5.83 per cent of the shareholders were estimated to have a low level of market orientation, whereas 8.33 per cent had a high score of market orientation. But in the case of Directors, 86.67 per cent of the Directors were observed to have medium and 5 per cent of them had a low level of market orientation. Only 8.33 per cent of them had a high level of market orientation. The results assumed significance as the mental disposition of the Directors to the market had a direct bearing on their decisions regarding the marketing of FPC produce and purchase of inputs.

However, unlike the Directors, most of the CEOs (96.67) had a medium level of orientation regarding the market and none of them had high level of market orientation. A low level of market orientation was found only in 3.33 per cent of the CEOs, which in turn questions the understanding they have of the agricultural market and its operations that are critical in the operations of FPCs. The obtained results are in line with the findings of Ajith (2018) suggesting that, members and associated personals of FPCs had a better market orientation.

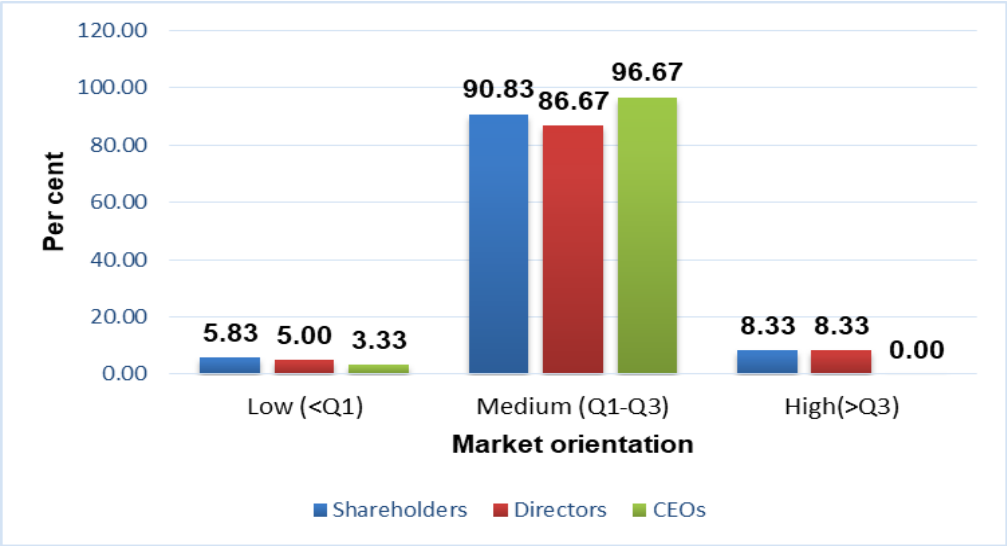


Figure 4.21. Percentage distribution of FPC stakeholders on market orientation

4.5.7. Entrepreneurial orientation

The entrepreneurial orientation of the shareholders was assessed to understand if any gain in entrepreneurship orientation was obtained as a result of membership in the FPC. As per the results of the analysis shown in Table 4.26. The entrepreneurship

orientation of the shareholders was categorised into low, medium, and high using the descriptive statistics (Figure 4.22). The results suggest that more than half of the shareholders (75.0 %) had a medium level of entrepreneurship orientation, while 20.83 per cent shareholders exhibited high level and 9.17 per cent of them exhibited low levels of entrepreneurial orientation. This suggest that some improvement in innovativeness and proactivity is generated by the membership in FPCs. The possible reasons may be that assured market for the produce and better market price enable them to take a moderate level of risk taking and this improves their entrepreneurial orientation. The results of Xhoxhi *et al.,* (2021) supports this proposition as their findings suggest that institutional interventions among farmers improve their trust as they get assured market and this in turn influence their entrepreneurial orientation positively.

Table 4.26. Percentage distribution of shareholders based on entrepreneurial orientation (N=126)

Entrepreneurial orientation	Percentage of shareholders (%)	Category
Upto 6	11 (9.17)	Low (<Q1)
6 to 9	90 (75%)	Medium (Q1 to Q3)
Above 9	25 (20.83%)	High (>Q3)
Q1=6, Q3=9, Range =3		

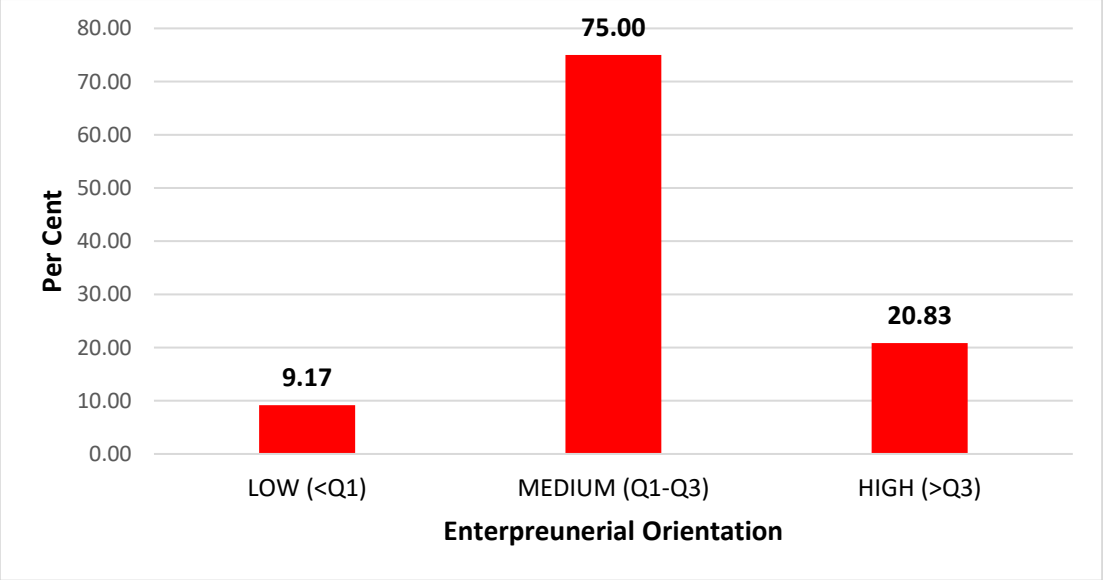


Figure 4.22. Percentage distribution of FPC stakeholders on entrepreneurial orientation

4.5.8. Perception on functional roles of FPC

The functional roles of FPCs as perceived by different stakeholders were assessed adapting the scale of role perception developed by Sayuj (2012). The percentage of each category of stakeholders agreeing to a particular role of the FPCs were assessed and the results are included in Table 4.27.

Table 4.27 Functional roles of FPCs as perceived by selected stakeholders

Sl. No.	Perceived functional roles	Perception score in %		
		Shareholders	Directors	CEOs
R1	Facilitate development of member farmers	77.62	77.67	78
R2	Increase the cultivation of particular crop	58.73	55.33	54
R3	Identify needs of farmers and conduct trainings/ exposure visits.	70.16	75	76.67
R4	Delivery of services to farmers	89.68	89	94.67
R5	Creation of more employment among farmers.	64.76	64.33	68.67
	Mean percentage	72.19	71.86	74.40

The results from the table clearly suggested that there was considerable agreement on the perceived functional roles of FPCs as the majority of the shareholders (89.68%), directors (89%) and CEOs (94.67%) identified the delivery of service to farmers as the most important functional role of FPCs in the state. This was followed by the role of farmer development facilitation which was agreed by over 75 per cent of all categories. This indicated that the shareholders expected the FPCs to provide them with services that helped in income generation and supported their livelihood. It could also be inferred from the results that CEOs and directors of the FPCs mostly shared the role perception of shareholders. All categories also believed that provision of such services helped to facilitate the development of member farmers. The results slightly varied from the findings of Ajith (2018) which reported facilitation of the development

of member farmers as the most important role as perceived by the stakeholders followed by delivery of services. The shift in role perception may be the result of change in attitude of the stakeholders that better services received enable them to improve the process of livelihood development themselves, rather than become dependent of the incentives.

The least important role identified was in increasing the crop cultivation with scores around 55 per cent in all categories. This in turn shows that except for few FPCs as well as shareholders most are practising diversification in produce as well as products, so that significant share in market is obtained. These members required more trainings and exposure visits as was identified by the stakeholders as the third most important role. A graph which gave a comparison of role perception of all stakeholders studied is given as Figure 4.23.

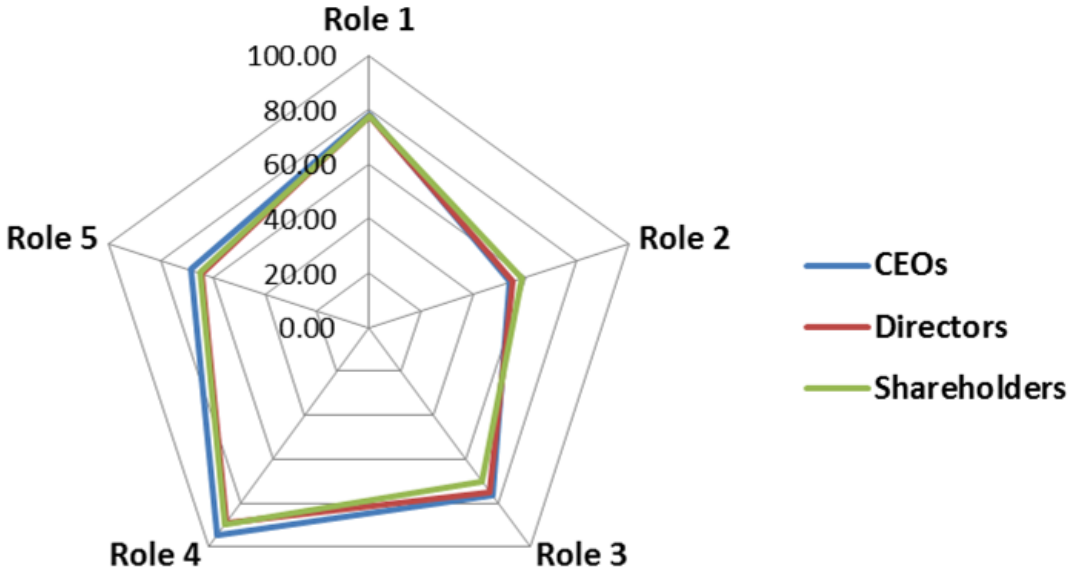


Figure 4.23. Distribution of FPC stakeholders on perceived functional roles of FPCs

4.5.9. Awareness of rights and responsibilities

The producer companies act had carefully envisaged to provide several protective measures and benefits to FPCs and stakeholders. This act has also indicated the responsibilities of shareholders as well as the board and their duties involved. Further each FPC functioned based on the by law prepared by the organisation which was the basic building block. Hence for better functional relationships in FPCs

awareness regarding the responsibility and rights of the stakeholders were important. The awareness was assessed for each category of FPC stakeholders and the results are shown in Table 4.28. The awareness items I, II, and III depicted basic rights and responsibilities a stakeholder should have and items IV and V represented the more serious responsibilities which were grouped as basic and extended awareness items respectively.

Table 4.28. Distribution of respondents on awareness of rights and responsibilities

Sl No	Awareness items	Percentage of awareness		
		Shareholders	Directors	CEOs
Basic awareness				
1	I am fully aware of the organizational laws	51.11	76.33	78
II	I have read all the rules and bylaws of FPOs	45.71	70.33	78
III	I regularly participate in all meetings	81.75	94.33	86.67
	Sub-total mean	**59.82**	**80.33**	**80.89**
Extended awareness				
IV	I know all the persons in the directorial board	81.90	92	87.33
V	I try to be aware of all the FPO decisions	74.29	92	86.67
	Sub-total mean	**78.10**	**92.00**	**87.00**
	Overall total mean	**68.81**	**86.17**	**83.94**

The results in the table clearly suggested that shareholders exhibited only 59.82 per cent of awareness of basic responsibilities related to the awareness regarding by law, organisational laws and meeting participation compared to the 78.10 per cent on extended awareness items. This indicated that while shareholders tried to be aware about the directorial board and decisions made in the meetings, they lacked awareness regarding the basic laws and benefits. This could be considered as a reason for lesser participation in the meetings. Thus, overall awareness of the shareholders was 68.81

per cent. Sayuj (2012) in his study analysing the performance of SHGs reported that the members had a responsibility awareness of 70.00 per cent. He had concluded that the members exhibited a medium level of responsibility awareness in agreement with the findings of the study. It could be inferred from the lower values of the responsibility awareness that the producers despite being the members of FPCs still struggled to understand their rights and responsibility to the full extent. In order to provide a better comparison of awareness scores of shareholders, directors and CEOs, a graphical illustration is included as Figure 4.24.

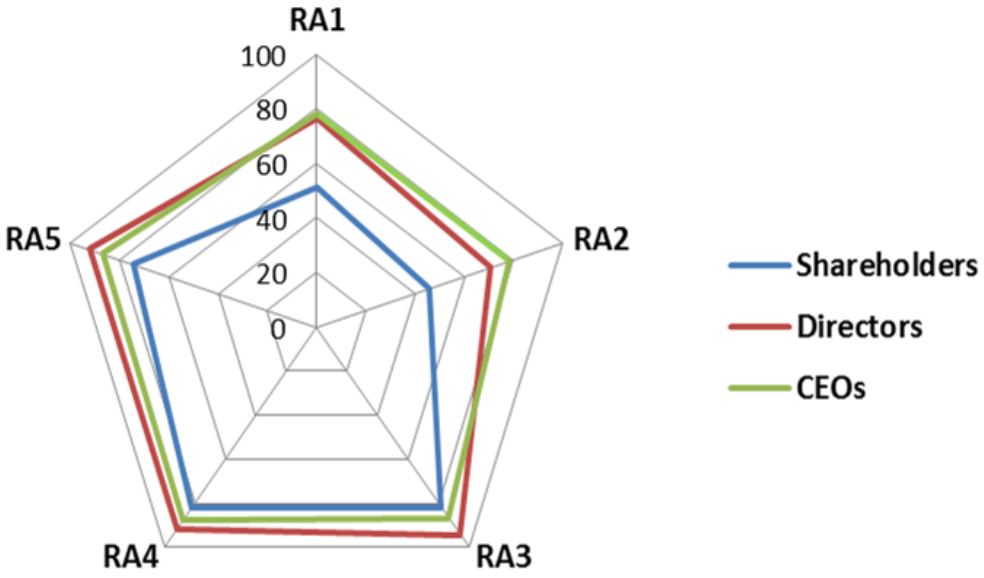


Figure 4.24. Distribution of FPC stakeholders on awareness of rights and responsibility

The results obtained for both directors and CEOs also followed a similar trend but showed higher scores. The basic awareness of directors and CEOs were 80.33 and 80.89 per cent respectively compared to the extended awareness scores of 92.0 and 87.0 per cent respectively. This could be explained in terms of frequent interactions between the directors and CEOs who were active participants in the day-to-day management of the FPCs including the legal obligations of the firm. The overall awareness scores drew similarities with the studies of Can (2014) on members of the dairy producer organisations where they had more awareness on extended responsibility items than basic. This provides policy implications that the steps must be taken to improve this level the of awareness.

4.5.10. Member satisfaction

The satisfaction of shareholders as members about the services offered by FPCs needed to be evaluated regularly as it had significant implications at managerial and policy decisions. The satisfaction of shareholder of the selected FPCs was evaluated using the statements as provided in Table 4.29 and corresponding level of satisfaction was recorded. Items I, II, and III corresponded to the satisfaction related the basic services and item number IV and V corresponded to the satisfaction level that emerged from the extended form of services.

Table 4.29. Item wise satisfaction scores of FPC members

Sl. No	Items of satisfaction measure	Satisfaction score (%)	Median	Satisfaction level*
Basic satisfaction				
I	Receive required input supply on time	61.27	3	SWS
II.	Proper marketing of products is ensured	69.84	4	S
III.	Official proceedings are made available	64.44	3	SWS
	Sub-total	**65.19**		
Extended satisfaction				
IV.	Regular farm visits by experts/ officers	53.81	3	SWS
V.	Speedy services are available	64.76	3	SWS
	Sub-total	**59.29**		
	Overall total score	**62.24**		

*Satisfaction level: *S – satisfied; SWS – somewhat satisfied*

The results implied that shareholders were 65.19 per cent satisfied about the basic functions like marketing, input supply and governance of FPCs. But the shareholders satisfaction on the extended services like regular farm visits and speedy contingent services was relatively low at 59.29 per cent. The difference in satisfaction levels implied that the FPCs and policy makers must focus in delivering adequate field level and post-harvest services to the shareholders at a constant rate which would help them to generate higher on farm income. Further, the median and corresponding scale scores revealed that the members had highest satisfaction scores (69.84%) with respect

to FPC marketing. This implied that the FPC interventions could reduce the effect of market vulnerabilities and assured fair price for their produce. In all other items they had recorded an average level of satisfaction. The results obtained were comparable to the results from a similar study by Can and Yalcin (2015) which reported a medium level of satisfaction for the shareholders.

Based on the median of total satisfaction score (16), the respondents were categorized into high, and low levels of satisfaction as depicted in Figure 4.25. It could be inferred from the graph that majority of members (53.17 %) had a low level of satisfaction with the FPC performance. However, high level of member satisfaction was shown by 46.83 per cent of members. This warrants for viable strategies and appropriate technology for production, trading, and services of FPCs.

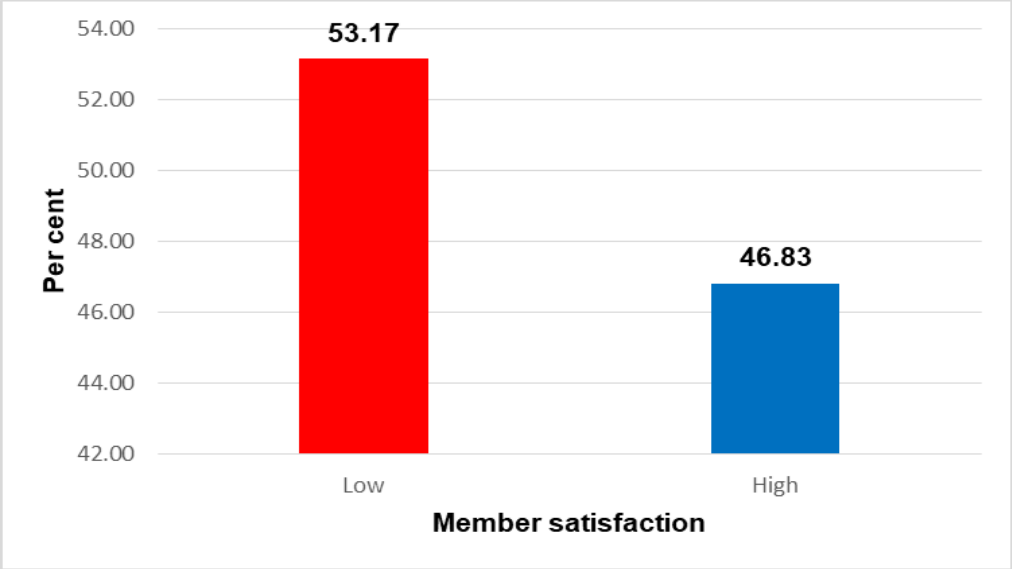


Figure 4.25. Distribution of FPC shareholders on their level of satisfaction with FPC

4.6. FACTORS AFFECTING PERFORMANCE OF FPCS

Performance of FPCs were evaluated based on variables elucidated from available literature and expert consultancy. The variables selected and its estimation has been detailed under the following subheads.

4.6.1. Group Dynamics

Even though FPCs were designed to be business oriented, the foundations continued to adhere to the basic characteristic of farmer-based organisations, which functioned mostly as a member controlled collective. Therefore, as any other organisation, the decisions made in FPCs were more on democratic lines, except for the day-to-day activities. Further, FPCs being member-owned organizations required the functional participation of every member as a team in all aspects of production and business. This necessitated the presence of positive group dynamics among the members and was considered an important parameter for effective FPC performance. Group dynamics of the shareholders were measured on a set of seven indicators and the results are given in Table 4.30. These dimension wise scores were aggregated into Group Dynamics Index (GDI).

Table 4.30. Weightage and percentage score of GDI indicators (N=120)

Sl No	Group dynamics Indicators	Weightage	Percentage
1	Participation	2.24	49.67
2	Teamwork	2.85	48.21
3	Group Atmosphere	3.75	48.19
4	Decision making	5.86	43.86
5	Group Cohesiveness	2.36	51.16
6	Group leadership	1.66	50.65
7	Interpersonal trust	1.78	52.33
	Overall GDI		49.06

The results in the table gave the estimated scores on the selected dimensions of group dynamics. It could be found that, there was higher level of interpersonal trust (52.33%) and group cohesiveness (51.16%) among the members. This related to the nature of FPCs which as a group worked well because each member had an emotional connect with one another and helped each other during tough times. Any disagreement from the part of members could be effectively handled in the group as mutual trust among the members was high. Further, this was aided by their positive perception of

group leadership (50.65%). This was an indication of wide belief in the efficiency of leadership in group work and active management of the group. Majority had found the group leadership approachable, sympathetic and helpful. Ajith (2018) also noted a higher contribution of cohesiveness to group dynamics of FPCs in his study.

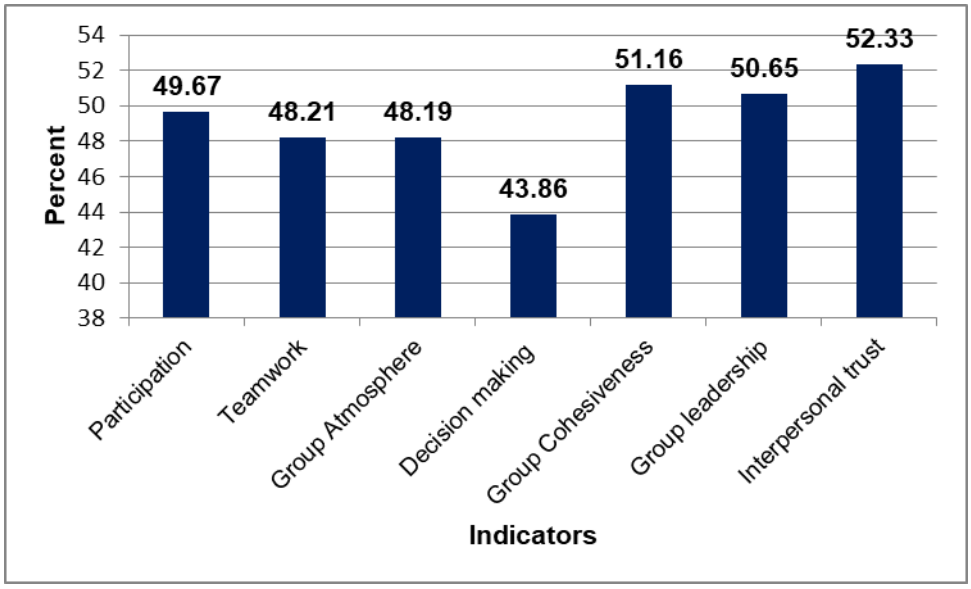


Figure 4.26. Distribution of FPC shareholders on group dynamics indicators

However, the comparatively low score for decision making (43.86%) despite the high weightage implied that the leadership did not consistently attempt to get the full participation of the shareholders and in the group meetings topic drifting was not rare, which resulted in lack of quality decisions. The members also felt that the group atmosphere (48.19%) needed to be friendlier and congenial to help slow and shy people also to express their concerns. Despite this, the shareholders tried to pressure group unity and believed that FPC could only work better if it acted as a team. This found reflected in the better scores of teamwork (48.21%). As such, most of them showed a decent participation (49.67%) in the group meetings and actively expressed their views, while some of them stayed aloof in the discussions and went with decisions made in the group.

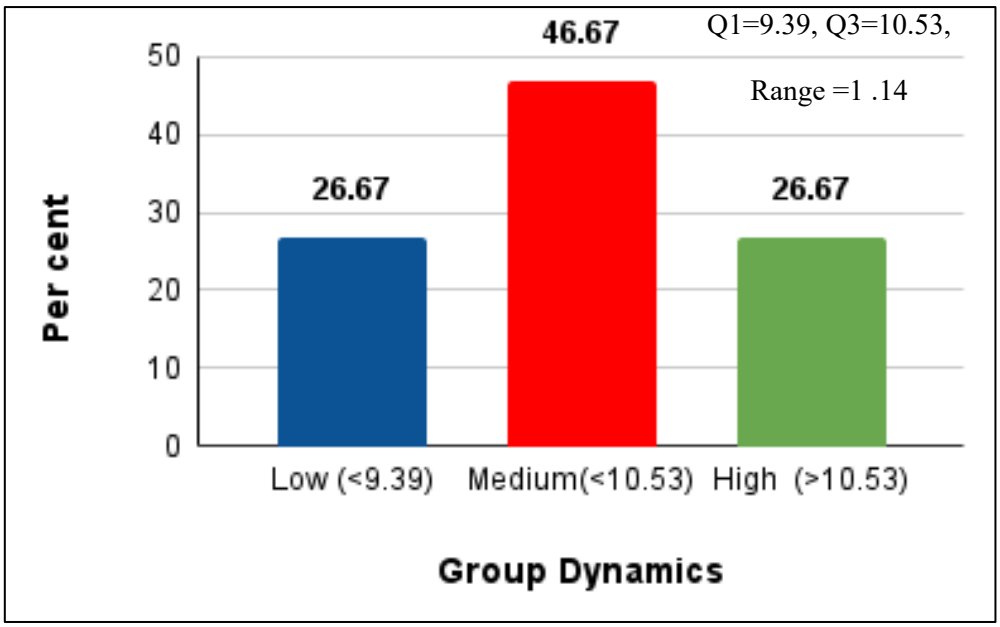


Figure 4.27. Distribution of FPC shareholders on group dynamics indicators

The group dynamics index (GDI) was calculated for each of the selected FPCs based on which they were classified into four groups on quartile distribution. The results represented as Figure 4.27 suggested that members of 46.67 per cent (14) FPCs had medium level of group dynamics scores, while members of 26.67 per cent (8) each of the FPCs showed low and high levels of group dynamics. The GDI scores of FPCs studied are given as Table 4.31 and it could be inferred from the results that majority (63.33 %) had GDI scores below 10.00. Among the selected FPCs, shareholders of Mayyil FPC obtained the maximum score for GDI, while Kanjirappaly FPC had the least score. Based on the above discussions of the various indicators of GDI, this indicates that shareholders of Mayyil FPC had a greater interpersonal trust level and were attached to one another better than the other FPCs. They also believed that they had a strong leadership and the management not only conducted the activities efficiently but also helped them better in their farming. Further, there was great participation of shareholders in all the activities of FPC as a team and democratic decision making was followed in the FPC. The reverse was the case with Kanjirappaly FPC. After studying the group stability of FPCs in West Bengal, Sudip (2020) opined that group atmosphere and empathy are the determining factors for better group dynamics. The results obtained here underline this finding. The results were also in line with the findings of Ajith (2018) and Bhatt (2009) that reported more than 50 per cent of the FPCs exhibited a medium to high GDI scores.

Table 4.31. GDI scores of selected FPCs in Kerala

Sl No	Name of FPC	GDI
1.	Tulunad	13.24
2.	Gramalaksmi	12.37
3.	Mayyil	**13.57**
4.	Tejaswani	7.55
5.	WAMPCO	10.39
6.	Loga	10.00
7.	WAYFARM	9.69
8.	Niravu	13.19
9.	North Malabar	7.36
10.	Edakkara	9.71
11.	Maranchery	7.78
12.	Srikrishnapuram	10.55
13.	Polima	11.60
14.	Palakkad	9.98
15.	Pananchery	9.89
16.	Thrissur	7.37
17.	Kothamangalam	10.45
18.	HOPCL	10.18
19.	Green vivo	10.87
20.	Thodupuzha	10.43
21.	Neeloor	10.22
22.	Kanjirappaly	**7.35**
23.	Onatttukkara	10.28
24.	Odanadu	11.02
25.	Karshakajyothi	8.92
26.	Preeminent	10.02
27.	Green orchid	9.38
28.	Pallaruvy	10.14
29.	Kadali	9.45
30.	Panasa	7.92

4.6.2. Institutional linkages

Producer Organisation Promoting Institute (POPI) served as a channel for building linkages between FPCs and other facilitating agencies. The most popular interlinkages among FPCs and also with retailers and commercial enterprises were aimed at improving the marketing. The number of each type of linkages created by PCs were quantified and the results are shown in Table 4.32.

Table 4.32 Distribution of Institutional linkages formed by FPCs

Sl. No	Name of FPC	Financial	Technical	Extension	Market	Total linkages
1.	Tulunad	1	2	1	3	7
2.	Gramalaksmi	1	1	2	1	5
3.	Mayyil	Nil	1	2	2	5
4.	Tejaswani	1	1	3	2	7
5.	WAMPCO	1	1	3	Nil	5
6.	Loga	Nil	2	2	4	8
7.	WAYFARM	2	1	3	4	10
8.	Niravu	1	5	1	4	11
9.	North Malabar	1	2	1	2	6
10.	Edakkara	1	3	1	4	9
11.	Maranchery	1	1	1	4	7
12.	Srikrishnapuram	Nil	Nil	3	Nil	3
13.	Polima	Nil	2	1	Nil	3
14.	Palakkad	1	1	2	Nil	4
15.	Pananchery	2	1	2	Nil	5
16.	Thrissur	1	Nil	2	2	5
17.	Kothamangalam	2	1	1	5	9
18.	HOPCL	2	3	2	3	10
19.	Green vivo	1	1	1	1	4
20.	Thodupuzha	2	2	1	2	7
21.	Neeloor	2	2	2	15	21
22.	Kanjirappaly	Nil	2	2	1	5
23.	Onatttukkara	1	1	2	1	5
24.	Odanadu	Nil	1	2	Nil	3
25.	Karshakajyothi	Nil	4	2	Nil	6
26.	Preeminent	Nil	1	2	2	5
27.	Green orchid	Nil	1	3	1	5
28.	Pallaruvy	Nil	3	1	1	5
29.	Kadali	1	1	1	4	7
30.	Panasa	Nil	2	1	2	5
	Total (%)	12.69	24.87	26.90	35.53	

It could be inferred from the results in the table that the basic linkages created by FPCs could be grouped as financial, technical, extension and marketing linkages. Also, each additional linkage formed by the FPC provided them with better competitive advantage over the other. It was interesting to note that all the FPCs had a minimum of 03 linkages and the total number of linkages ranged between 21 and 03. In fact, FPCs created linkages with financial agencies to increase their savings and to obtain financial support during emergencies. Generally, these types of linkages were created with banks, cooperative societies and other funding agencies like NABARD as mentioned by Gupta (2018). Analysing the financial linkages created by each FPC from the table, it could be noted that thirteen FPCs had just one linkage for financial support. This meant that they had only linkage with one institution for obtaining financial support. Around eleven of the FPCs had no financial linkage with any of the institutions and six FPCs had linkages with more than one financial institution. It was obvious that, at the time of a crisis, these six FPCs will be much better off compared to the other 24 FPCs since their chances of obtaining a financial support was higher.

Technical linkages helped FPCs in facilitating their functions by providing professional knowledge regarding administration, governance, auditing, business plan and other aspects. Technical organisations provided guidance in the conduct of meetings, preparing DPR and budgeting. Generally, SFAC and NABARD were the institutions in the state that supported FPCs with technical guidance. Other institutions like, POPIs and consulting agencies provided additional help. Two FPCs had no technical linkages and 15 FPCs had created linkages with one institution each. Thirteen FPCs had created linkages with more than one institution for facilitating their functions to guide them from risk aversion. These types of linkages were also created between other industries that supported FPCs in value addition through mechanisation.

FPCs established extension linkages with KVKs, Krishibhavans, ATMA, Agricultural Universities and other scientific institutions for obtaining training, knowledge regarding innovative approaches and other scientific interventions that eased the functions like, crop production, value addition, and marketing of both FPCs and shareholders. The results from Table 4.29 suggested that all the FPCs had at least one extension linkage, while five FPCs had created more than two linkages. The majority of the linkages created were with local extension offices like Krishibhavans and KVKs. These institutions provided training and other extension services to the

FPCs and its shareholders. The findings of Ajith (2018) and Gupta (2018) supported this proposition.

Market linkages were created by FPCs between other FPCs and institutions that sell and buy inputs, products and services. Such linkages were created between FPCs for marketing the produces and products of one another and improve each other's' business. This was important for the survival of FPCs as one FPC alone could not create the scale of economy. FPCs also created linkages with other commercial enterprises like retail shops, super markets, wholesalers and other MSMEs in the manufacturing sector. These linkages were established not only to sell products and produces, but also to buy inputs and other resources. The examples of such linkages were visible in the study of Ajith (2018) where FPCs like Neyassery FPC sell their products to the private retailers. Gupta (2018) in his study of organisational linkages of FPOs also found that direct selling accounted for only 25 per cent sales and remaining 75 per cent sales are through local intermediaries, retailers, wholesalers and others in FPOs of northern hills region of Chhattisgarh. A comparison of FPCs on the type and extent of linkages established is provided in Table 4.33 and Figure 4.28. The table gave a classification based on the type of linkages using mode and attempted to give the FPCs who had linkages above and below the value.

Table 4.33 Measures of different types of institutional linkages in FPCs

Sl No	Linkages	Mode	Below Mode	Above Mode	No linkage
1	Financial	1	13	6	11
2	Technical	1	15	13	2
3	Extension	2	25	5	0
4	Market	2	13	10	7

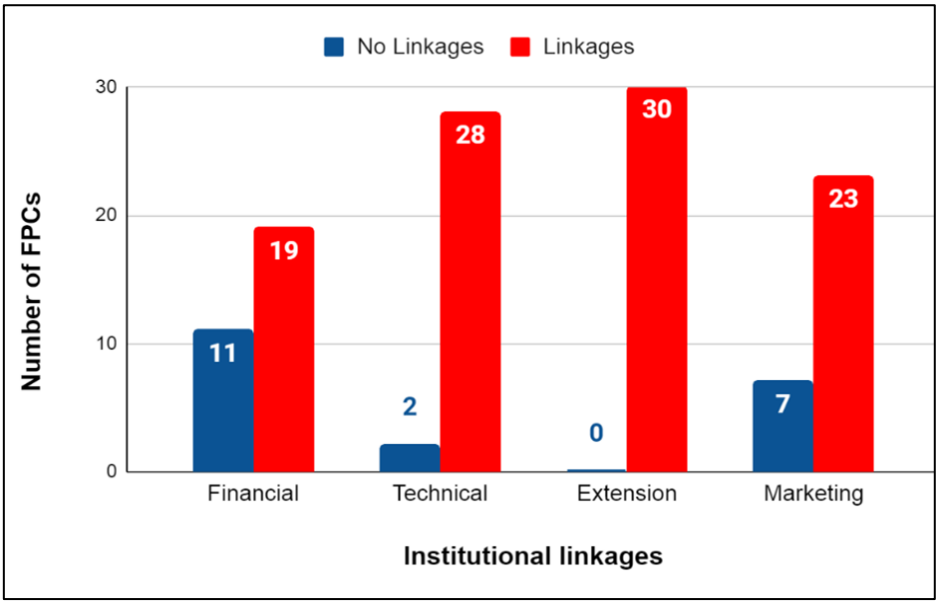


Figure 4.28. Distribution of FPCs based on institutional linkages

4.6.3. Social entrepreneurship orientation (SEO)

According to Mohapatra *et al.,* (2018) FPCs represented social enterprises as they created social capital that helped producers and farmers to improve their livelihood and provided quality goods and services to the community. Compared to the commercial enterprises, these organisations are generally focused on service delivery and social justice while trying to make profit for sustenance and growth. Therefore, it was assumed important to measure the social entrepreneurship orientation (SEO) of FPCs as a measure impacting its performance in terms of economic profitability and capital budgeting. Accordingly, SEO was measured on dimensions of social innovativeness, social risk taking, social proactivity and socialness following the scale developed by Kraus *et al.,* (2017). The results are presented in Table 4.34.

Table 4.34. Estimates of dimensions of social entrepreneurship orientation in FPCs

Statistic	Dimension wise scores of SEO				
	Social innovativeness	Social risk taking	Social proactiveness	Socialness	SEO
Median	9	8	9	8	33.5

It is quite evident from the table that the overall score of SEO for FPCs was 33.5 and among the dimensions, social innovativeness had the leading score of 9. However, the least score was realised on the social risk-taking dimension with a score of 8. Analysing the results derived from the selected dimensions, majority (60 %) of FPCs were found to have medium level of SEO (Figure 4.29).

About 26.67 per cent of the FPCs had lower level of SEO and 13.33 per cent exhibited higher levels. This indicated that these FPCs need to have better level of innovativeness, risk taking, pro activeness and persistence in carrying out their social mission. FPCs with higher SEO scores could be related to better internal culture and reconfiguration of resources at the organizational level.

These were considered as critical determinants for adopting sustainable entrepreneurial orientation in small and medium enterprises of FPCs. These findings could identify similar grounds with the results reported by Kraus *et al.,* (2017).

4.6.4. Perceived extent of service delivery

The perception of shareholders regarding the performance of FPCs on the extent of basic services delivered by them in facilitating income and livelihood support was an important determinant of the capacity of FPCs to achieve its stated mission. The extent to which these services have performed efficiently and the impact that it had created in the income and savings of the shareholders was assessed by modifying the scale developed by Sayuj (2012). The results of the analysis given in Table. 4.35 showed the perception on the extent of service delivery by the members.

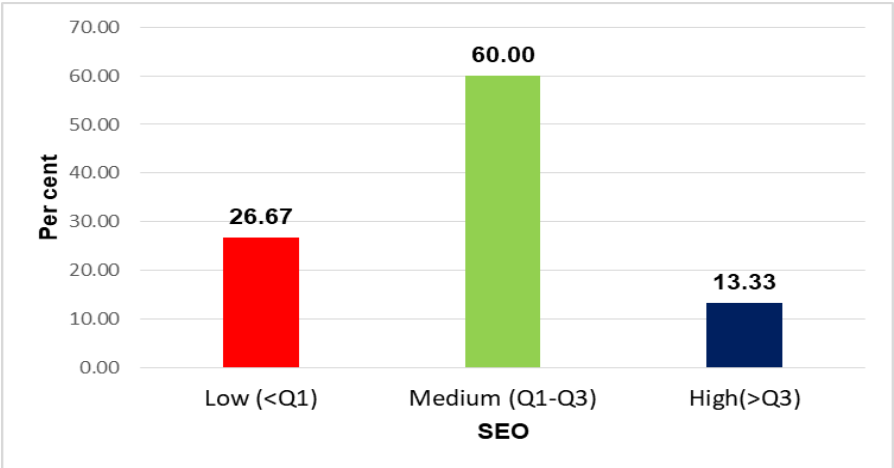


Figure 4.29. Distribution of FPCs based on social entrepreneurship orientation

It could be noted that above half of the respondents (55.56 %) perceived a medium level of performance for the services that were being offered by the FPCs. It indicated that the respondents felt that the marketing facility, credit availability, input supply, and technical support improved on a medium scale after being they became shareholders of the FPC. Around 23.02 per cent respondents indicated a high level of increase regarding the services delivered and only 21.43 per cent of respondents reported a low level of increase in such benefits. The results indicated that FPC membership provided a medium to high level of increase in the extent of services and support delivered compared to individual farming. The results were in line with the findings of Ajith (2018).

Table 4.35. Distribution of respondents based on extent of service delivery scores of FPCs

Extent of services score	Percentage distribution of respondents(%)	Category
Upto 9	27 (21.43%)	Low (<Q1)
Between 9 and 13	70 (55.56%)	Medium (Q1 to Q3)
Above 13	29 (23.02%)	High (>Q3)
Q1=9 , Q3=13, Range =4		

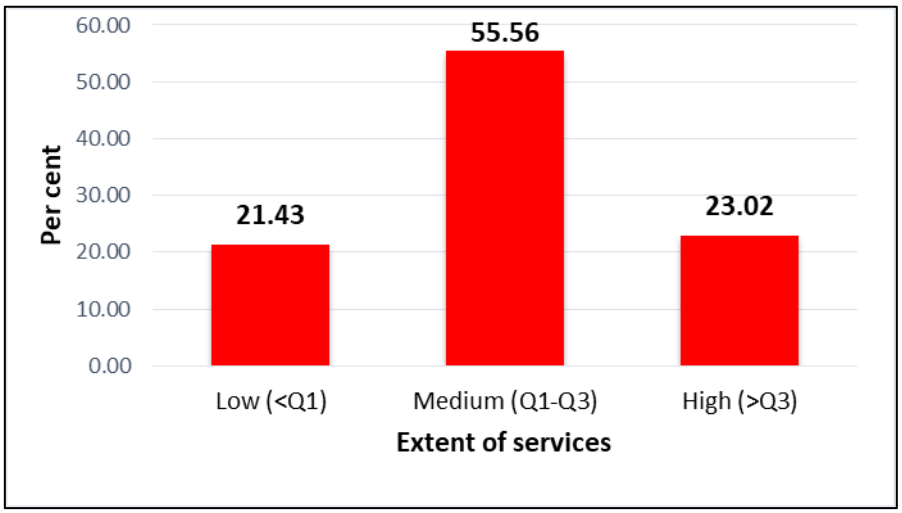


Figure 4.30 Distribution of shareholders on perceived extent of service delivery

4.6.5. Perceived impact of services

The perception of the impact created by the increase in facilities through the services offered by FPCs on income, savings, debt reduction, asset creation and social

participation was also measured and the results are shown in Table 4.36. Majority of the shareholders (65.08%) responded that they could obtain a medium increase in income, savings, assets and social participation and also a medium reduction in debt. Only 16.67 per cent respondents reported a higher impact and there were 18.25 per cent who perceived a lower extent of change. The findings of Ajith (2018) suggested that the membership in FPCs helped farmers to achieve better income, savings and reduced their debt and helped to buy new assets on a medium scale. According to the study of Rajini (2021) FPC shareholders had higher savings than non-members. Renuka (2021) found that income of the shareholders increased significantly due to FPC activities in Punjab. Results support the findings of this study. The perceived changes also helped them to attain better social participation. The histogram showing the distribution of members on the perceived impact of service delivery score is given in Figure 4.31.

Table 4.36. Distribution of respondents based on perceived impact of service delivery

Perceived impact of service delivery score	Distribution of respondents (No)	Category
Upto 7	23 (18.25%)	Low (<Q1)
Between 7 -10	82 (65.08%)	Medium (Q1 to Q3)
Above 10	21 (16.67%)	High (>Q3)
Q1 = 7, Q3, =10, Range =3		

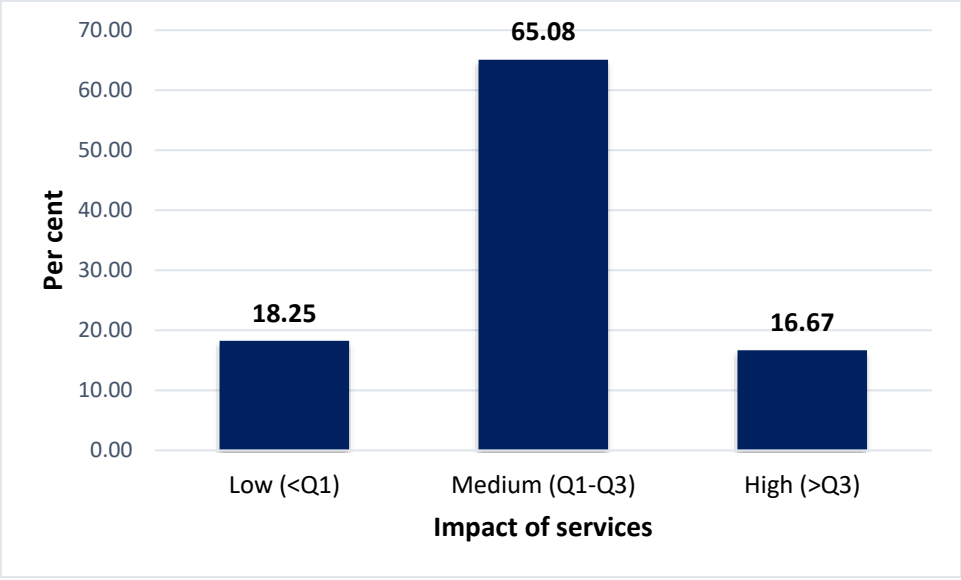


Figure 4.31. Distribution of shareholders on perceived impact of services

4.6.6. Marketing strategy

The marketing strategy followed by the FPCs determined the sales and revenue generation of the firms. As such, it influenced the financial position of the firm. Moreover, FPCs being conceptualised as organisations with a business outlook, profit generation that depended on marketing strategy was central. Further the perishability and bulkiness of the agricultural produce demanded effective marketing strategies in order to attract better prices. The study assessed the marketing strategy of FPCs on the dimensions of marketing mix, known as 4Ps of marketing. The 4Ps covered included the product, price, place and promotion. The overall marketing strategy was assessed using the scores obtained for each dimension. The distribution of FPCs based on marketing strategy dimension scores is represented in Table 4.37.

Table 4.37. Distribution of FPCs based on marketing strategy dimensions

Sl. No	Category	Marketing strategy dimensions (%)			
		Product	Price	Place	Promotion
1	Less efficient	07(23.33)	8 (26.67)	8(26.67)	8(26.67)
2	Moderately efficient	19 (63.33)	14(46.67)	14(46.67)	14(46.67)
3	Highly efficient	4(13.33)	8(26.67)	8(26.67)	8(26.67)

Dimension of product was estimated in terms of the presence of a distinguished brand name, extent of product diversification practised and products offered, customer relations and introduction of new products. Based on the results obtained in the table, 23.33 per cent of the selected FPCs had less efficient product strategy. However, there were 63.33 per cent of FPCs that exhibited a moderately efficient product strategy. Only 13.33 per cent FPCs worked with highly efficient levels of product strategy. This indicated that majority of the FPCs failed in creating a distinguished brand for the products nor they were involved with the collection of customer feedbacks for improvement. As such these FPCs were unable to introduce new and diversified products to the market which were essential to bring better sales. On the contrary the FPCs which obtained higher scores were able to tackle the problems related to products. The results could be well explained in terms of Al Badi (2015) who reported that the production strategy required to satisfy the customer by providing him the right to choose from, brand, products and services.

Price dimension was estimated in terms of the methods of pricing adopted by the firm such as those based on costs, competition or market segmentation. The results from the table and Figure 4.32 revealed that 26.67 per cent of the FPCs had low score for the pricing strategy and was mostly attributed to their failure to price their products based on demand, market segmentation and price the consumer is willing to pay. Fourteen (46.67%) of the selected FPCs exhibited a medium pricing strategy indicating that they had some competitive pricing in place. Further, 26.67 per cent of the FPCs showed a highly efficient level of pricing strategy which was based on market segmentation and demand. Most of the FPCs followed a cost-based pricing strategy which could be attributed to the inelastic demand of agriculture produces. But lack of implementation of competition-based pricing decreased the market share of the produce and could be the reason for the low score for half of the FPCs (Al Badi, 2015).

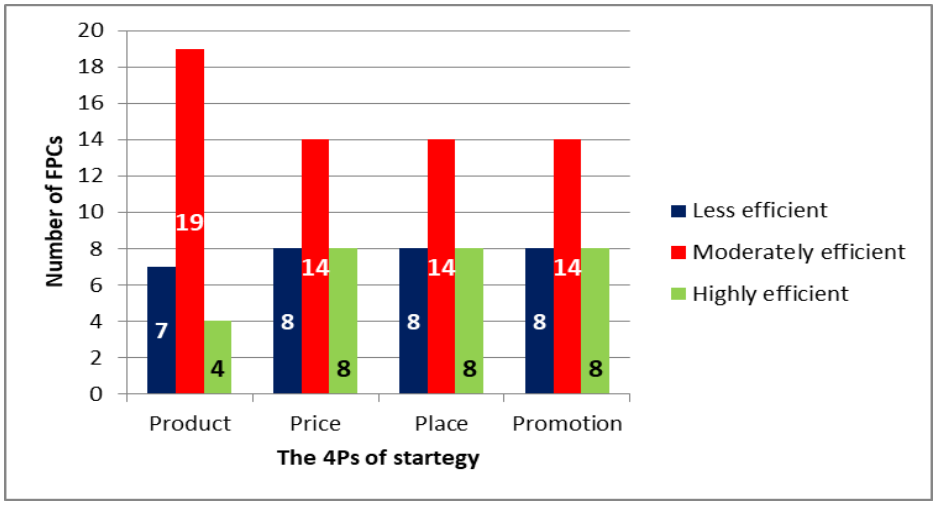


Figure 4.32. Distribution of respondents on marketing strategy dimensions

Similar results were obtained for place and promotion strategies for which 26.67 per cent exhibited a low score for both strategies and 46.67 per cent of the FPCs displayed a medium score. Only 26.67 per cent FPCs had a higher score for place and promotional strategies. This indicated that most of the FPCs sold their products through their own outlets and failed in selling them through local and distant markets. Only few FPCs were successful with the export and online sales of the produces and products. Similarly, majority of the FPCs had not considered the prospects of using public relations and social media in marketing. Most of their publicity came through events, exhibitions and shareholder. The low economies of scale and lack of awareness regarding the export market were considered as the primary reasons for the results.

Ahemad *et al.,* (2013) argued that the place of sales determined the accessibility of goods and services to the consumers and it largely affected the business of the FPCs. Further, the promotional strategies were as important as other dimensions as it communicated the products and services to the consumer and created interest which may result in potential sales.

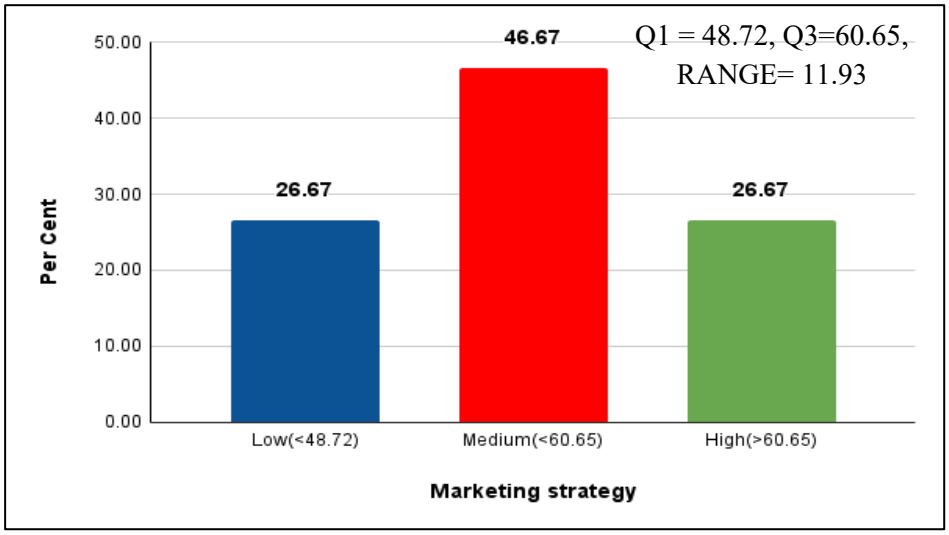


Figure 4. 33. Distribution of FPCs on marketing strategy score

The FPCs studied were listed on the basis of dimension and overall marketing strategy scores in Table 4.38 which showed HOPCL to lead with 72.02 and the least score was 38.45 for North Malabar FPC.

The approaches discussed transcended to the overall marketing strategy of the FPCs presented in Table 4.39. It could be noted from the results that eight of the FPCs (26.67%) showed less efficient marketing strategy and fourteen FPCs (46.67 %) exhibited a moderately efficient level of marketing strategy. Only eight FPCs (26.67%) had a high score on marketing strategy. The results also indicated that price, place and promotion strategies had a greater impact on the marketing strategy of the FPCs and the FPCs needed to concentrate on these dimensions for creating more potential sales (Ahemad *et al.,* 2013). Moreover, the marketing mix strategy was important for the success of FPCs. Further, Nath and Padhi (2020) after studying the marketing strategies and brand performance of FPCs in Odisha district noted that stakeholders of FPCs must be trained on various aspects of branding, packaging and digital marketing for improving the marketing potentials.

Table 4.38. Distribution of FPCS on marketing strategy dimension scores

Sl No	Name of FPC	Marketing strategy dimensions scores of FPCs *				Overall
		Product	Price	Place	Promotion	
1.	Tulunad	25 (71.43)	21 (52.50)	26 (74.29)	24 (93.33)	96 (71.43)
2.	Gramalaksmi	25 (71.43)	22 (55.00)	19 (54.29)	14 (54.44)	80 (58.81)
3.	Mayyil	25 (71.43)	22 (55.00)	24 (68.57)	23 (89.44)	94 (69.88)
4.	Tejaswani	13 (37.14)	25 (62.50)	17 (48.57)	15 (58.33)	70 (51.79)
5.	WAMPCO	22 (45.71)	26 (60.00)	26 (37.14)	23 (54.44)	97 (49.52)
6.	Loga	16 (45.71)	19 (52.50)	19 (60.00)	12 (58.33)	66 (53.93)
7.	WAYFARM	27 (60.00)	24 (60.00)	11 (77.14)	16 (66.11)	78 (65.60)
8.	Niravu	26 (62.86)	18 (35.00)	11 (40.00)	16 (66.11)	71 (49.88)
9.	North Malabar	24 (20.00)	26 (47.50)	17 (42.86)	12 (42.78)	79 (38.45)
10.	Edakkara	27 (80.00)	21 (62.50)	20 (37.14)	15 (73.89)	83 (62.98)
11.	Maranchery	24 (51.43)	29 (42.50)	19 (31.43)	18 (50.56)	90 (43.69)
12.	Srikrishnapuram	14 (40.00)	15 (37.50)	11 (31.43)	13 (50.56)	53 (39.40)
13.	Polima	23 (65.71)	18 (45.00)	10 (28.57)	17 (66.11)	68 (50.60)
14.	Palakkad	24 (68.57)	22 (55.00)	10 (28.57)	11 (42.78)	67 (49.17)
15.	Pananchery	16 (68.57)	24 (65.00)	13 (48.57)	14 (46.67)	67 (57.86)
16.	Thrissur	16 (74.29)	21 (45.00)	21 (31.43)	15 (62.22)	73 (52.62)
17.	Kothamangalam	21 (71.43)	24 (57.50)	27 (57.14)	17 (50.56)	89 (59.40)
18.	HOPCL	22 (62.86)	14 (65.00)	14 (74.29)	17 (89.44)	67 (72.02)
19.	Green vivo	7 (45.71)	19 (47.50)	15 (54.29)	11 (46.67)	52 (48.57)
20.	Thodupuzha	28 (77.14)	25 (60.00)	13 (31.43)	19 (62.22)	85 (57.62)
21.	Neeloor	18 (65.71)	17 (45.00)	11 (82.86)	13 (81.67)	59 (67.50)
22.	Kanjirappaly	25 (51.43)	23 (37.50)	20 (42.86)	13 (77.78)	81 (50.95)
23.	Onatttukkara	23 (57.14)	18 (37.50)	29 (37.14)	21 (62.22)	91 (47.62)
24.	Odanadu	18 (62.86)	15 (40.00)	15 (31.43)	20 (81.67)	68 (52.50)
25.	Karshakajyothi	20 (48.57)	15 (40.00)	13 (31.43)	16 (38.89)	64 (39.76)
26.	Preeminent	22 (48.57)	16 (40.00)	11 (37.14)	21 (50.56)	70 (43.69)
27.	Green orchid	25 (40.00)	18 (40.00)	13 (37.14)	17 (58.33)	73 (43.21)
28.	Pallaruvy	14 (71.43)	16 (45.00)	13 (37.14)	15 (66.11)	58 (54.17)
29.	Kadali	17 (68.57)	16 (72.50)	11 (54.29)	10 (70.00)	54 (66.34)
30.	Panasa	17 (77.14)	16 (52.50)	13 (57.14)	13 (58.33)	59 (61.07)

***Percentage scores in parenthesis**

Table 4.39. Distribution of FPCs based on overall marketing strategy (N=30)

Sl No	Quartile	Number of FPC	Percentage
1	Less efficient (<48.72)	08	26.67
2	Moderately efficient (<60.65)	14	46.67
3	Highly efficient (>60.65)	08	26.67
Q1=48.72, Q3= 60.65; Range = 23.30			

4.6.7. Socio economic development of FPC shareholders

Five components were used to assess socioeconomic progress of FPC members as a result of their membership in the FPC. These components identified using literature review were food security, habitat security, educational security, health security and social empowerment (Sahoo, 2014). With respect to food and habitat security, all the respondents had a high level of both indicating that they were able to provide themselves and their family with good quality food and secure housing. They had enough food and all of the respondents had their own houses as there was no variability in the responses received on food and habitat security. As all the respondents gave full score on both these parameters they were given scores of 100 per cent each. Moreover, it could be inferred that the results obtained were not only due to the membership of FPCs but the socio-political scenario of the state and related policies in place. Distribution of respondents based on other selected dimensions of socio-economic development is presented in Table 4.40.

The level of education provided to the children in the family, awareness about such opportunities and other related information were assessed under the educational security. It was found from the table results that more than half of the respondents (63.49%) had a high level of educational security. About 36.8 per cent (46) of the respondents had a low level of educational security. It could be inferred from the results that most of the shareholders were having awareness about the educational opportunities and gave good educational facilities to their children. But only few shareholders were able to send them to outside towns for education. Further only few families had adults that had undergone functional literacy programmes. The unmarried shareholders also accounted for the 36.8 per cent of low category. Similarly in terms of health security the majority of the respondents (82.54%) had high score and 17.6 per cent belonged to the low score category. The improved health facility of the state and

awareness about health care enabled majority of them to afford health facilities and reduced the need to travel to townships. The improved income from the FPC membership contributed to this capacity.

Table 4.40 Distribution of respondents based on selected dimensions of socio-economic development

Dimensions of Socio-economic development	Dimensional score	Category	Distribution of respondents (%)
Educational Security	Below median	Low	46 (36.80%)
	Above median	High	80 (63.49%)
Median =4 , SD = 0.63			
Health security	Below median	Low	22 (17.46%)
	Above median	High	104 (82.54%)
Median = 2, SD = 0.38			
Social empowerment	Below median	Low	62 (49.21%)
	Above median	High	64 (50.79%)
Median =49 , SD = 6.47			

The social empowerment received from the FPC membership as indicated by the results in Table 4.40 showed almost half of the respondents (50.79%) to have a high social empowerment on factors related to self-confidence, recognition, organisational skills, communication skills and leadership ability. They could also observe an increase in awareness regarding social issues, activities and responsibilities. About 49.21 per cent of the respondents were observed to have a low level of the empowerment. The study of Kaur (2021) on FPOs of Uttarkhand which revealed majority of the shareholders to have a medium to high level of social empowerment supported the findings.

Based on the results an overall score of socio-economic development was determined and the respondents were classified as shown in Table 4.41. The findings of the table showed that the majority of respondents (50.4 per cent) belonged to medium level of socioeconomic development. This was followed by the high socioeconomic development category that consisted of 26.4 per cent of the respondents. The low group had a smaller percentage of respondents of 24 per cent compared to other categories. On review, similar studies by Ajith (2018) and Sahoo (2014) also obtained results along

the same lines where most of the respondents could be observed to have a medium level of socio-economic development as part of the FPC membership. Also, Reddy (2021) in his study concluded that FPC shareholders had better socio-economic status than non-members. This suggested that FPCs had a favourable impact on members' socioeconomic development and provided opportunities for social empowerment. The distribution of FPC members on socio-economic development is also depicted in Figure 4. 34.

Table 4.41. Distribution of respondents based on socio economic development

Sl. No	Quartile score	Category	Frequency	Percentage
1	<75.90	Low	30	24
2	<81.52	Medium	63	50.4
3	>81.52	High	33	26.4
Q1 = 75.90, **Q3**= 81.52, **Range** = 9.81				

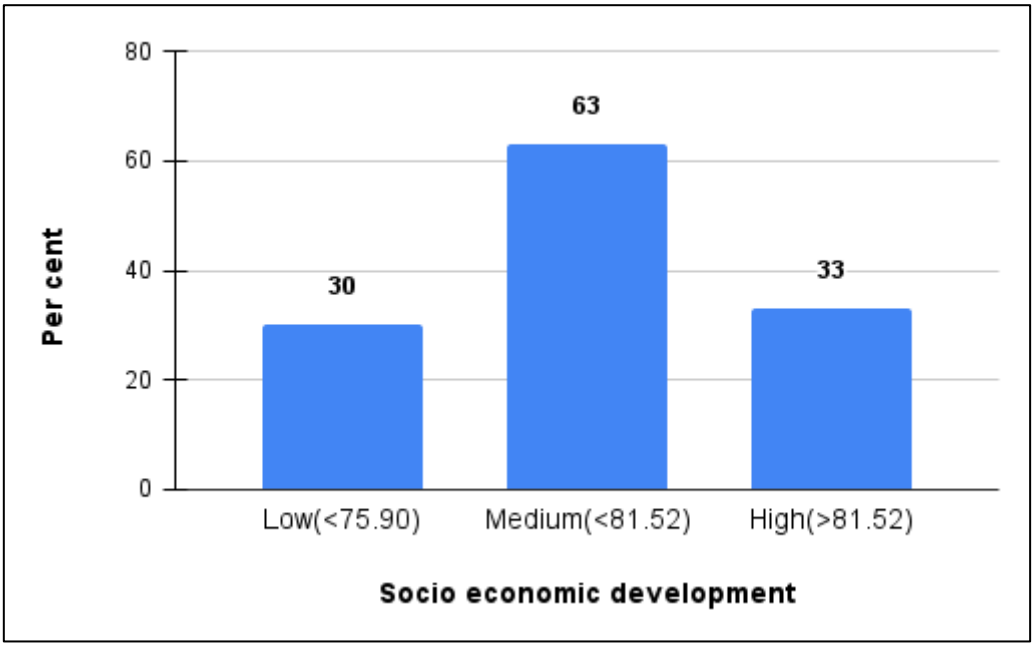


Figure 4. 34 Distribution of shareholders based on socio economic development

4.6.8. Changes in factors of production

FPCs provided farmers with better remuneration for their produces. This helped to improve their economic status and living standards. Those farmers with

entrepreneurial instinct were found to make an investment to improve their factors of production in order to produce more marketable surplus. However, the results of the study indicated in Table 4.42 and Figure 4.35 showed that only a small fraction of the respondents felt changes in their factors of production necessary. There were around seven per cent shareholders who felt an increase in their capital at hand due to FPC membership. Six per cent felt an increase in area of their cultivated land and only two per cent experienced a change in the family and hired labour for production. Only 3 per cent of the shareholders experienced a change in other factors of production like machineries, cultivators and other equipment's at their disposal.

Table 4.42. Distribution of respondents based on perceived changes in factors of production

Sl. No.	Factors of Production	Respondents who perceived change (%)
1	Land	8 (6.35%)
2	Labour	3 (2.38%)
3	Capital	9 (7.14%)
4	Others	4 (3.17%)

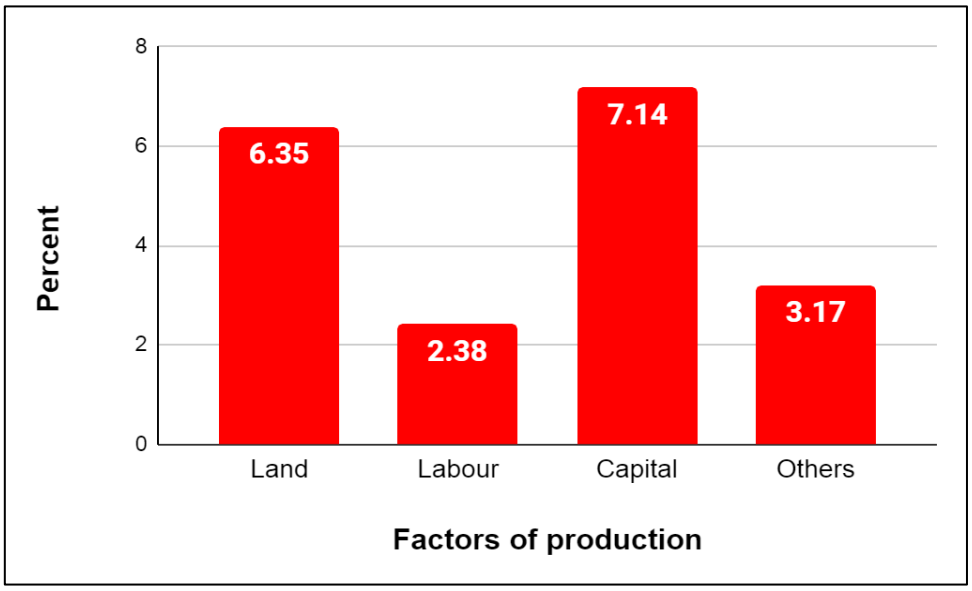


Figure 4.35. Distribution of respondents based on perceived changes in factors of production

4.6.9. Determinants of FPC performance

In order to estimate the performance of FPCs, the factors affecting the performance and the contribution of each factor to the performance were evaluated using PCA. The results from the varimax rotated PCA elucidated nine factors that were independent of each other, and together could account for 70.97 per cent of the total variance. The high cumulative total variance also validated the selection of variables in the estimation of the performance of FPCs. The extracted factors, arranged in the descending order of the variance accounted, are given in the Table 4.43. All the delineated factors had eigen value greater than one which indicated that these factors explained more variance than any one variable could account for independently. The scree plot graph obtained with factors on x axis and corresponding eigen values on y axis, was used to categorise the extracted components into major and minor factors (Fig. 4.36). It could be observed from the figure that the graph flattened off after the ninth component beyond which the respective Eigenvalues fell below one indicating the point of inflexion. It could also be observed from the graph that the difference between the Eigenvalue reduced considerably after the factor four which was taken as the cut-off between major and minor factors. Both the point of inflexion and the cut-off point between the major and minor factors are indicated by the droplines (1) and (2) respectively in Figure 4.36.

Table 4.43. Factor statistics related to the factors affecting the performance of FPCs

Factors	Eigenvalue	Variance (%)	Cumulative Variance (%)
1	4.729	19.703	19.703
2	2.251	9.377	29.30
3	2.019	8.412	37.492
4	1.620	6.748	44.20
5	1.535	6.397	50.638
6	1.408	5.867	56.504
7	1.237	5.156	61.660
8	1.159	4.829	66.489
9	1.075	4.480	70.970

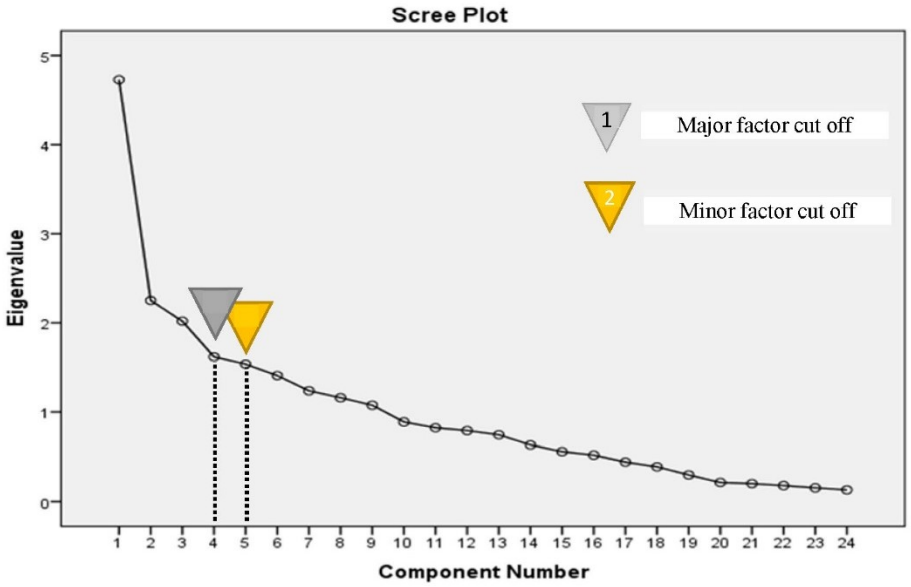


Figure 4.36. Scree plot showing the factors influencing the FPC performance

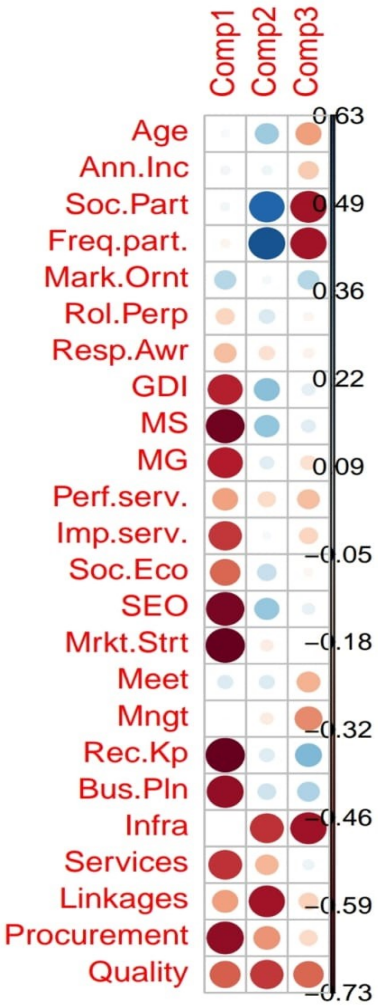


Figure 4.37. Major factors affecting FPC performance

The contribution of selected variables to the major components delineated from the results of factor analysis is represented in Figure 4.37. The extent of contribution of these variables to the factors could be identified from the high score values observed in the figure. It clearly indicated that most of the variables such as group dynamics, market strategy, linkages, quality assurance, social entrepreneurship orientation, record keeping, meetings, performance of services and others had greater contribution to the factors influencing the performance of FPCs. Further, attempts were also made to delineate the major and minor factors using the rotated factor matrix separately and the results are presented under the following respective sub-heads.

4.6.9. 1. Major factors affecting FPC performance

As observed in the scree plot, four major factors were identified to have significant influence on the performance of the selected FPCs (Table 4.44). The table presented the four factors along with their corresponding factor loadings on the extracted variables. Based on the variables the major factors were named as social business dynamics and development, institutional arrangements, organisational orientation and social participation which together accounted for 44.20 per cent of the total variance. It was significant to note that the factor social business dynamics alone accounted for 19.7 per cent of the variance. The variables included were also found to have theoretical validity on literature review. GOI (2013) reports indicated up to date maintenance of records and statutory compliances, development and implementation of business plan as factors affecting functioning and resource mobilisation that in turn influenced the performance of FPCs.

FPCs were based on the virtues of community concern and democratic control wherein it involved with programmes to teach, train, and care for its member farmers. According to Reddy (2016), these organisations also coordinated demand and supply, promoted networks among farmers, dealers, retailers, and even other FPCs thus generating social capital. In the context of these theoretical frameworks, the emergence of social entrepreneurship orientation as an important factor of FPC performance remained well explained. Further, Tepthong (2014) in his study regarding social entrepreneurship and organisational performance found that social entrepreneurship had a favourable impact on social capital, which in turn had a positive influence on organisational resources, impacting organisational performance.

Table 4.44. Major factors affecting FPC performance

Factor no.	Factor	Items under the factor	Factor loadings
1	Social business dynamics and development	Record keeping	0.78
		Social Entrepreneurship orientation	0.78
		GDI	0.71
		Business planning	0.69
		Member satisfaction	0.68
		Marketing strategy	0.55
		Socio economic efficiency	0.50
2	Institutional arrangements	Linkages	0.81
		Infrastructure	0.72
		Quality assurance	0.66
		Procurement process	0.51
3	Organizational orientation and member benefits	Market gains	0.67
		Impact of services	0.65
		Responsibility awareness	0.62
4	Social participation	Nature of participation	0.90
		Frequency of participation	0.89

The association observed between group dynamics and FPC performance was earlier reported in several studies. Ajith (2018) analysed the association between group dynamics and performance for selected FPOs in the Idukki district and discovered a favourable relationship between group dynamics and performance. Aishwarya and Karuna (2020) in their study on the impact of group dynamics on organisational productivity found a favourable association between the two factors. Sudip (2020) also found that high performing FPCs have higher group dynamics compared to that of low performing FPCs

According to Nath and Padhi (2020) who gave a descriptive analysis of the benefits gained by beneficiaries of Odisha's FPOs indicated that the members of FPCs received higher income, packaging, technical benefits, and better livelihood, as well as other operational benefits. When correlational analysis was used, it was also discovered

that the benefits of FPOs had a positive association with performance. These could explain the identification of benefits of FPC as a determinant of the performance of FPCs. Besides, FPCs were also profit motivated institutions, the marketing of their produce was assumed important for revenue generation and an adequate strategy was important in realizing it. Moreover, as FPCs were mostly Small and Medium Enterprises (SMEs) their sales were largely affected by market competition which needed focus on marketing strategies. Abiodun and Kolade (2020) investigated marketing tactics and their impact on the organizational performance of Small and Medium Enterprises (SMEs) in Kwara State, Nigeria. The results of a linear regression model applied to data from respondents demonstrated that parameters such as product, promotion, packaging, and price are stronger markers of business performance for both staff and individually owned small-scale firms. Nath and Padhi (2020) investigated the activities, marketing tactics, and brand performance of FPCs in Odisha and their findings revealed that marketing challenges such as lack of marketing information, weak participation in the consumer market, and traders' dominance caused major market failures and negatively affected the branding performance of the selected FPCs.

The satisfaction of members and its effect on performance have been highlighted in the stakeholder theory of Freeman. Further, Can (2014) made comparisons between satisfaction levels of member breeders and non-member breeders of producer organizations while performing the socio-economic analysis of small ruminant breeders' membership relationship and organizational performance and found that both were related, which is again along the lines of the results obtained.

Another major factor that contributed to the performance of FPCs was the institutional arrangements created by the FPCs to facilitate the functions and it explained 9.30 per cent of total variance (Table 4.44). Linkages with other institutions, ownership of infrastructure, quality assurance parameters and procurement processes and methods were the variables extracted under the factor. The number of linkages formed by each FPC gave them the required competitive advantage over the other. The basic linkages FPCs created covered financial, technical, extension and marketing networks. Results obtained by Nanthagopan (2011) demonstrated that in local organisations networking had a greater influence on organisational performance than for multinational corporations. Thus, it was quite logical that the local organisations like FPCs placed a great value on these linkages for better benefits.

The ownership of infrastructure, affected the workspace, production potential and storage capacity of FPCs which in turn influenced the performance of these organisations as inferred from the results. Vedashri (2018) had observed that poor infrastructural facilities affected the performance of FPCs in Andhra Pradesh which supported the present findings of the study.

FSSAI mandated several checklists for procurement of raw material and quality assurance in production for MSMEs. FPCs being mostly MSMEs, the adherence to these checklists helped in improving the quality and procurement methods of the firm providing for better products and services. As per Aziz *et al.,* (2019), provision of quality products and services helped to gain customer satisfaction, through which a competitive edge could be gained by MSMEs. This competitive edge for MSMEs like FPCs gets translated to market share and better performance of the firm.

The third major factor, organizational orientation and member benefits, which contributed towards 8.4 per cent of the total variance (Table 4,44) had market gains, impact of services and responsibility awareness as the contributing variables. In fact, FPCs promoted direct marketing among shareholders and bulk marketing which enabled the members to receive better price for their produce. Besides, it also aided in the reduction of transactional costs which served as additional benefit to the members of the FPCs. The results were justified by the study of Kumar (2019), which reported that out of the 1024 marketing licenses issued in Maharashtra, 400 were given to FPOs, allowing them to advertise their produce directly in the market and increase their turnover which helped them to attain higher performance.

The results from Table 4.41 also indicated that impact of various services provided by the FPCs had association with performance. The result received support from the findings of Vedashri (2018) where significant impact on farmers economy were noted due to FPC membership which improved the member participation and performance of the FPCs in Andhra Pradesh.

The results from the table further suggested responsibility awareness as another variable contributing to the factor organisational orientation and member benefits which affected the performance of the FPCs. As FPCs were member owned institutions, member participation and contribution to the functional and operational areas of the FPC contributed to the performance. According to Can and Yalcin (2015), it had an

impact on the organization's performance, as irresponsible behavior contributed to bad management and failures. Hence, the awareness about the rules, regulations and rights of each stakeholder assumed importance in the functions of FPCs.

The factor, social participation was found to contribute 6.7 per cent of the total variance offered by the major factors (Table 4.44). Conceptually social participation of shareholders improved their leadership skills which contributed towards their better participation in the functions of FPCs which in turn translated to the performance of FPCs. Sudip (2020) in his study has pointed out that those FPCs in which the shareholders had a higher social interaction performed better compared to other FPCs.

4.6.9. 2. Minor factors affecting FPC performance

Five minor factors influencing the performance of FPCs were identified on the basis of the rotated factor matrix and scree plot. These factors together contributed 26.77 per cent of the total as reported in Table 4.45. The delineated factors were named appropriately corresponding to the variables loaded under each as service delivery, performance management, psycho-personal attributes, income and market orientations (Table 4.45). Each variable loaded in these factors were found to have high factor loading that ranged from 0.86 to 0.53. Farmer Producer Companies offered several services to the members which improved their satisfaction and held an influence on performance of the FPCs as confirmed by Can (2014) and Babu and Patoju (2021). Further, meetings conducted by FPCs facilitated their functioning and day to day activities. That could be the reason why indicators such as meetings and general administrations were used by Singh and Singh (2014) to measure performance of Poultry Producer companies. A positive influence of meetings on performance was also confirmed by Vedashri (2018) along with age and annual income of the shareholders. The performance of services exhibited an association with perceived performance of the organisation in the study of Ajith (2018) indicating further validity of the results.

Significant relationship of market orientation and FPC performance was confirmed by Lings and Greenley (2009) which was also along the lines of the results obtained in the table. As per the rules of FPCs described in the Companies Act of 2013, CEOs were supposed to carry out the day-to-day activities and functions deemed fit by the board. The CEOs were important in deciding the function of the FPCs in absence of the directors. Therefore, the type and tenure of directors influenced the performance

as proven by Simsek (2007). Further in similar institutions like SHGs perception of functional roles contributed the organisational performance as revealed by the study of Sayuj (2012).

Table 4.45. Minor factors affecting the performance of FPCs in Kerala

Factor no.	Factor	Items loaded under the factor	Factor loadings
1	Service delivery	Services offered	0.74
		Meetings	0.83
2	Performance management	Management	0.80
		Performance of services	0.58
3	Psycho-personal variables	Age	0.77
		Role perception	0,53
4	Income	Annual income	0.86
5	Market orientation	Market orientation	0.84

4.7. EVALUATION OF FPCS ON PERFORMANCE INDEX

Based on the performance index equation described in the methodology the measures of the factors delineated were divided by their maximum scores and multiplied by corresponding eigenvalues to impart weightage. This was summated to

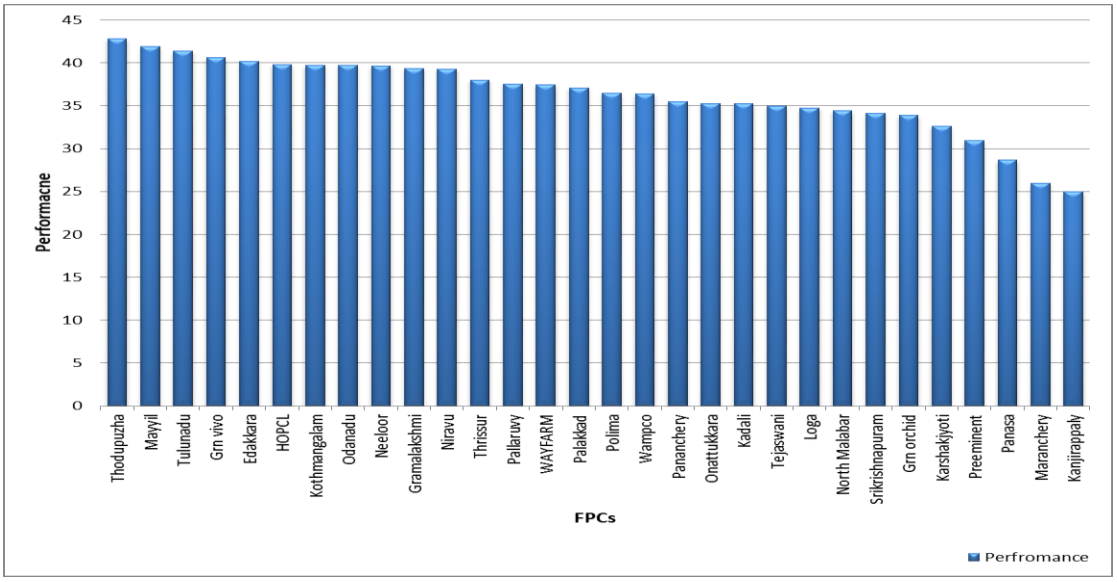


Figure 4.38. Ranking of FPCs on performance index score

Table 4.46. Ranking of FPCs based on performance index (N=30)

Sl No	FPC	Performance Index	Rank
1.	Thodupuzha	42.79	1
2.	Mayyil	41.91	2
3.	Tulunadu	41.36	3
4.	Green vivo	40.58	4
5.	Edakkara	40.16	5
6.	HOPCL	39.80	6
7.	Kothmangalam	39.70	7
8.	Odanadu	39.68	8
9.	Neeloor	39.67	9
10.	Gramalakshmi	39.30	10
11.	Niravu	39.29	11
12.	Thrissur	38.00	12
13.	Pallaruvy	37.54	13
14.	WAYFARM	37.41	14
15.	Palakkad	37.08	15
16.	Polima	36.47	16
17.	Wampco	36.37	17
18.	Pananchery	35.46	18
19.	Onattukkara	35.28	19
20.	Kadali	35.26	20
21.	Tejaswani	34.97	21
22.	Loga	34.74	22
23.	North Malabar	34.39	23
24.	Srikrishnapuram	34.11	24
25.	Green orchid	33.89	25
26.	Karshakjyoti	32.61	26
27.	Preeminent	30.92	27
28.	Panasa	28.67	28
29.	Maranchery	25.94	29
30.	Kanjirappaly	25.00	30
	Mean performance Index	36.28	

obtain the performance of each selected FPC and the results were ranked as shown in the Table 4.46. Also, a graphical representation of the ranking of FPCs on performance index is given as Figure 4.38.

It could be observed from the results in Table 4.46 that the performance scores ranged from 42.79 to 25.00 and the overall mean index was 36.28. The results were indicative of the variability in performance of FPCs operating in the state. It also revealed that Thodupuzha FPC was the best performing of all PCs in the state and Kanjirappaly FPC was the least performing. The FPCs in the higher category of performance had performed better in all the contributing factors and corresponding variables including group dynamics, marketing strategy, social entrepreneurship and linkages. This explained their position while the reverse was true for the FPCs in the low performance category. In order to further evaluate the variations, the FPCs were classified on basis of the performance into three groups as shown in the Table 4.47 and also as Figure 4.39.

4.47. Distribution of FPCs on performance index scores

Sl No	Performance index score	Category	Number of FPC (%)
1	< 34.47	Low	8 (26.67)
2	< 39.68	Medium	14 (46.67)
3	>39.68	High	8 (26.67)
Q1=34.47, Q3= 39.68 Range = 8.32			

It could be inferred from the results in the table that 46.67 per cent of FPCs where in the medium performance index score. Also, there were another 26.67 per cent FPCs each in the h igh and low performance categories respectively. The results suggested that more concentrated efforts were needed to streamline the activities of FPCs in the state so that they reached better performance levels. Based on the previous studies of Singh (2021), Reddy (2021) and Kaur (2021) specific strategies that focus on group dynamics, business, marketing strategy and member satisfaction are required in order to improve the performance.

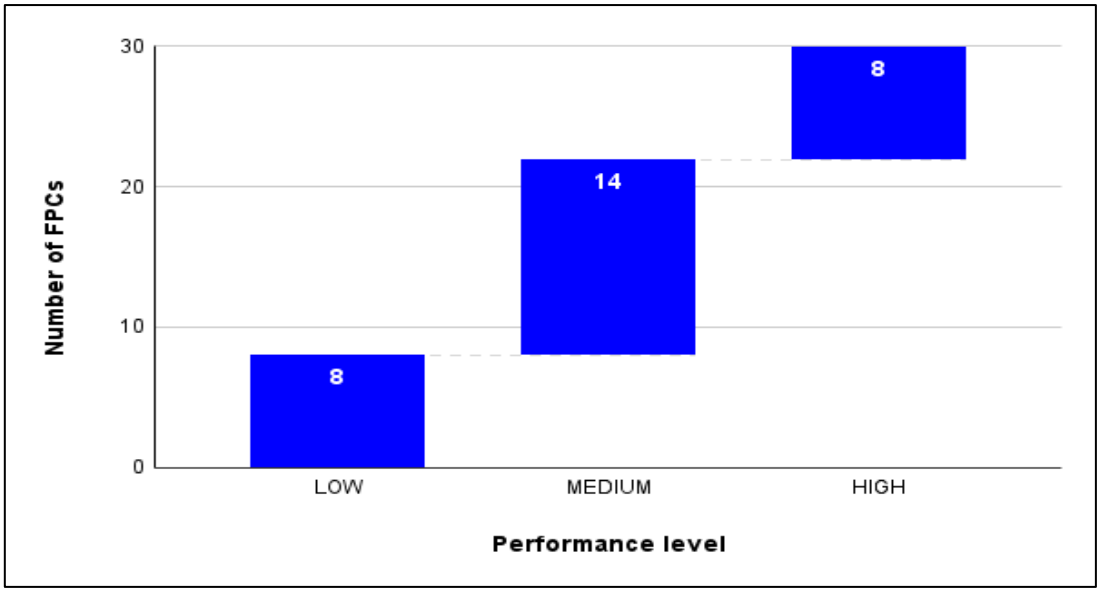


Figure 4.39. Distribution of FPCs on performance index score

4.8. CONSTRAINTS AFFECTING FPC PERFORMANCE

In order to understand the constraints faced by the FPCs, both board members including CEO and shareholders were asked to rank the constraints identified using literature review. Different set of constraints were provided for both groups to rank as the perception of constraints from the viewpoints of both groups may differ. The identified constraints based on the ranks were also subjected to Kendall's concordance analysis and the results obtained found Kendall's W as 0.317 with Chi-square score value of 251.105 for the board and a Kendall's W of 0.420 with a Chi-square value of 450.165 for shareholders. The Kendall's W values where significant at 1% level and indicated a strong degree of concordance among the members and governance boards to rank the constraints.

4.8.1. Constraints perceived by governance board

It could be noted from the table that inadequate market access is the major constraint identified by the board for the functioning of the FPCs as majority of them feel that they are unable to sell their products in the existing market despite producing quality products. The second and third ranked constraints suggest that the FPCs feel that they require a subsidised credit support and government support in terms of better policies and services. The competition from other retailers and brands in the open market and the low market price obtained as a result are also major constraints identified by the board indicating that consumers prefer brands irrespective of the

quality product and produces offered by the FPCs and there is lack of awareness among the general public regarding this. Also high cost of value addition and branding is a major reason that puts these FPCs at a disadvantage in the competition against retailers and brands These FPCs hope for a policy reform of infrastructural support to mitigate this from the government side. The least ranked constraint was contract farming among members as farmers in the state of Kerala are not generally practicing such methods of agriculture.

Table 4.48. Constraints identified by governance board members (N=90)

Rank	Constraints	Mean Score
1	Inadequate market access	3.59
2	Lack of adequate financial/credit support	3.72
3	Lack of government support	4.36
4	Competition from retailers and brands	4.53
5	Low market price	5.07
6	High cost of value addition and branding	5.30
7	No risk mitigation support from NABARD	6.00
8	No quality assurance and export facilitation	6.45
9	Non standardisation of cultivation practices	6.70
10	Contract farming among members	9.27

4.8.2. Constraints perceived by shareholders of FPCs

The results from the table indicate that shareholders feel that the cost of cultivation have gone up and they require additional financial and credit support that will help them to revive their cultivation. On assessing the constraints that have obtained the first five ranks it could be noted that the price received from the market is low and there is diminished support from the government and other agencies regarding extension support of new technologies and improved ways of farming which is affecting their farm income. Competition from retailers is also contributing to this situation and hence the fourth rank. Further shareholders feel that they are missing out on several services, like insurance and credit from the FPCs as well as the government.

Figure 4.40. Constraints identified by governance board members of FPCs

Figure 4.41. Constraints identified by shareholders of FPCs

Bishnoi and Kumari (2020) also identified that financial and credit support is a major constraint for FPCs as because they have no assets other than the equity of their members to leverage borrowings, and it is extremely difficult for any banking institution to give them with large sums of money. As a result, the banking sector must investigate how these FPCs are able to raise the necessary margin money to mobilise the loans. Alternative means to financing FPCs should be considered because they do not have many physical assets but only have tangible assets. Singh (2021) had identified

lack of financial assistance, organizational management, inadequate market information, lack of extension facility, lack of value addition and branding and poor market linkage as major constraints. The constraints also identified by Vedashri (2018) and Ajith (2018) in their studies on FPCs are along the lines of the results obtained indicating that these constraints determine the function and survival of these organisations

Table 4.49. Constraints identified by shareholders (N=120)

Rank	Constraints	Mean score
1	Lack of adequate financial/credit support	2.57
2	Price received from market	3.32
3	Lack of extension/government support	3.59
4	Competition from retailers and brands	3.85
5	Lack of services	5.93
6	No value addition and branding	6.46
7	Lack of professional management	6.92
8	Lack of infrastructure	6.98
9	Non standardisation of cultivation practices	7.69
10	No quality assurance and export facilitation	7.69

4.9. RECOMMENDATIONS FOR GOOD MANAGEMENT PRACTICES IN FPC

The direction of progress of the FPCs was decided on a day-to-day basis by the governance board that consisted of the director board members and the CEOs. The shareholder members of the FPCs had only indirect influence on the functional activities of the FPCs. However, the overall performance of the FPCs had direct bearing on the group behaviour of both the governing members and shareholders and their satisfaction. As such, the FPC performance could be interpreted on the basis of Freeman's stakeholder theory (1984). It conceptualised stakeholders as the group of people without whose contribution, the organisation would move towards inefficiency and gradually cease to exist. Accordingly, the study conceptualised stakeholders of FPCs to include everyone from shareholders who were mostly the producers and suppliers, director board members who represented political, environmental and local

community groups related to agriculture and CEOs who were technical experts. This implied that the business ecosystem of FPCs was composed of the inter group dynamics of these stakeholders which determined the successful performance of the firms and the stakeholder satisfaction in the long run. Thus both the governance board members and shareholders were considered critical stakeholders in deciding the performance of FPCs. It was in this theoretical context the study attempted for an understanding of the interplay of group dynamics and service efficiency on FPC performance with member satisfaction as a mediating variable that was assumed to have an influence on all stakeholders. The selection of these variables followed the results from PCA that extracted these as significant stakeholder variables of the most important factor of overall performance. In this pretext, the study attempted to validate how stakeholder satisfaction through perceived service efficiency improved the group dynamics among the members of the FPC that had positive effects on the performance of FPCs. The assumption was tested using the Structural Equation Modelling (SEM), a multivariate analysis technique used to analyse complex interrelationships to delineate recommendations for good management practices in FPCs.

4.9.1 Structural equation modelling (SEM)

Most often the SEM technique is used to measure, analyse and understand the relationship between the observed and latent variables related to behavioural propensities. In the study the changes of FPC performance and member satisfaction caused by the latent variables, service efficiency and group dynamics was investigated. Further the relationship between the two observed variables, FPC performance and member satisfaction was also estimated using SEM. As a statistical tool, it is considered more powerful than regression analyses as it explained linear causal relationships accounting simultaneously for measurement error. The analyses were conducted based on a structural (path) and a measurement model designed for the purpose as presented in Figure 4.42. The squares in the figure represented observed variables, error associated with measured variables are given in circles, direct relations are shown by one headed arrows and covariance or correlation in double headed arrows.

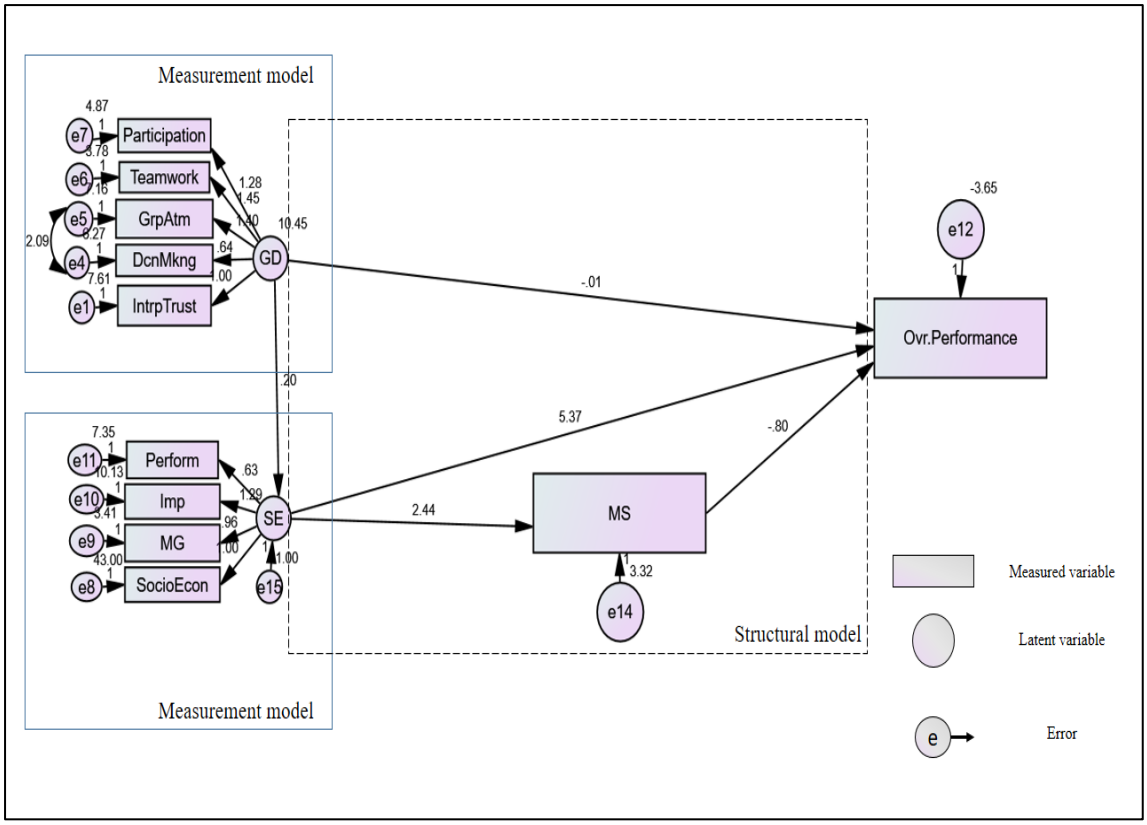


Figure 4.42. SEM model of stakeholder perspective FPC performance

GD- Group dynamics, SE- Service efficiency, MS-Member satisfaction

GrpATm – Group Atmosphere, DcnMkng- Decision Making, IntrpTrust Interpersonal Trust, Perform- Performance of services, Imp- Impact of services, MG- Market gains, SocioEcon-Socio-economic efficiency

The validity and reliability of the constructs used was assessed using measures of discriminant validity and construct reliability. The value of average variance extracted (AVE) and Construct Reliability (CR) obtained through factor analysis are given in Table 4.50. According to Netemeyer *et al.,* (2003) the AVE value higher than 0.5 indicated high discriminant validity, considered the highest form of validity. It showed that the indicators used to measure a particular construct had more in common with that construct than others. Further, CR value above 0.6 also suggested a significant reliability indicating a satisfactory internal item consistency for measurement of the particular construct.

According to the measures of absolute, incremental and parsimonious fit, the model was evaluated to have adequate fit on identified indices given as Table 4.51. The low chi-square value of 64.23 together with the high p-value of 0.009 for the chi-square

test confirmed absence of any statistically significant difference between the covariance matrices of the observed sample and estimated model.

Table 4.50. Reliability, validity measures of SEM model

Sl. No	Variables	AVE	CR
1	Group dynamics	1.43	1.00
2	Member satisfaction	0.64	0.64
3	Service efficiency	9.7	0.67

The normed chi-square (ratio between the chi-square and number of degrees of freedom) value of 1.6 was within the recommended interval of 1 to 3. The root mean square error of approximation (RMSEA) value of 0.070 was found to be below the threshold maximum value of 0.08 (Hair *et al.,* 2006). These indicated excellent fit for the SEM model. The comparative fit index (CFI) value of 0.96, Normed Fit Index (NFI) value of 0.91, Tucker–Lewis index (TLI) value of 0.95 and goodness of fit index (GFI) value of 0.921, were all above the cut off value of 0.9 for fit indices.

Table 4.51. Model fit summary on fit measures of SEM model

Indices	Value	Suggested value
Chi-square	64.226	-
DF	40	-
P Value	.009	>0.05 (Hair *et al.,* 2006)
GFI	0.921	>0.9 (Hu and Bentler, 1999)
NFI	0.912	>09 (Hu and Bentler, 1999)
CFI	0.964	>0.9 (Daire *et al.,* 2008)
RMSEA	0.070	<0.08 (Hair *et al.,* 2006)
TLI	0.951	>0.9 (Hair *et al.,* 2006)

The empirical model obtained as a result of SEM as revealed in Figure 4.42 showed that service efficiency had the most positive impact on performance of FPCs. The finding was in line with the basic principle on which FPCs were designed to provide services to member farmers in marketing, value addition, training, and financial services. Basically, it was these services that attracted the primary producers to join FPCs. This implied that a larger number of better services especially in risk and financial management will attract more farmers to join FPC. Thus, efficiency of service delivery impacted the activities undertaken by FPCs as well its profit position and

overall performance. Hence, improving the services and their efficiency could create investments and helped the FPCs to achieve better performance. Both path coefficients and structural equation coefficients were computed as reported in the figure. These coefficients were calculated simultaneously for all endogenous variables rather than sequentially as in regular multiple regression models. It could be observed that the latent variable service efficiency had four indicator variables and the group dynamics had five latent variables in the optimal estimated model. Performance of services, market gains, impact of membership and socio-economic efficiency were the indicator variables of the latent variable service efficiency. The latent variable group dynamics was considered resultant variable of indicators, participation, teamwork, group atmosphere, interpersonal trust and decision-making procedure.

It could be observed from the results that member satisfaction had a less significant impact on the overall performance of the FPCs. As shown in the Figure 4.42, the member satisfaction was highly influenced by the attitude towards service delivery. Primary producers join these organisational formats expecting an increase in their income, market and socio-economic conditions. Hence a better performance of services, which had an impact on the livelihood of the member farmers, would influence their satisfaction levels.

Group dynamics had no direct impact on the overall performance of the PC. However, group dynamics had a minimal but significant influence on the service efficiency and member satisfaction. The collective behaviour of the group and their participation would generally influence the organisational behaviour. If the farmers participated in FPC activities as a team, it had the potential to create a congenial and cohesive functional atmosphere. Further their involvement in decision making arenas could further help them understand the risk and uncertainties associated with businesses. This could affect their expectation levels as well as their attitude towards the services rendered by the FPCs. Hence their satisfaction levels were critical even though indirectly. Thus, the results substantiated the stakeholder theory by proving that the FPCs needed to be mindful not only of shareholders of the company, but also of board members and CEOs who conduct the business to shape its presence in the landscape of the industry.

4.9.2. Results of Multiple Correspondence Analysis (MCA)

Besides the socio-psychological variables, the performance of FPCs were also assumed to be influenced by the organisational attributes such as turnover, membership, age of FPC, infrastructure, and machinery which were represented by nominal categorical data sets. As these represented nominal categorical variables, Multiple Correspondence Analysis (MCA) was attempted in the analysis. The relations were studied in terms of the following categories as depicted in Table 4.52

Table 4.52. Categories of variables evaluated using MCA

Variable	Category 1	Category 2
Age of FPC	Mature	Nascent
Turnover	High	Low
Membership	High	Low
Machinery	More	Less
Infrastructure	Good	Poor
Performance	Good	Poor

The indicator matrix derived from MCA analysis is presented as Table 4.53. The results from the table showed the decomposition of inertia of into 6 components which together explained the total inertia of 1.000. The first two components together accounted for 55.68 per cent of the total inertia with the first and the second components contributing for 35.29 and 20.39 per cent of the inertia respectively. As the two components were not found sufficient in explaining the variations, three other components were added to increase the cumulative proportion of inertia to 93.26 per cent. Each of the principal inertia values quantified the amount of variation accounted for by the corresponding principal dimension and was further decomposed into components for each of the rows and columns as presented in Table.4.53.

In the column contributions table (Table 4.54), the Inert column represented the proportion of the total inertia contributed by each category. Thus, maturity (age of FPCs) and good infrastructure deviated most from the expected value contributing 12.78 per cent each to the total chi-squared statistic. Quality (Qual) statistic indicated the proportion of inertia represented by the components for each category and had values between 0 and 1. Larger quality values indicated that the category was well represented by the components and lower values showed poor representation. Quality (Qual) statistic indicated the proportion of inertia represented by the components for

each category and had values between 0 and 1. Larger quality values indicated that the category was well represented by the components and lower values showed poor representation. The highest quality values were shown by high and low membership (0.675) which suggested that these two categories were best represented by the two components. The poorest representation with quality values 0.322 was observed with respect to poor and good infrastructure. In terms of contribution to component one the variables poor and good performances each with 0.15 had the maximum contribution. However, with respect to component two the maximum contributing variables were maturity of FPCs with value 0.42 and membership with 0.15. Mass determined the proportion of each column category and larger mass values indicated that the column category had a higher relative frequency. Corr indicated correlation value which was used to interpret each component in terms of its contribution to column inertia. Values close to 1 indicate that the component accounts for a high amount of inertia. Values close to 0 indicate that the component contributes little to inertia. Principal coordinates for the column categories could be found represented in the column plot given as Figure 4. 43.

Table 4.53. Indicator matrix of MCA

Axis	Inertia	Proportion	Cumulative
1	0.3529	0.3529	0.3529
2	0.2039	0.2039	0.5568
3	0.1660	0.1660	0.7228
4	0.1233	0.1233	0.8462
5	0.0864	0.0864	0.9326
6	0.0674	0.0674	1.0000
Total	1.0000		

The influence of categorical variables of FPCs on performance was revealed through the MCA analysis. The results from the column plot (Figure 4.43) indicated that poor and good performances were most distant from the origin along the horizontal axis for component 1. This corresponded well with the relatively high contribution (Contr) for these categories for component 1. Also low turnover and high turnover, low machinery, as well as more machinery, were on opposite sides of the origin which

Table 4.54. Column contributions of MCA

ID Name	Qual	Mass	Inert	Component 1			Component 2		
				Coord	Corr	Contr	Coord	Corr	Contr
Nascemt	0.6707	0.1278	0.0389	0.0143	0.0007	0.0001	0.4516	0.6701	0.1278
Matured	0.6707	0.0389	0.1278	-0.047	0.0007	0.0002	-1.4838	0.6701	0.4199
L. Membership	0.6746	0.0833	0.0833	-0.5544	0.3073	0.0726	0.6061	0.3673	0.1501
H. Membership	0.6746	0.0833	0.0833	-0.5544	0.3073	0.0726	-0.6061	0.3673	0.0031
L. Turnover	0.4882	0.0833	0.0833	-0.6933	0.4807	0.1135	0.0871	0.0076	0.0031
H. Turnover	0.4882	0.0833	0.0833	0.6933	0.4807	0.1135	-0.0871	0.0076	0.0031
P. Infrastructure	0.322	0.1278	0.0389	-0.3035	0.3027	0.0334	-0.0765	0.0192	0.0037
G. Infrastrucure	0.322	0.0389	0.1278	0.9973	0.3027	0.1096	0.2514	0.0192	0.0121
L. Machinery	0.5408	0.1	0.0667	-0.5074	0.3861	0.0729	-0.3211	0.1547	0.0506
M.Machinery	0.5408	0.0667	0.1	0.761	0.3861	0.1094	0.4816	0.1547	0.0758
P.Peformance	0.6447	0.0833	0.0833	-0.8001	0.6401	0.1511	-0.068	0.0046	0.0019
G.Peformance	0.6447	0.0833	0.0833	0.8001	0.6401	0.1511	-0.068	0.0046	0.0019

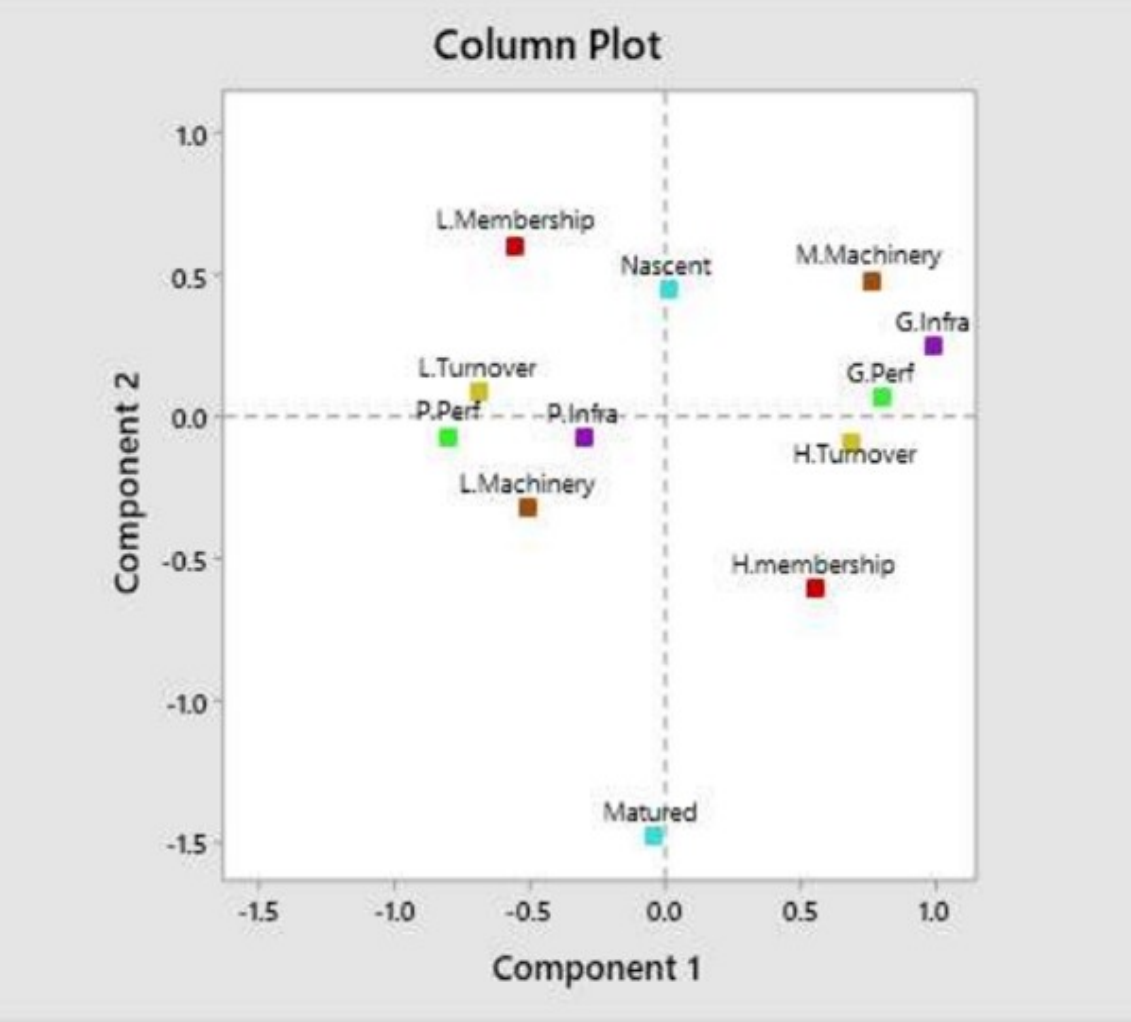


Figure 4.43. Column plot of MCA

indicated that the component 1 contrasted on these category values. Component 2 is represented on the vertical axis. The matured category was located far from the other categories on one side of the vertical axis. Therefore, on component 2 matured FPCs contrasted with other categories.

Association between the selected categorical pairs of variables with categories of performance and age of the FPC was noted. The study revealed that nascent FPCs performed better with more machinery, good infrastructure and higher turnovers. Hence for nascent FPCs, streamlining the activities with envisaging the improvement the machinery and infrastructure and turnover is recommended rather than membership enhancement. On contrary in order to improve the performance of the matured FPCs membership enhancement was key.

4.9.3. Policy recommendations on good management of FPCs

The results of SEM and MCA analysis had several policy and management implications. The SEM revealed that perceived service efficiency had the highest influence on performance. FPCs are designed to provide several set of services to shareholders that help in production and marketing of their produce (Ajith, 2018). These set of services include, financial services, marketing, pre-sowing services, production management, capacity building, networking, advisory and value-addition services. The shareholders also expect to receive such services as the benefits of their relationship. The model suggested that improving the perceived service efficiency could improve the performance of the FPCs as well as the satisfaction and the group dynamics of the shareholders. The results were complimented by the study of Rajini (2021) who studied the members participation in FPCs based on the services offered by the FPC. According to Rajini (2021) the highest participation of the shareholders was in the FPC that provided higher number of services. As per the results of the study, credit access was the service prioritised by the shareholders.

The present study also revealed that majority of the FPCs in Kerala does not provide credit and insurance services due to their financial position. This lack of adequate financial support was also one of the major constraints identified by the shareholders. Hence a cautious effort from the FPC management is required to identify and provide the necessary services required by the shareholders. This could improve the participation of the shareholders in the FPC activities. Improved participation and contribution from the shareholders could result in increased economies of scale and efficiency of the FPC. This could bring about an improvement in the performance of FPCs. A policy shift for providing the current services and subsidies for small holders and individual farmers by the Central and State through the FPCs was also recommended. Also support of nascent FPCs through subsidies for technology enhancement and infrastructural development could enhance the performance. Capacity building of the management for better HR practices in order to retain and improve the quantity and quality of membership is highly recommended for more matured FPCs. Other key recommendations derived from the study are provided as follows.

- Conduct, trainings, awareness programmers for improving the participation and responsibility sharing of shareholders.
- The trainings for board members including the CEO must focus on improving their managerial competency in program implementation and HRM
- Institutionalization of collective marketing structure for increasing economies of scale.
- Export and quality assurance facilities facilitated through public sector agencies.
- Extension programmes focusing on technology and HR use efficiency rather than transfer of technology (ToT).
- Incentives and benefits based on maturity and membership of FPCs.
- Improved business planning support.
- Institutionalized support for legal formalities like auditing and registration.

Summary and Conclusion

5. SUMMARY AND CONCLUSION

The inadequacy of cooperatives to meet the wide-ranging requirements of farmers prompted the search for more competent mechanisms. As a result of the attempts to overhaul the country's cooperatives, the Indian Companies Act of 1956 was revised in 2002 which paved the way for a new institutional form known as Farmer Producer Organizations. It was recommended by the Prof Alagh Committee and Producer Companies, which combined the cooperative and business perspectives, were the most common format. In 2013, the Indian government launched a National Policy for the Promotion of FPCs. The FPC movement originated in a space where traditional agriculture was giving way to agribusiness firms. These FPCs were democratically run, like a cooperative, profit-oriented, like a business, and enabled small and marginal farmers become more integrated into the value chain.

As in every institution, FPCs also had their share of successes and failures in its implementation. This necessitated the need for a better understanding of the organisational structure, operations and role of these organisations in the socioeconomic development of farmers. Hence the attempt made to study the performance of FPCs, and issues they confront is quite justified.

A total of 30 FPOs were selected from all the districts of Kerala. In order to understand the perspectives of the directorial board of the selected FPCs, a sample of 90, one CEO and two Directors from each FPC were also selected for the study. Because the number of members in each of these institutions varied, a random sample of 120 shareholder members were also chosen from these FPCs proportionate to the membership. Thus, the total sample size of the study was 210.

In order to acquire meaningful data from the respondents, a pre-tested interview schedule was used. Secondary data was also gathered in order to learn more about the organisation. Personal pre-fixed interviews were used in data collection. Appropriate statistical techniques were selected for the analysis of the data to get relevant interpretations of the results. Secondary data was used to understand the organisational profile of all of the FPCs. Secondary data was also used to examine the linkages and networks between other institutions.

Factor analysis was carried out to delineate the factors affecting performance. Then the performance of the selected FPCs was evaluated using the identified performance indicators. These companies were later ranked based on their performance. The interview schedule was also used to determine the social entrepreneurship of these organisations and the socioeconomic development received by members. The relation between group dynamics, service efficiency, member satisfaction and overall performance was investigated using the Structural Equation Modelling technique. Multiple correspondence analysis method was used to understand the relationship between the categorical variables such as performance, age of FPC, machinery acquired, membership, turnover and infrastructure.

5.1 Factors Affecting Performance of FPCs

Majority of the selected FPCs were registered in the years 2016 and 2017. These financial years marked the completion of the PRODUCE fund scheme spearheaded by NABARD for the promotion of FPOs. The basic incorporation and registration requirements were met under this. They also held yearly meetings, and profit sharing based on the equity share of the members.

The number of directorial board members in each of the FPCs ranged from 5 to 15 with a gender ratio of 100:23 (Male: Female). Out of the thirty selected FPCs twenty-six (86.67%) had full time CEOs and four (13.33%) had part time CEOs. Majority (64.4%) of the staff in all the FPCs worked on honorary basis indicating that shareholders themselves came together for the activities of the FPCs.

The major services offered by the selected FPCs included marketing (96.67%), technical advices (93.33%), training and extension services (86.67%), procurement and packaging (76.67%) as well as input supply (73.33%). Only seven of the selected FPCs offered credit services to the shareholders and only one FPC offered insurance services. Regarding products and produces marketed, majority of the FPCs marketed produces and products of multiple crops.

Stakeholders from eighty per cent of the FPCs attended the training offered by the resource institutions and stakeholders from twenty per cent could not attended any training. On an average, directors were able to attend three trainings while CEOs attended four and shareholder attended one training in the last financial year.

Among the selected FPCs, 76.67 per cent of the FPCs functioned in rented office buildings and 16.67 per cent functioned in own buildings However, 6.67 per cent FPCs either had an own office building and a rented storage facility or vice versa. A total of five FPCs owned land, three FPCs owned boilers and pulpers and fifteen FPCs owned dryers for various purposes. Five FPCs had expellers and seven had pulverisers. The average turnover of the selected FPCs were Rs.1.15 Cr and the average share capital was 0.23 Cr

In majority of the FPCs, Producer Organisation Promoting Institutes (POPIs) played the role of a facilitator and gave technical help for day to day functions. However, for three PCs, POPIs also gave financial support. But it was not mandatory for POPIs to continue the support to FPCs after three years of handholding.

In 63.33 per cent of the FPCs, directorial board met once in a month while in 26.7 per cent FPCs they met once in three or four months. In 6.7 per cent of FPCs the board met yearly along with or prior to the annual general body. Only few FPC boards met weekly to assess the course of action and plan for the future of the firm. Ninety per cent of the FPCs had created a business plan. Eighty per cent of the FPCs kept their records and conducted auditing regularly.

On site procurement followed by company site procurement was followed in majority of the FPCs (90%). However, in at least 36.67 per cent FPCs procurement from farm gate using either company vehicle or rented vehicle was practiced. Common areas near the producers' fields or off sites were designated by 10 per cent of FPCs for procuring and 16.67 per cent of them had company vehicles for procurement.

Even though most of the FPCs did not procure their produce from certified sources, they kept an eye for freshness and physical impurities of the produce. In most of the FPCs that carried out value addition, processing was carried out in covered and hygienic areas using clean equipment and potable water. Even though intact containers and packaging was used for storage, majority of the FPCs could not afford vacuum packing.

The stakeholders' perceptions of the role of FPCs were identified. According to stakeholders, the FPCs' main duty was disbursement of services followed by facilitating development of the member farmers.

Shareholders had lower responsibility awareness levels compared to the directors and CEOs. Shareholders exhibited higher level of extended responsibilities like trying to be aware of all decisions of the meetings and directorial board members in person. In terms of basic responsibilities, like awareness regarding organisational laws and by laws as well as regular participation in meetings, low scores were exhibited by shareholders.

Less than sixty per cent score was exhibited by shareholders in all the seven indicators of group dynamics. In majority of the FPCs (46.67%) shareholders exhibited medium level of group dynamics. Shareholders exhibited high and low level of group dynamics in 26.67 per cent each of FPCs.

Managerial competency of the board was assessed on six competency items and in all of them, majority of the board members could attain medium scores. As a result, 53.33 per cent of the selected FPCs, the directorial board including the CEOs had only a medium level of managerial competency.

Nineteen FPCs created financial linkages with at least one financial institution. Twenty-eight FPCs had technical linkages either with at least one institution like NABARD or the respective POPI. All the FPCs had extension linkages with at least two linkages. For extension purposes, FPCs created linkages with KVKs, Krishibhavan and State Agricultural University. Seven of the FPCs did not create any sort of marketing linkage with local businesses or other FPCs. They sold their produce through their own shops.

Marketing strategy was measured in terms of strategies the FPCs had created with respect to the four Ps' of marketing. Most of the FPCs concentrated on strategies related to products and gave less importance to the other areas of the marketing mix, such as price, place and promotion. Evidently, 46.67% of the FPCs had medium level of marketing strategy and only 26.67% FPCs had a high level of marketing strategy. Remaining 26.67% FPCs had low marketing strategy. FPCs need to focus on marketing strategy in order to improve the economies of scale and market share.

Social innovativeness, social risk taking, social pro activeness and socialness were the indicators used for measuring the social entrepreneurship orientation of the FPCs. In all the variables, majority of the FPCs exhibited a medium score. As a result,

majority of the FPCs (60%) exhibited medium level of social entrepreneurship orientation. It indicated that even though the FPCs were social enterprises, they were unable to fore go their profit when it came to the social mission.

The entrepreneurial and marketing gains obtained by the shareholders were also assessed as part of the study. It was observed that 75 per cent and 54.76 per cent respectively of the shareholders experienced a medium level of entrepreneurial and marketing gains by means of FPC membership.

While considering the changes in factors of production due to membership, only 6.35 per cent of shareholders could experience a change in their land holding size. Only 7.14 per cent shareholders experienced a change in capital and 2.38 per cent experienced a change in labour.

The perceived improvement in services like marketing and input supply was measured. Majority of the shareholders (55.56%) felt that there was medium level of improvement in such services. As a result, 65.08 per cent shareholders felt a medium level impact in their income, savings and debt reduction due to these services.

Majority of the shareholders (63%) experienced a medium level of socio-economic development by means of the FPC membership. Accordingly, most of them (66.67%) exhibited a medium level satisfaction with 65.19 per cent of basic satisfaction compared to 59.29 per cent of extended satisfaction. Shareholders also felt that the FPCs needed to improve services like regular farm visits and input supply services.

5.1.1 Personal attributes of stakeholders

Majority of the stakeholders (71.8%), including director board members, CEOs and shareholders were middle aged individuals. Among the shareholders, 59.17 per cent had a high school level education while 50 per cent of directors had a degree level education. All the CEOs had degree level education and most of the directors (60%) and shareholders (65%) were sole farmers. Except for CEOs above 50 per cent of the stakeholders belonged to lower annual income group but exhibited closer distribution with respect to state mean. Comparing the nature and frequency of social participation of stakeholders, it was noted that more than 80 per cent of them were not members of any social institutions and never participated in the decision making of any. Among the stakeholders 96.67 per cent of CEOs had a medium level of market orientation

indicating that they believed that FPCs could help eliminate middle men and fetch better price to the producers. Majority of the shareholders (84.17%) and Directors (86.67%) exhibited only a medium level of market orientation.

5.1.2 Factors affecting performance

Nine factors that are independent of each other were delineated using factor analysis. These factors together explained a total variance of 70 per cent which implied high significance of the selected variables. Among the nine factors, first four factors which exhibited higher variance between each other were selected as major factors. Remaining five factors were selected as minor factors affecting the performance of FPCs

The major factors included, social business dynamics and development, institutional arrangements, organisational orientation and member benefits of social participation. The minor factors affecting the performance identified using the factor analysis were, services, service management and efficiency, age and role perception, annual income, and market orientation.

5.2 Performance of FPCs

Based on the method followed by Rajani *et al*., (2009) and using the identified factors, the performance of the selected FPCs was calculated. The results revealed that most of the FPCs had medium level of performance (46.67%) and 26.67 per cent each of the FPCs had high and low level of performances Among the FPCs, Thodupuzha FPC had the highest performance index score and Kabnjirappaly FPC had the lowest performance index. The higher percentage of the medium performance category of FPCs suggested that these FPCs required a better focus on their group dynamics, business, marketing strategy and member satisfaction in order to improve the performance.

The results of SEM substantiated the stakeholder theory by proving that the FPCs needed to be mindful not only of shareholders of the company, but also of board members and CEOs who conduct the business to shape its presence in the landscape of the industry. Further analysis using MCA revealed that nascent FPCs performed better with more machinery, good infrastructure and higher turnovers. Hence for nascent FPCs, streamlining the activities with envisaging the improvement the machinery and

infrastructure and turnover is recommended rather than membership enhancement. On contrary in order to improve the performance of the matured FPCs membership enhancement was key.

5.3 Constraints affecting performance

Inadequate market access was the major constraint identified by the board for the functioning of the FPCs. Majority of them felt that they were unable to sell their products in the existing market despite producing quality products. The second and third ranked constraints suggested that the FPCs required a subsidised credit support and government support in terms of better policies and services. The competition from other retailers and brands in the open market and the low market price obtained as a result were also constraints identified by the board.

The shareholders felt that the cost of cultivation was on the rise and they required additional financial and credit support that would help in reviving the production. On assessing the first five ranked constraints, it could be observed that the market price was low and there was inadequate support from the government and other agencies regarding extension support. Competition from retailers also contributed to the distress situation. Further shareholders felt that they were missing out on several services, like insurance and credit from the FPCs as well as the government.

5.4 Policy interventions

Policy interventions suggested based on the study were as follows:

- Conduct, trainings, awareness programmers for improving the participation and responsibility sharing of shareholders.
- The trainings for board members including the CEO must focus on improving their managerial competency in program implementation and HRM
- Institutionalization of collective marketing structure for increasing economies of scale.
- Export and quality assurance facilities facilitated through public sector agencies.
- Extension programmes focusing on technology and HR use efficiency rather than transfer of technology (ToT).

- Promotion of incentives and benefits based on maturity and membership of FPCs.
- Improved business planning support.
- Institutionalized support for legal formalities like auditing and registration.

5.5 Conclusion

Among the new age producer organisations, the FPC model has gained popularity. The number of producers getting associated with these organisations has been on the rise ever since its inception. Better control over value chain, reduced transactional costs and improved share in consumer price are the key benefits envisaged. Further, these organisations facilitated the evolution of Indian agriculture from a livelihood option for the rural community to agribusiness.

According to the Indian Companies Act of 2013 several protective regulations were provided to the FPCs. These protective and operational measures included areas like fixation of share amount and purchase of shares from corporate buyers. However, majority of the FPCs studied felt that despite these arrangements, there were drawbacks in the legislations. Even though FPCs were generally considered different from other corporate or large-scale firms, the rules and norms regarding the registration and updating of KYC remained the same. Further, imposition of fines for failing timely completion of legalities was on similar rates as for the corporates. The inability of these small-scale firms to afford a permanent company secretary for such requirements should have a fairer consideration in the implementation. The increasing number of FPCs focusing on the same crop or its product, and their higher geographical proximities, was another issue that needed redressal. This affected the market share of the FPCs and was mostly the result of scarcity of resources and scale of economies. A policy shift in the positive direction is a requirement for addressing these issues. A single window structure facilitated by the government may be useful for completing the legal formalities of the FPCs in the state. Further collaborations between the FPCs which deal similar products can improve their market share and take one step close to profitability.

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Plates

Plate 1. Visit to Farmer Producer Companies

Plate 2. Visit to Farmer Producer Companies

Plate 3. Selected products Farmer Producer Companies

Plate 4. Visit to Farmer Producer Companies

Plate 5. Selected products Farmer Producer Companies

Plate 6. Selected products Farmer Producer Companies

Appendices

APPENDIX – 1

1. Social Entrepreneurship Orientation

Sl No.	Institutions	SDA	DA	A	SA
	Social Innovativeness				
	Social innovation is important for our company				
	We invest heavily in developing new ways to increase our social impact or to serve our beneficiaries				
	In our company, new ideas to solve social problems come up very frequently.				
	Social risk taking				
	We are not afraid to take substantial risks when serving our social purpose.				
	Bold action is necessary to achieve our company's social mission.				
	We avoid the cautious line of action if social opportunities might be lost that way.				
	Social pro-activeness				
	We aim at being at the forefront of making the world a better place.				
	Our organization has a strong tendency to be ahead of others				

	in addressing its social mission				
	We typically initiate actions which other social enterprises/social entrepreneurs copy.				
	Socialness				
	The objective to accomplish our social mission precedes the objective to generate a profit.				
	Our organization places a strong focus on partnerships with other organizations and/or governments in order to ensure a greater and accelerated accomplishment of the social mission				
	We set ourselves ambitious goals in regard to sustainability and incorporate them in all strategic decision				

2. Effectiveness of support service delivery

Statements	H	M	L	NI
(1) Increased marketing facilities				
(2) Increased accessibility to credit				
(3) Increased input availability				
(4) Increased technical support				
(5) Increased financial support				

3. Perceived impact of services

Statements	H	M	L
(1) How much your income has increased			
(2) How much your savings have increased			
(3) How much your debt has reduced			
(4) How much increase you could obtain in your assets after joining FPO			
(5) How much increase you could obtain in your social participation.			

4. Food Security

Statements	FT	PT	NT
(1) Food in any kind is available throughout the year			
(2) Quality of food available is good			
(3) Sufficient quantity of food is available for my family			
(4) A balanced food to all family members is affordable with existing income			
(5) A need to reduce expenditure of food in order to meet other family need			

5. Habitat security

(1) Dwelling Own ☐ Rented ☐

(2) Housing Type Kaccha ☐ Pakka ☐

(3) Toilet facilities in the house Yes ☐ No ☐

(4) Electric supply to house Yes ☐ No ☐

(5) Water supply to house Yes ☐ No ☐

(6) Transport facilities to house Yes ☐ No ☐

6. Educational security

Statements	Yes	No
(1) Have access to information regarding education opportunities for children		
(2) Send children to public/convent/English medium schools		
(3) Any child got collegiate education		
(4) Children sent to town or cities for education		
(5) Adults from your family participate in functional literacy programme		
(6) Did any of your children had to stop their studies as you cannot afford the of it?		

7. Health security

Statements	Agree	Disagree
(1) We depend on local hospital for most of our health problems		
(2) In order to get better health services we travel outside town		
(3) We can't afford health care facilities available.		

8. Social empowerment

Statements	VHE	HE	SE	LE	VLE
(1) Participate in social activities					
(2) Participate in village administration					
(3) Have more knowledge on improved technologies					
(4) Get recognition in the neighbourhood/society					
(5) Aware of socio-economic development programme					
(6) Actively involved in addressing social issues and problems					
(7) Ensure children are sent for higher studies					
(8) Have a sense of leadership					
(9) Feel self-confident in decision making					
(10) Improvement in communication skills					
(11) Have organisational skills					
(12) Feel motivated in doing social work					
(13) Have a sense of social responsibility					
(14) Help other people in solving their problems					

9. Marketing strategy

Sl No	Statements	`SDA	DA	NA	A	SA
	Product					
1	Has a distinguished brand name					
2	Offers considerable range of produces and value added products					
3	Understands customers' needs					
4	Use customer feedback to improve quality					
5	Has employed marketing personals					
6	Has a good storage capacity					
7	Introduces new products and produces					
	Price					
1	Price discrimination according to market segmentation					
2	Pricing strategy according to demand					
3	Pricing according to market rate					
4	Pricing less than market rate					
5	Pricing based on costs incurred					

6	Pricing based on pre-determined rate of return					
7	Pricing based on competition					
8	Pricing based on what customers are willing to pay					
	Place					
1	Produce sold through own shops					
2	Produce sold through local shops					
3	Mobile shops/ Vehicles to sell produce					
4	Sells to distant markets/firms/supermarkets					
5	You are exporting of produce					
6	You are ready to export					
7	Online ordering and distribution of produce is practiced					
	Promotion					
1	Encourages customers and shareholders to use word of mouth communication					
2	Special events like seminars and exhibitions					
3	Social media based marketing					
4	Promotion sales such as gifts and discounts					

5	Advertisements in media					
6	Publicity and public relation to enhance image					

10. Market orientation

Sl. No	Statements	Response	
		A	DA
1	A farmer can get good price by eliminating the middle man		
2	One should sell his produce to the nearest market irrespective of price		
3	One should purchase his inputs from shops where his friends or relatives purchase		
4	One should grow those crops which have more market demand		
5	FPOs can help a farmer to get better price for his produce		

11. Entrepreneurial orientation

11.1 Innovativeness

Sl. No	Statements	Yes	No
1.	I like to try new varieties in my farm to better meet the FPC's request		

2.	If I am producing a better product, I am willing to seek a better buyer		
3.	I like to try new technologies on my farm		
4.	I am interested in the latest information for marketing the produce		

11.2 Proactivity

Sl. No	Statements	Yes	No
1.	I am not afraid of failing if I will get to learn a new technology		
2.	I will be ready to start new practices that others are not ready to		
3.	I am ready to improve new technologies that other members will not do		

11.3 Risk taking

Sl. No	Statements	Yes	No
1.	I do not intend to expand because I do not want to have additional cost		
2.	I prefer not to invest in the farm if I do not know the benefits of that investment		
3.	I will continue with the current crop/ variety and will not replace it		

12. Perception of members on functional roles of FPCs

Statements	MI	I	LI	LeI	NI
(1) Facilitate development of member farmers					
(2) Increase the cultivation of particular crop					
(3) Identify needs of farmers and conduct trainings, exposure visits etc and organise it					
(4) Disbursement of services to farmers					
(5) Creation of more employment among farmers.					

13. Awareness on rights and responsibilities

Sl.No	Statements	SDA	DA	SWA	A	SA
1.	You are well aware of the organizational laws					
2.	You have read the rules and bylaws					
3.	There is regular participation in meetings					
4.	You know all the persons in the directorial board					
5.	You try to be aware of all the decisions made					

14. Perceived member satisfaction

Sl.No	Statements	SDS	DS	SWS	S	HS
1.	Receive required input supply on time					
2.	Proper marketing of products is ensured					
3.	Official proceedings are made available					
4.	Regular farm visits by experts/ officers					
5.	Speedy services are available					

15. Managerial Competency

Sl No	Statements	1	2	3	4
	Leadership				
1	Engages in and promotes ethical conduct				
2	Uses and practices a participatory management style open to constructive criticism.				
3	Seeks input from all levels of staff, listens attentively, demonstrates fairness and consistency, and conveys information fully and clearly.				

4	Uses a variety of modes of communication.				
5	Encourages and allows opportunity for shareholders to confer and present issues and problems affecting FPO and services				
6	Delegates authority and decision-making to appropriate entities and supports their decisions				
7	Researches and/or conducts community needs assessments to determine service and employment needs and opportunities				
	Resource management				
8	Ensures that expenditures are allowable and appropriate DK – Don't Know and that allocated funds are available throughout the fiscal year.				
9	Allocates funds equitably to effective programs and sites based feasibility, returns and profit				
	Human Resource Management				
10	Provides formal orientation to new members of FPC				
11	Recognizes when staff/members are not performing effectively, provides guidance and support to enable attainment of needed competencies, involves appropriate				

	stakeholders and follows required procedures and due process, leading to staff/member termination when necessary				
	Programme Monitoring				
12	Fulfills legal or program requirements for compliance, record keeping, and reporting.				
13	Analyzes, evaluate and reports program outcomes				
14	Ensures data are accessible, in a timely manner, to community members, and other stakeholders				
	Professional Development Practices				
15	Encourages management to become involved in the identification and planning of their own professional development and to engage in a variety of activities including workshops, trainings, and seminars as well as observation/feedback				
16	Supports a variety of professional development activities that reflect the organization's mission				
17	Shares information on, provides training in, and promotes the use of technology with management and other staff				
	Community Collaboration				

18	Establishes partnerships and alliances with businesses local agencies, training centers, boards, and other agencies				
19	Seeks and shares information about shareholder/client benefits and potential funding opportunities with FPC				
20	Informs the community and staff about relevant legal requirements				

APPENDIX – II

DISTRIBUTION OF ASSETS OWNED BY THE SELECTED FPC

Sl No	Name of FPC	Land (Ha)	Machinery	Equipment
1.	Tulunad	0.10	Packing machine, dryer, filler	Computer, weighing machines and sealing machine
2.	Gramalaksmi	0.10	Dryer, pulverizer, packing machine	Computers and weighing machines
3.	Mayyil		Dryer, pulverizer, packing machine	Computers and weighing machine
4.	Tejaswani	0.04	Dryer, expeller, packing machines, mixer machine, soap saponification section, soap cutting machine.	Computers, weighing machine, printer
5.	WAMPCO			Computers, weighing machines
6.	Loga			Weighing machine and computer
7.	WAYFARM			Weighing machine and computer
8.	Niravu			
9.	North Malabar	1.01		
10.	Edakkara		Steamer, dryer, pulverizer,	LAF, Autoclave, test tubes, sealing machine, computers
11.	Maranchery		Dryer	
12.	Srikrishnapuram			computers

Sl No	Name of FPC	Land (Ha)	Machinery	Equipment
13.	Polima		Dryer, pulper, pulverizer, boiler, mixer	Sealing machine, packing
14.	Palakkad		Tractor	Weighing machine, computers
15.	Pananchery		Chill room	
16.	Thrissur		Dryer, expellers, pulverizers, milling machines, vegetable cutter	Computers and weighing machines, fryers
17.	Kothamangalam		Dryer, expeller, miller, sheating battery, smoke house	Weighing machine, computers
18.	HOPCL			Weighing machine, computers
19.	Green vivo		Dryer	Computers, billing machines
20.	Thodupuzha		Miller, dryer, sealing machine	
21.	Neeloor	0.06	Dryer slicer, pulper, boiler, freezers	Generators, sealers, packing machines
22.	Kanjirappaly			
23.	Onatttukkara		Boiler, dryer, expeller	
24.	Odanadu		Copra dryer, expeller, climbing machine	KAU Transplanter
25.	Karshakajyothi			Stiiching machine, weigihing machine, sealing machine computer
26.	Preeminent			weighing machine
27.	Green orchid			LAF, weighing machine

Sl No	Name of FPC	Land (Ha)	Machinery	Equipment
28.	Pallaruvy		Mixer, sealer, pellet maker	
29.	Kadali			Computers and weighing machines
30.	Panasa		Pulper, dryer, boiler, sip up, maker,	Sealing machine

APPENDIX - 3

THE COMPANIES ACT, 1956

COMPANY LIMITED BY SHARES

MEMORANDUM OF ASSOCIATION

OF

THEJASWINI COCONUT FARMERS PRODUCER COMPANY LIMITED

I. The name of the Company is THEJASWINI COCONUT FARMERS PRODUCER COMPANY LIMITED

II. The Registered office of the Company will be situated in the State of Kerala

III. **A**. The main objects of the Company to be pursued on its incorporation are:

a) To carry on the business of primary agricultural and animal production , post harvest operations, procurement, grading, pooling, handling, packaging, marketing including promotion of coconut based farming system integrating with animal husbandry, aquacultures, fodder cultivation, floriculture and export of agricultural produce of the Members or import of goods or services for their benefit.

b) To carry on the business of processing including extraction, preserving, drying, milling, distilling, brewing, venting, caning, packaging, branding and marketing of produce of the members in both domestic and international markets.

c) To manufacture, sell or supply machinery, equipments or consumables to the members.

d) To produce, sell or supply bio fertilizers, bio pesticides, seeds and seedlings to members.

e) To render technical services, consultancy services, training, research and development and all other activities for the promotion of the interest of the members.

f) To generate, transmit and distribute power, revitalize, land and water resources, their use, conservation and communications relatable to coconut farming.

g) To provide insurance of producers or their primary produce.

h) To provide for welfare measures or facilities for the benefit of members as may be decided by the Board.

i) To do the business of financing of procurement, processing, marketing or other activities which include extending of credit facilities or any other financial services to the members.

B. The objects incidental or ancillary to the attainment of the above Main Objects are:

1. To acquire and undertake the whole or any part of the goodwill, business, concern, undertaking, property, rights, assets and liabilities of any person, firm, association, society or company carrying on any business which this company is authorised to carry on or possessed of property suitable for the purpose of this company and to pay for the same by shares or debentures of this Company, or by cash.

2. To take or otherwise acquire and hold, sell, exchange, mortgage, charge or otherwise deal with shares or stocks of any other company having objects altogether or in part similar to those of this company or otherwise or such as may be likely either directly or indirectly to benefit this company.

3. To apply for, purchase or otherwise acquire and protect, prolong and renew whether in India or elsewhere, any patents, rights, brevets d' invention, licences, trade marks, design and the like conferring any exclusive or non-exclusive right of use or any secret or other information as to any secret or other information as to any inventions, process or privileges which may seem capable of being used for any of the purposes of the company or the acquisition of which may seem calculated directly or indirectly to benefit the company and to use, exercise, develop, manufacture under, or grant licenses or privileges in respect of or otherwise to turn to account the property, rights or information use or license so acquired and to subsidise, take part in or assist in any experiment, investigations, and researches likely to prove beneficial to the company.

4. To acquire by lease, purchase, hire purchase, exchange or otherwise land, buildings, machinery, equipments, vehicles and such other requirements

and amenities as may be required in connection with the objects of the company.

5. To develop, lay out and prepare any land acquired by the company or in which it is interested for the purpose of construction of buildings, and constructing, altering, maintaining, any building, structures, factories, works, and amenities, for the purpose of carrying on the business of the company.

6. To sell, improve, manage, develop, exchange, lease, mortgage, charge, hypothecate, enfranchise, dispose of turn to account or otherwise deal with all or any part of the property whether movable or immovable or any part of the rights of the company.

7. To establish at any place any agency and to appoint any person or persons to be agent on such terms and conditions as the company may deem fit from time to time for the purpose of the company.

8. To place on deposit, then money to such person with or without interest and in such terms as may seem expedient and in particular to customers and other persons having dealing with the company for the purpose of carrying on the business of the company.

9. Subject to section 58A of the Companies Act, 1956 and guidelines issued by Reserve Bank of India from time to time to borrow or raise money or to receive money on the deposit at interest or otherwise and to mortgage, pledge or charge the whole or any of the property, estates or revenue of the company, present or future by special assignment or other wise or transfer or convey the same absolutely or into trust and to give the lenders powers of sale and others as may seem expedient and to purchase or pay of any such securities.

10. To draw, make, accept, endorse, discount, execute and issue promissory notes, hundies, bills of exchange, bills of lading, warrants, debentures, and other negotiable and transferable instruments. But the company shall

not do the business of banking within the meaning of Banking Regulations Act 1949.

11. To invest and deal with the moneys of the company not immediately required in such manner and upon such investment as the company may deem fit, subject to the Provisions of the Act.

12. To pay out of the funds of the company all expenses with respect to the formation, registration and flotation of the company.

13. To pay for any rights or property acquired by the company and to remunerate any person or company whether by cash payment or by allotment of share, debentures or other securities of the company agreed as paid up in full or in part or otherwise for the purpose of carrying on the business of the company.

14. To establish and maintain or aid in the establishment of maintenance of any depreciation fund, reserve fund, insurance fund, or provident fund or trusts and conveniences calculated to benefit employees or ex-employees, their wives or dependants and to grant to pensions, gratuities and allowances to any such person aforesaid.

15. To guarantee the payment or repayment of any moneys or performance of any contracts or obligations by any person, firm or company, including such companies which are or may come under the management or control of the company and also to give guarantee in respect of any financial arrangement that may be made by or on behalf of such company and if thought fit to secure or support such guarantee by mortgage, pledge or hypothecation of any properties of the company or to mortgage, pledge or hypothecate of any properties of the company as security for any advance to be made to ,or any debts or obligations of any persons, firm or company.

16. To remunerate the servants of the company and others out of and in proportions of the profits of the company or otherwise as the company may think fit.

17. To remunerate any person, or company for services rendered or to be rendered as trustees for debentures, for debentures stock holders or placing or assisting to place or guarantee the placing of any of the shares in the company's capital, or any debentures, debentures stock or other securities of the company in or about the formation or promotion of the company on the conduct of its business or for guaranteeing payments of such debentures or debentures stock and interest.

18. To appoint attorneys and agents whether by commission or otherwise or constitute agencies and sub-agencies of the company in India or elsewhere on such terms and conditions as the company may deem fit from time to time.

19. To adopt such means of making known to the public the business of the company as may seem expedient and in particular by advertisement in the press, by circulars and by publication of books and periodicals.

20. To apply for and acquire any statutory or other powers, rights and concessions.

21. To acquire from any supreme, municipal or local or other Government or authority or from any body or person any concession, charter, contract, right or privilege which may seem desirable for the furtherance of any object of the company and to make any arrangement which may seem desirable for the last named propose with any Government, authority or body or persons and to comply with, work, sell or otherwise turn to account any such concession charter, contract, right or privilege in India or abroad .

22. To do any other activity, ancillary or incidental to the main objects, which may promote the principles of mutuality and mutual Assistance amongst the members.

23. To establish agencies or branches for the purpose of the company's business in such place or places as may be considered necessary.

24. To construct, erect and maintain either by the company or the parties sewage, roads, streets, brick-kilns and works, buildings, houses of any description whatsoever either upon the lands acquired by the company or otherwise and generally to alter and improve the lands and other property for the purpose of the company.

25. To depute any person abroad or in the country or to call for any other person either from abroad or from this country and pay for all such expenses for the business of the company.

26. To establish Research and Development facilities related to the main objects of the company.

27. To establish, promote, subsidise, acquire, organise or be interested in any other company or companies, syndicates or partnerships for the purpose of acquiring all or any of the undertaking, property and liabilities of its shares or otherwise or for any purpose which may seem calculated directly or indirectly to benefit the company.

C. **The other objects of the company not included in A and B above are:- Nil**

IV. The objects of the company shall extend to the Indian states of Kerala, Karnataka and Tamil Nadu.

V. The Liability of the members is Limited.

VI. The Authorised Share Capital of the Company is Rs 40000000/- (Rupees Four Crores Only) divided into 40000 (Forty thousand) Equity Shares of Rs.1000/- (One Thousand Rupees Only) each.

VII. The following persons shall be the first Directors of the company.

SI.No	Name	Address	Occupation
1	Sunny George	Elamthuruthil House Choorapadave, Prapoyil P O Kannur-670511	Agriculture
2	Manual Mathew	Panthalanickal House Thirumeni P O, Thaliparamba Kannur- 670511	Agriculture

3	Panthalanickal Mathew Sesatian	214, Panthalanickal House, Thirumeni P O, Cherupuzha (Via) Kannur-670511	Agriculture
4	Sebastian Kandathil Antony	Kandathil House Pattathuvayal, Kozhichal P.O Cherupuzha (Via) Kannur- 670511	Agriculture
5	Joykutty Vincent	Mannanal House, Kilianthara P O, Kannur-670706	Agriculture
6	Baby Jacob	Manayathumariyil House Thirumeni, Cherupuzha Kannur- 670511	Agriculture
7	Bijoy Augustin	Pullolickal House Chunda P O, Kannur- 670511	Agriculture
8	Chorikavil Ulahannan Thomas	Chorikavil House Ottathi P O, Alakode, Kannur- 670571	Agriculture
9	Jobin Mathew	Kayammakkal House Edavaramba P O, Taliparamba, Kannur- 670511	Agriculture

10	Jose Augustine	Urumbakattu House, Kozhichal P O, Cherupuzha, Thaliparamba- 670511	Agriculture
11	Parayankuzhiyil Jose	Parayankuzhiyil House,Udayagiri (P O), Alakode (Via), Thaliparamba Kannur- 670571	Agriculture
12	Kizhukarakatt Augustin Sebastian	Kizhakkarakatt House, Thirumeni P O, Cherupuzha (Via) Kannur- 670511.	Agriculture
13	Shaji Jose	Ganapathiplakkal House Muthuvam, Thirumeni P O Kannur- 670511	Agriculture
14	Shelji Sebastian	Podimattathil House Kanamvayal P O, Kannur- 670511.	Agriculture
15	Vincent Thalappillil Luke	Thalapillil House Beemanadi P O, Nileshwar Via, Kasaragod- 671314	Agriculture

We, the several persons, whose names and addresses are subscribed, are desirous of being formed into a company in pursuance of this Memorandum of Association, and we respectively agree to take the number of shares in the capital of the company, set opposite our respective names.

Sl. No.	Name Address Description and Occupation of the Subscribers	No. of Equity shares taken	Signature of Subscribers
1)	Sunny George S/o. Thomas Varkey Elamthuruthil Elamthuruthil House, Choorapadave, Prapoyil P O, Kannur-670511 Agriculture.	50 (Fifty)	SD/-
2)	Manual Mathew, S/o. Mathew Panthalanickal House, Thirumeni P O, Thaliparamba, Kannur- 670511. Agriculture.	50 (Fifty)	SD/-
3)	Panthalanickal Mathew Sesatian S/o. Panthalanickal Mathew Abraham 214, Panthalanickal House, Thirumeni P O, Cherupuzha (Via), Kannur-670511. Agriculture.	50 (Fifty)	SD/-

Witness to the above signatures: The above three subscribers signed in my presence at Vyttila, Kochi-19.

P.V. Paulose SD/-
S/o Paily Varghese
29/1389, Vyttila, Kochi-19
Company Secretary (C. P. No: 3992).

Sl. No.	Name Address Description and Occupation of the Subscribers	No. of Equity shares taken	Signature of Subscribers
4)	Sebastian Kandathil Antony S/o. Antony Kandathil House, Pattathuvayal, Kozhichal P.O, Cherupuzha (Via) Kannur- 670511 Agriculture.	50 (Fifty)	SD/-
5)	Joykutty Vincent S/o. Vincent Chacko Mannanal House, Kilianthara P O, Kannur-670706. Agriculture.	50 (Fifty)	SD/-
6)	Baby Jacob S/o. Manayathummari Jacob Manayathumariyil House, Thirumeni, Cherupuzha, Kannur-670511. Agriculture.	50 (Fifty)	SD/-

Witness to the above signatures: The above three subscribers signed in my presence at Vyttila, Kochi-19.

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29/1389, Vyttila, Kochi-19
Company Secretary (C. P. No: 3992).

Sl. No.	Name Address Description and Occupation of the Subscribers	No. of Equity shares taken	Signature of Subscribers
7)	Shaji Jose S/o. Joseph Ganapathiplakkal House Muthuvam, Thirumeni P O, Kannur- 670511. Agriculture.	50 (Fifty)	SD/-
8)	Shelji Sebastian S/o. Sebastian Podimattathil House, Kanamvayal P O, Kannur- 670511 Agriculture.	50 (Fifty)	SD/-
9)	Vincent Thalappillil Luke S/o. Luka Thalapillil House, Beemanadi P O, Nileshwar Via, Kasaragod- 671314 Agriculture.	50 (Fifty)	SD/-

Witness to the above signatures: The above three subscribers signed in my presence at Vyttila, Kochi-19.

P.V. Paulose SD/-
S/o Paily Varghese
29/1389, Vyttila, Kochi-19
Company Secretary (C. P. No: 3992).

Sl. No.	Name Address Description and Occupation of the Subscribers	No. of Equity shares taken	Signature of Subscribers
10)	Bijoy Augustin S/o. Pullolickal Augustin Pullolickal House, Chunda P O, Kannur- 670511. Agriculture.	50 (Fifty)	SD/-
11)	Chorikavil Ulahannan Thomas S/o. Chorikavil Ulahannan Thomas Chorikavil House, Ottathi P O, Alakode, Kannur- 670571. Agriculture.	50 (Fifty)	SD/-
12)	Parayankuzhiyil Jose S/o. Joseph Parayankuzhiyil House, Udayagiri (P O), Alakode (Via), Thaliparamba, Kannur- 670571. Agriculture.	50 (Fifty)	SD/-

Witness to the above signatures: The above three subscribers signed in my presence at Vyttila, Kochi-19.

P.V. Paulose SD/-
S/o Paily Varghese
29/1389, Vyttila, Kochi-19
Company Secretary (C. P. No: 3992).

Sl. No.	Name Address Description and Occupation of the Subscribers	No. of Equity shares taken	Signature of Subscribers
13)	Kizhukarakatt Augustin Sebastian S/o. Kizhukarakatt Devassia Augustin Kizhakkarakatt House, Thirumeni P O, Cherupuzha (Via), Kannur- 670511. Agriculture.	50 (Fifty)	SD/-
14)	Jobin Mathew S/o. Mathew Kayammakkal House, Edavaramba P O , Taliparamba, Kannur- 670511. Agriculture.	50 (Fifty)	SD/-
15)	Jose Augustine S/o. Augusthy Urumbakattu House, Kozhichal P O, Cherupuzha, Thaliparamba- 670511 Agriculture.	50 (Fifty)	SD/-
	Total Shares Taken	750(Seven Hundred Fifty)	

Dated this 8th May 2013 The above three subscribers signed in my presence at Vyttila, Kochi-19.

Witness to the above signatures: P.V. Paulose SD/-
S/o Paily Varghese
29/1389, Vyttila, Kochi-19
Company Secretary (C. P. No: 3992).

PERFORMANCE ANALYSIS OF FARMER PRODUCER COMPANIES (FPCs) IN KERALA

by

AKHIL AJITH

(2018-21-017)

Abstract of the thesis

Submitted in partial fulfilment of the

Requirement for the degree of

DOCTOR OF PHILOSOPHY IN AGRICULTURE

Faculty of Agriculture

Kerala Agricultural University

DEPARTMENT OF AGRICULTURAL EXTENSION

COLLEGE OF AGRICULTURE

VELLANIKKARA, THRISSUR- 680656

KERALA, INDIA

2022

ABSTRACT

Performance analysis of Farmer Producer Companies (FPCs) in Kerala

Farmer Producer Companies (FPCs) are institutional innovations that hold tremendous potential in influencing the agricultural value chains by creating economic profit and social value. As such, the standard measures of financial analysis alone cannot provide an overall indication of the performance of these organisations. Therefore, an attempt to use integrated dimensions of socio-economic parameters were pursued in the present study to delineate the factors affecting the performance of FPCs and in the development of a performance index to grade the FPCs. The results of the study also helped in evolving policy recommendations that could improve the performance of FPCs in a sustainable way.

The study followed *ex-post facto* research design conducted among 30 FPCs selected randomly from the 14 districts of Kerala. Proportionate random sampling was employed to ascertain the number of FPCs selected from each district and to identify 120 shareholders. Random and exhaustive sampling was followed respectively in the selection of 60 director board members and 30 CEOs to make the total sample size of 210.

Analysis of profile characteristics of the stakesattisholders revealed that majority of the stakeholders were middle aged and none of them were illiterate. Most of the shareholders (65%) and directors (60%) primarily depended on farming for livelihood and had annual income of Rs. 2 lakh and above. Low social participation was exhibited by majority of the stakeholders (86.45%) and market orientation exhibited by both CEOs (96.67%) and shareholders (90.83%) was medium.

Assessment of the important functional roles of the FPCs as perceived by the stakeholders indicated service delivery to member farmers as the most significant role of FPCs (91.17 %). The other functional roles perceived as important were facilitating the development of member farmers and identifying the needs of member farmers and providing them with trainings with 77.76 per cent and 73.94 per cent responses respectively. Shareholders in comparison to the CEOs and directors exhibited a low level of responsibility awareness of 68.81 per cent. Further the evaluation of member satisfaction indicated only low level for majority shareholders (53.19%). Majority of FPCs (60 %) also exhibited a medium level of social entrepreneurship orientation. On assessment of managerial competency, marketing strategy and group dynamics majority of the FPCs (53.33% and 46.67% each) exhibited a medium level of the

selected parameters. The results implied that further trainings were needed by the stakeholders in order to improve these areas. On analysing the institutional linkages formed by the FPCs, all the FPCs exhibited some sort of extension linkage with at least two institutions and 93.33% companies had created a technical linkage. But no financial and marketing linkage were formed by 36.6 per cent and 23.33 per cent FPCs respectively.

Principle Component Analysis extracted nine factors independent of each other with eigenvalue more than one and were identified to have more than 70 per cent contribution to the performance of FPCs. Using delineated factors and the eigenvalues as weights the performance index was developed to assess the selected FPCs. The Thodupuzha FPC obtained the highest performance score of 41.6 and Kanjirappaly FPC obtained the lowest score of 19.43. With Kendall's W value of 0.317 all the board members agreed that inadequate market access was the major constraint affecting performance, while shareholders could identify lack of credit as the major constraint, with Kendall's coefficient of 0.420.

Policy recommendations for improving the FPC performance was attempted using an empirical model to understand the influence of latent variables on the observed constructs like, group dynamics, service efficiency and member satisfaction on performance using structural equation modelling. The model statistics showed good fit for majority of indicators. Based on the results, it could be noted that efficiency of service delivery had maximum direct influence (regression coefficient 5.37) on the performance of the FPCs. Group dynamics and member satisfaction had only indirect influence on performance. Further a multiple correspondence analysis was also carried out to understand the relationship of categorical variables, like age of FPC, turnover, asset position and infrastructure with performance. From the results it was noted that nascent FPCs can improve their performance by means of good infrastructure and more machinery, while for mature FPCs higher membership is the only factor that can influence performance to some extent.

Based on these the major policy recommendations drawn to improve the performance of FPCs include improving the group dynamics through responsibility sensitisation of shareholders, improved service delivery and extension programmes for shareholders. Improving collective marketing facilities for FPCs, incentives based on maturity and membership and institutionalised support for the legal obligations of the firms are also recommended.