

**AN IMPACT ANALYSIS OF THE FARMER  
PRODUCER ORGANIZATIONS (FPOs) IN  
MYSURU DISTRICT**

**SHIVANI DECHAMMA**

**PALB 7030**

**DEPARTMENT OF AGRICULTURAL EXTENSION  
UNIVERSITY OF AGRICULTURAL SCIENCES  
BANGALORE**

**2020**

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PRODUCER ORGANIZATIONS (FPOs) IN  
MYSURU DISTRICT**

**SHIVANI DECHAMMA**

**PALB 7030**

*Thesis submitted to the*

**UNIVERSITY OF AGRICULTURAL SCIENCES, BANGALORE**

*in partial fulfillment of the requirements*

*for the award of the degree of*

***DOCTOR OF PHILOSOPHY***

**in**

**AGRICULTURAL EXTENSION**

**BENGALURU**

**DECEMBER, 2020**



*Dedicated to,*

*My Parents*

*Mr Thimmaiah &*

*Mrs. Remy Thimmaiah*

*My sister Darshini*

*My beloved guide*

*&*

*Farming community*

**DEPARTMENT OF AGRICULTURAL EXTENSION  
UNIVERSITY OF AGRICULTURAL SCIENCES  
BANGALORE - 560 065**

**CERTIFICATE**


This is to certify that the thesis entitled “AN IMPACT ANALYSIS OF THE FARMER PRODUCER ORGANIZATIONS (FPOs) IN MYSURU DISTRICT” submitted by Ms. SHIVANI DECHAMMA, ID No. PALB 7030 for the award of the DOCTOR OF PHILOSOPHY in AGRICULTURAL EXTENSION to the University of Agricultural Sciences, Bangalore is a *bonafide* of record of research work carried out by her during the period of her study in this university under my guidance and supervision and the thesis has not previously formed the basis for the award of any degree, diploma, Associateship, fellowship or other similar titles.

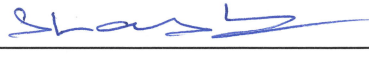
Bengaluru  
December, 2020


  
(B. KRISHNAMURTHY)  
Major Advisor  
Professor & Head

**APPROVED BY**

Chairman :   
(B. KRISHNAMURTHY)

Members : 1.  30/12  
(M. SHIVAMURTHY)

2.   
(B. M. SHASHIDHAR)

3.   
(R. VASANTHA KUMARI)

4. \_\_\_\_\_  
(M. T. LAKSHMINARAYAN)

  
(BASAVAPRABHU JIRLI)  
External Examiner

## **ACKNOWLEDGEMENT**

***Gratitude takes three forms, “A feeling from the heart, an expression in words and giving in return...”***

*The success and final outcome of my Ph.D required a lot of guidance and assistance from many people and I am extremely fortunate to get this all along the completion of my Ph.D work. Whatever I have done is only due to such guidance and assistance and I would not forget to thank them*

*At the very outset, I felt an inadequacy of words to express my profound indebtedness and deep sense of gratitude to my esteemed chairman **Dr. B. Krishnamurthy**, Professor and Head, Department of Agricultural Extension, GKVK, Bengaluru for his esteemed stewardship, enabling guidance, cherishable counselling and personal affection for which I am greatly indebted to him. It was really a great pleasure and privilege for me to be associated with him during my Ph.D. Degree Programme.*

*I would like to thank the member of my advisory committee **Dr. M. T. Lakshminarayan**, Assistant comptroller of examination, University Examination Cell, University of Agricultural Sciences, GKVK, Bengaluru who provided valuable counsel, note-worthy guidance and cordial co-operation during the course of investigation.*

*It gives me immense pleasure to express my heartfelt thanks to the members of my advisory committee **Dr. M. Shivamurthy**, Emeritus Scientist, Department of Agricultural Extension, GKVK, Bengaluru, **Dr. B M Shahidhara**, Professor & head (Rtd), Department of Agricultural Marketing, Cooperation and Business Management, University of Agricultural Sciences, GKVK, and **Dr. Vasanth Kuamri, R**, Assistant Professor, Department of Horticulture, University of Agricultural Sciences, GKVK, who provided their support in helping me to complete my doctoral study.*

*I would like to thank **Dr. N. R. Gangadharappa**, Emeritus Professor, **Dr. N. S. Shivalingegowda**, Former Head of the Department **Dr. K. P. Raghuprasad**, **Dr. Y N Shivalingaiah**, Professors, **Dr. C. Narayanaswamy** and **Dr S. Ganesamoorthi**, Associate Professor for their valuable counsel, note-worthy guidance and cordial co-operation during the course of investigation.*

*I would not forget to remember **Dr. K. Thimmaippa**, Principle Scientist, ATARI, Bengaluru for their unlisted encouragement and moreover their timely support and guidance. I avail this opportunity to express my sincere gratitude to **Dr. K. C. Lalitha**, Former Professor and **Dr. D. Nanjappa**, Former Professor & Head for their help and cooperation during my study work.*

*I express my heartfelt thanks to **Ranganna, Kanthabai, Shivlingaiah, Mallikarjun and Mahesh** (non-teaching staff) for their help during my study period.*

*I would like to express my eternal appreciation toward my beloved parents **Mr. Thimmaiah, Mrs. Remy Thimmaiah** and my beloved younger sister **Darshini** who have always been there for me no matter where I am, for all unconditional support and patience. Without their constant support, encouragement and care this study would have been impossible. I am greatly indebted for their love, prayers, caring and sacrifices for educating and preparing me for my future.*

*It's my fortune to gratefully acknowledge the support of two persons who mean a lot to me, **Dr. Shanabhoga and Mrs. Shilpa**, for their support and generous care throughout the research tenure. They were always beside me during the happy and hard moments to push me and motivate me. They provided me much needed shoulders to fall back in times of need.*

*Words could not help me when I need to thank my beloved seniors **Naveen, Suresh D.K, Sanjay Topagi, Tharini, Vinay Kumar, Yashaswini, Gopal, Preethi, Yashodhara, Sunitha, Sudha**, for the great support they gave me. I also thank my beloved friends, **Preethika, Bhoomika, Nishitha, Pavitra, Tanweer, Sneha and Jeevitha** for constant moral support. I thank my junior friends **Fasiha, Prajna and Sagar** who helped me and stood beside me in all times.*

*My cordial thanks to my classmates, **Sanketh, Dishanth, Habung Ali, Manjuprakash and Chaitra** for their moral support and help they offered in time when I needed.*

*I sincerely and honestly confess thanks to my juniors, **Mutteppa, Darshan, Kusuma, Anitha, Gopichand, Viji, Madhu, Chandan, Sanju, Sundresh, Meghajith, Jagga, Rajesh, Rakesh, Manoj, Vikas, Jnaneshwar, Chandhan Gowda, Vishwa, Imran, Abhishek, Prashanth, Chaitrashree, Premkishor, Shailesh** and my guidemates **Archana, Kavya and Anil** for their valuable suggestions, guidance, keen interest and affection with care were the great source of inspiration in successful completion of this research work and their help, support and great company.*

*Finally, I wish to thank the **Farmers of Study region, Officials of All FPO's and Village Leaders** who has cooperated in conduct of my research work. Above all, I must thank and express my inspiration for the blessings of the almighty, the eternal spirit.*

*Bengaluru  
December, 2020*

**(SHIVANI DECHAMMA)**

# **AN IMPACT ANALYSIS OF THE FARMER PRODUCER ORGANISATIONS (FPOs) IN MYSURU DISTRICT**

**SHIVANI DECHAMMA**

## **ABSTRACT**

Small-holder farmers are vital for India's agriculture and rural economy. Being unorganised these farmers unable to understand the good value of their produces. The present study was carried out in the Mysuru district of Karnataka state to critically analyze the impact of farmer producer organizations on its members. Two FPOs were selected for the study and personal interview method was used for survey to elicit the responses. A total of 200 respondents which comprise 60 members, 30 non-members, and 10 officials from each FPOs were selected. The results of the study showed that 40.00 percent of Varuna Horticulture Farmer Producer Company and 38.33 percent of Arkeshwrara Horticulture Farmer Producer Company members had a favourable attitude towards FPOs. The critical examination regarding the yield of banana growers revealed that, FPO members were having mean yield score of 140.83 qtl/acre and the non-members were having 126.63 qtl/acre. The mean annual income score of members was Rs.2,41,514 and non- members was Rs.2,02,278. With respect to tomato growers, FPO members had 84.30 qtl/acre and non-members were had 71.25 qtl/acre. The mean annual income of members was Rs.1,48,628 and non-members' income was Rs.1,04,068. The result of the study revealed that the factors contributing to success in the organisations were highly significant. To keep the organisations sustainable for a long time, the activities implemented by it should be economically viable and should confer social equity among all the beneficiaries. Thus, it can be inferred that the organizations are sustainable and still continuously growing.

December, 2020

Department of Agricultural Extension  
UAS, GKVK, Bengaluru-65

**B. KRISHNAMURTHY**

Major Advisor

## ಮೈಸೂರು ಜಿಲ್ಲೆಯಲ್ಲಿನ ರೈತ ಉತ್ಪಾದಕರ ಸಂಘಟನೆಗಳ ಪರಿಣಾಮಕಾರಿ ವಿಶ್ಲೇಷಣೆ

ಶಿವಾನಿ ದೇಚಮ್ಮ

ಪ್ರಬಂಧ ಸಾರಾಂಶ

ಭಾರತದ ಕೃಷಿ ಮತ್ತು ಗ್ರಾಮೀಣ ಆರ್ಥಿಕತೆಗೆ ಸಣ್ಣ-ರೈತರು ಬಹಳ ಮುಖ್ಯ. ಅಸಂಘಟಿತರಾಗಿರುವ ಈ ರೈತರು ತಮ್ಮ ಉತ್ಪನ್ನಗಳ ಉತ್ತಮ ಮೌಲ್ಯವನ್ನು ಅರ್ಥಮಾಡಿಕೊಳ್ಳಲು ಸಾಧ್ಯವಾಗುತ್ತಿಲ್ಲ. ಹೀಗಾಗಿ ರೈತ ಉತ್ಪಾದಕ ಸಂಘಟನೆಯು ಅದರ ಸದಸ್ಯರ ಮೇಲೆ ಬೀರುವ ಪರಿಣಾಮವನ್ನು ವಿಮರ್ಶಾತ್ಮಕವಾಗಿ ವಿಶ್ಲೇಷಿಸಲು ಪ್ರಸ್ತುತ ಅಧ್ಯಯನವನ್ನು ಕರ್ನಾಟಕ ರಾಜ್ಯದ ಮೈಸೂರು ಜಿಲ್ಲೆಯಲ್ಲಿ ನಡೆಸಲಾಯಿತು. ಅಧ್ಯಯನಕ್ಕಾಗಿ ಎರಡು ರೈತ ಉತ್ಪಾದಕರ ಸಂಘಗಳನ್ನು ಆಯ್ಕೆ ಮಾಡಲಾಗಿದೆ ಮತ್ತು ಪ್ರತಿಕ್ರಿಯೆಗಳನ್ನು ಹೊರಹೊಮ್ಮಿಸಲು ವೈಯಕ್ತಿಕ ಸಂದರ್ಶನ ವಿಧಾನವನ್ನು ಸಮೀಕ್ಷೆಗೆ ಬಳಸಲಾಗಿದೆ. ಪ್ರತಿ ರೈತ ಉತ್ಪಾದಕ ಸಂಘಗಳಿಂದ 60 ಸದಸ್ಯರು, 30 ಸದಸ್ಯರಲ್ಲದವರು ಮತ್ತು 10 ಅಧಿಕಾರಿಗಳನ್ನು ಒಳಗೊಂಡಿರುವ ಒಟ್ಟು 200 ಪ್ರತಿಸ್ಪಂದಕರನ್ನು ಸಂದರ್ಶನಕ್ಕೆ ಆಯ್ಕೆ ಮಾಡಲಾಗಿದೆ. ಅಧ್ಯಯನದ ಫಲಿತಾಂಶಗಳ ಪ್ರಕಾರ ಶೇಕಡ 40.00ರಷ್ಟು ವರುಣ ತೋಟಗಾರಿಕಾ ರೈತ ಉತ್ಪಾದಕರ ಸಂಘ ಮತ್ತು ಶೇಕಡ 38.33 ಅರ್ಕೇಶ್ವರ ತೋಟಗಾರಿಕಾ ರೈತ ಉತ್ಪಾದಕ ಸಂಘ ಸದಸ್ಯರಯ ರೈತ ಉತ್ಪಾದಕ ಸಂಘ ಬಗ್ಗೆ ಅನುಕೂಲಕರ ಮನೋಭಾವವನ್ನು ಹೊಂದಿದ್ದಾರೆಂದು ತಿಳಿದುಬಂದಿದೆ. ಬಾಳೆ ಬೆಳೆಗಾರರ ಇಳುವರಿಗೆ ಸಂಬಂಧಿಸಿದ ವಿಶ್ಲೇಷಣೆಯಲ್ಲಿ ರೈತ ಉತ್ಪಾದಕರ ಸಂಘ ಸದಸ್ಯರು ಎಕರೆಗೆ ಸರಾಸರಿ 140.83 ಕ್ವಿಂಟಾಲ್ ಇಳುವರಿ ಹೊಂದಿದ್ದು, ಸದಸ್ಯರಲ್ಲದವರು ಎಕರೆಗೆ 126.63 ಕ್ವಿಂಟಾಲ್ ಹೊಂದಿದ್ದಾರೆ ಎಂದು ತಿಳಿದುಬಂದಿದೆ. ಇದಲ್ಲದೆ, ಸದಸ್ಯರ ಸರಾಸರಿ ವಾರ್ಷಿಕ ಆದಾಯ ರೂ. 2,41,514 ಮತ್ತು ಸದಸ್ಯರಲ್ಲದವರು ರೂ. 2,02,278 ಆದಾಯ ಹೊಂದಿದ್ದಾರೆ. ಟೋಮೆಟೋ ಬೆಳೆಗಾರರಿಗೆ ಸಂಬಂಧಿಸಿದಂತೆ, ರೈತ ಉತ್ಪಾದಕರ ಸಂಘ ಸದಸ್ಯರು ಎಕರೆಗೆ 84.30 ಕ್ವಿಂಟಾಲ್ ಮತ್ತು ಸದಸ್ಯರಲ್ಲದವರು ಎಕರೆಗೆ 71.25 ಕ್ವಿಂಟಾಲ್ ಹೊಂದಿದ್ದಾರೆ. ಅದೇ ರೀತಿ, ಸದಸ್ಯರ ಸರಾಸರಿ ವಾರ್ಷಿಕ ಆದಾಯ ರೂ. 1,48,628 ಮತ್ತು ಸದಸ್ಯರಲ್ಲದವರ ಆದಾಯ ರೂ. 1,04,068 ಆಗಿದೆ. ರೈತ ಉತ್ಪಾದಕರ ಸಂಘಗಳಲ್ಲಿನ ಸದಸ್ಯತ್ವವು ಸದಸ್ಯರಿಗೆ ಜ್ಞಾನ, ಕೌಶಲ್ಯ ಮತ್ತು ಕೃಷಿ ಉತ್ಪಾದನೆ ಮತ್ತು ಆದಾಯವನ್ನು ಹೆಚ್ಚಿಸಲು ಸಹಾಯ ಮಾಡಿದ್ದು ಸಂಸ್ಥೆಗಳಲ್ಲಿ ಯಶಸ್ಸಿಗೆ ಕಾರಣವಾಗುವ ಆಂಶಗಳು ಹೆಚ್ಚು ಮಹತ್ವದ್ದಾಗಿವೆ ಎಂದು ಅಧ್ಯಯನದ ಫಲಿತಾಂಶದಿಂದ ತಿಳಿದುಬಂದಿದೆ. ಸಂಸ್ಥೆಗಳನ್ನು ದೀರ್ಘಕಾಲದವರೆಗೆ ಸುಸ್ಥಿರವಾಗಿಡಲು, ಅದರಿಂದ ಕಾರ್ಯಗತಗೊಳ್ಳುತ್ತಿರುವ ಚಟುವಟಿಕೆಗಳು ಆರ್ಥಿಕವಾಗಿ ಸಬಲವಾಗಿರಬೇಕು, ಎಲ್ಲಾ ಫಲಾನುಭವಿಗಳಲ್ಲಿ ಸಾಮಾಜಿಕ ಸಮಾನತೆ ನೀಡಬೇಕು ಮತ್ತು ಯಾವುದೇ ಹಾನಿಕಾರಕ ಪರಿಣಾಮಗಳನ್ನು ಉಂಟುಮಾಡದೆ ವ್ಯವಸ್ಥೆಗೆ ಹೊಂದಿಕೆಯಾಗಬೇಕಾಗಿದೆ. ಹೀಗಾಗಿ, ಸಂಸ್ಥೆಗಳು ಸುಸ್ಥಿರವಾಗಿವೆ ಮತ್ತು ಇನ್ನೂ ನಿರಂತರವಾಗಿ ಬೆಳೆಯುತ್ತಿವೆ ಎಂದು ಪ್ರಸ್ತುತ ಅಧ್ಯಯನದಿಂದ ನಿರ್ಣಯಿಸಬಹುದಾಗಿದೆ.

ಡಿಸೆಂಬರ್, 2020

ಕೃಷಿ ವಿಸ್ತರಣಾ ವಿಭಾಗ

ಕೃಷಿ ವಿಶ್ವವಿದ್ಯಾನಿಲಯ

ಗಾ.ಕೃ.ವಿ.ಕೆ., ಬೆಂಗಳೂರು-65

ಬಿ. ಕೃಷ್ಣಮೂರ್ತಿ

ಪ್ರಮುಖ ಸಲಹೆಗಾರರು

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## **LIST OF ABBREVIATIONS**

ADH	: Assistant Director of Horticulture
KVK	: Krishi Vigyana Kendra
ITI	: Industrial Training Institute
JOC	: Job Oriented Course
PUC	: Pre- University Course
VHFPC	: Varuna Horticulture Farmer Producer Company Limited
AHFPC	: Arkeshwara Horticulture Farmer Producer Company Limited
FPOs	: Farmer Producer Organizations
SFAC	: Small Farmers Agribusiness Consortium
NABARD	: National Bank for Agriculture And Rural Development
RKVY	: Rashtriya Krishi Vikas Yojana
NHM	: National Horticulture Mission
BODs	: Board Of Directors
CEOs	: Chief Executive officer

## I INTRODUCTION

India's ecological diversity, crop diversity and diet diversity are inextricably interconnected. They symbiotically support one another and together, highly sustainable. India is a multiproduct agricultural powerhouse. No other country grows as many food and non-food crops as India. India's small sized family farms practice a unique kind of mixed agri-horti-livestock farming. Besides, India's cropping intensity is the highest in the world. Intensification and specialization in selected crops enabled productivity improvements in industrialized farming in the developed countries. More than half around 70 per cent of India's rural households rely at least partially on agriculture for their livelihoods. The agricultural profession is risky and demanding, and many struggles with debt due to increasing costs of inputs, drought, and crop price volatility.

Small-holder farmers contributing about 82 per cent are vital for India's agriculture and rural economy. Small-holder farmers - defined as those marginal and sub-marginal farm households that own or/and cultivate less than 2.0 hectare of land (Agricultural Census, 2010-11). Their contribution to household food security and poverty alleviation is dis-proportionately high. Moreover, as the national population increases, so does the number of small-holdings.

India is predominantly an agricultural economy. Agriculture forms the backbone and an important sector of the Indian economy. Out of total geographical area of 328.73 million hectares, the net cultivable area constitutes only 140.64 million hectares of which about 59.23 million hectares is irrigated (Anonymous 2017a). The dry lands contribute two-third of the cultivable area. In order to meet the projected needs of 355 million tonnes of food grains by 2030, it would be absolutely necessary to increase production manifolds in the dry lands. (Consultancy.in,12 Feb 2018)

Paradoxically the contribution of agricultural sector to GDP has continued to decline over the years, while that of other sectors, particularly services, has increased. The process of development, inter-alia, generally results in decline in share of agriculture in GDP, which is being witnessed in India too. In 1950-71 agriculture contributed about

55 percent of GDP, which declined to 31.4 per cent in 1990-91 and 15.87 per cent in 2017-18. Today the services sector accounts for 54.40 per cent of national Gross Domestic Product. Besides the Industry sector contributes 29.73 per cent of national Gross Domestic Product. ([www.statisticstimes.com](http://www.statisticstimes.com))

The problems faced by Indian small farmers are multifold. They produce fruits and vegetables in rural areas but they are highly demanded in urban areas. For this, they need to sell the produce in cities but, unfortunately, rural India lacks transportation facilities and storage facilities which would otherwise have helped farmers store their perishable produce for a longer time period and sell it at a later time, when the market prices are favourable. More than 45 percent of fruits and vegetables and 30 percent cereals are wasted due to lack of storage and processing facilities. Post-harvest losses of food grains in India account to 10 percent of total production (TACSA Report on Secondary Agriculture, 2013). Processing and value-addition can secure better prices for the farmers' produce but the farmers lack the needed amount of money and infrastructure required for processing. Access to latest information and technology and recent market trends and prices are also not available to the farmers. This lands the farmers in a position of ignorance and low bargaining power, which makes them vulnerable to exploitation by middlemen. As a result, the farmers resort to distress sale and sell their produce at very low prices. This reveals the glaring fact that Indian farmers are poor marketers. They do not get remunerative prices for their produce. The share of producer in consumer's rupee, at present is 10-23 percent only in India against 64-81 per cent in developed countries (Faostat.fao.org, 2013). Another emerging challenge before the small-scale farmers is the present trend of globalization and liberalization. As a result, small-scale producers have to compete with large commercial producers from all around the world. Thus, fragmented and dispersed in remote areas, small producers face a number of challenges which cannot be tackled individually.

India is the second largest fruit producer in the world. Production of horticulture crops is estimated at record 314.7 million tonnes in 2018-19 as per third advance estimates (Statistical Year Book India 2018). During 2017-18 crop year, food grain production is estimated at record 284.83 million tonnes ([www.ibef.org](http://www.ibef.org) March 2019). In

India the share of small farmers is disproportionate very high with 86.21 per cent, followed by marginal farmers (13.22%) and big farmers (0.71 %).

Traditional agriculture will not be able to sustain farmer's interest. In this context, if agriculture has to survive, it has to explore ways and means to make it more profitable (increase income obtained per unit of time and land), and more employment opportunities in agriculture need to be created. In this modern era of cut-throat competition, agriculture will be only successful if it will move from culture (a way of life) to a dynamic entity of agribusiness.

Till now, farmers are production oriented. Whole efforts of extension system are directed to increase production and productivity, but the result is a meagre increase of 3-4 percent annually. So, now the focus should be on how to increase the profitability i.e. the share of producer in consumer's rupee which is at present 10-23 percent only. Indian farmers are good producers but they fail to efficiently market their produce because of unavailability of markets in rural areas and poor marketing skills of farmers. One of the potential alternatives for efficient marketing is mobilizing farmers for group action, for arranging inputs and collective marketing so as to benefit from economies of scale. Keeping this in mind, mobilization of farmers into a initiative of government of India i.e., a collective, farmer owned companies or Farmer Producer Organizations/ "Farmers' Organizations" for group action is very much imperative. Ministry of Agriculture and Farmers Welfare, Government of India through the latest "Policy and Procedural Guidelines 2013" have considered Producer Companies under Part IX A of the Company Act as the most appropriate and legal form of FPO. In order to leverage the collective bargaining power of the producer organizations, it is required not only to work directly with the small and marginal farmers and their institutions but also FPOs and their promoting organizations for creating and enabling environment for smooth functioning of the producer organizations and help in overcoming impediments that they face on day to day basis (Alagh, 2007).

A number of economists and politicians alike argue for a decentralized, self-reliant, market-oriented approach to improving the lives and livelihoods of small and

marginal farmers (farmers with landholdings under 2 hectares). This path toward financial self-sufficiency has entered the political and agricultural scene in the form of Farmer-Producer Organizations (FPOs). FPOs first came onto the radar in the 1956 Companies Act in which India's Department of Agriculture and Cooperation identified FPOs as the most appropriate institutional form around which to mobilize farmers to build their capacity and collectively leverage production and marketing strength.

Farmers Producer Organisations are groups of rural producers coming together to form organizations, in order to pursue specific common interests of their members developing technical and economic activities that benefit their members and maintaining relations with partners operating in their economic and institutional environment. Farmers Organisations (FOs) are essential institutions for the empowerment, poverty alleviation and advancement of farmers and the rural poor. (FAO, 2006)

Farmer producer companies in India came into existence as legal entity after necessary modification of the Indian Companies act (1956) by adding section 9A in the year 2003. Farmers' producer companies can be seen as hybrids between private companies and cooperative societies. The producer-company concept is aimed to combine the efficiency of a company with the spirit of traditional cooperatives (Trebbin and Hassler, 2012).

The concept of "Cooperative" is one of the options available for the producers to organize themselves to move up in the supply-chain by value addition and business ownership. However, the cooperative system in the country has been infected by several inadequacies (Sontakki, 2012). The Indian farmer is connected to the Indian consumer through various supply chains, each of which has evolved over time. The first and oldest model, the APMC supply chain, is one wherein the crop is sold to traders at the local agricultural market called a mandi (Prasad, 2013). Despite its various advantages, the producer companies have their own challenges. Majority customers of these companies are small and marginal farmers. They are illiterate with poor awareness on importance of quality seeds and other agri-inputs (Chauhan, 2015). Agri-business enterprises after making substantial investment in capital infrastructure for building the supply chain look

for consistent continuous and adequate supplies of produce on an ongoing basis. Agribusiness enterprises are therefore increasingly looking for direct tie-up with farmers to source the agricultural produce required by them (Murray,2009a).

The year 2014 was observed as the “Year of Farmer Producer Organisations (FPO)” by the Government of India. The concept of Farmer Producer Organizations consists of collectivization of producers especially small and marginal farmers so as to form an effective alliance to collectively address many challenges of agriculture such as improved access to investment, technology, inputs and markets. Department of Agriculture and Co-operation under Ministry of Agriculture and Farmers Welfare, Govt. of India has identified ‘FPOs’ registered under the special provisions of the Companies Act, 1956 as the most appropriate institutional form around which the mobilization of farmers is to be made for building their capacity to collectively leverage their production and marketing strength. The Department of Agriculture and Co-operation under Ministry of Agriculture and Farmers Welfare has set up ‘Small Farmers Agribusiness Consortium’ (SFAC), as designated agency to act as a single window for technical support, training needs, research and knowledge management and to create linkages to investments, technology and markets. SFAC provide all-round support to State Government and other entities engaged in promotion and development of FPOs. It creates sustainable linkages between FPOs and input suppliers, technology providers, extension and research agencies and marketing and processing firms both in public and private sectors (Nalini et al. 2018).

Several institutional models of farmers have been tried in India to integrate farmers with the value chain, FPOs are found to be one such recent and effective model. Y.K. Alagh committee has recommended FPOs as a primary level organization to serve the interest of farming community, These FPOs are flexible incorporating the characteristics features of companies and also co-operative societies. As per the guidelines prepared by NABARD, FPOs in India can be promoted or registered in the country under Companies Act 1956 or even as a co-operative society under the concerned state co-operative societies act or the liberal co-operatives act enacted by few states in the country.

Besides, the area of operation of FPO is more than one state. It can be registered under multistate co-operative act 2002. Further as per the NABARD guidelines an FPO can also be registered under Indian trust act 1882. Hence sufficient provision has been made to promote and register FPOs under the provision of any act in the country. The following are the important features of FPOs.

- FPO is a registered body and a legal entity.
- FPOs are formed by a group of producers for either farm or non-farm activities.
- Producers are shareholders in the organization.
- FPOs deals with business activities related to the primary produce/product.
- FPOs work for the benefit of the member producers.
- A part of the profit is shared among the producers.
- Rest of the surplus is added to its owned funds for business expansion.

### **Current Status of FPOs in India and Karnataka**

Presently, around 6000 POs (including FPOs) are existence in the country, which were formed under various initiatives of the Government of India (including SFAC), State Governments, NABARD and other organizations over the last 8-10 years. Of these, around 3200 FPOs are registered as Producer Organization and the remaining as Cooperatives/Societies, etc. (<https://www.nabard.org>)

In India, at present 910 FPOs are promoted by SFAC. Majority of FPOs are registered mainly in Madhya Pradesh (149), Karnataka (126) and Maharashtra (105). NABARD has also promoted 4235 FPOs. Among them the largest number of FPOs are concentrated in Madhya Pradesh (361) followed by Karnataka (263) and Tamil Nadu (214) and as of 2020. ([www.sfacindia.com](http://www.sfacindia.com))

### **NABARD's Support to Farmer Producers' Organizations**

During 2011-12 NABARD created Producers Organization Development Fund (PODF) with initial corpus of Rs. 50 crores as financial support for existing FPOs including PACS to create innovative financing models for mainstream banking.

NABARD also created its own subsidiary (NABKISAN Finance Ltd.) for meeting the credit requirements of FPOs by adopting a flexible approach based on life cycle needs, while it continues to provide promotional support out of grant fund towards capacity building, market linkages and other incubation services to FPOs. The scope of this fund has been further enhanced during 2017-18 to provide need-based grant assistance to those FPOs also, which are financed by the Commercial Banks, Cooperative Banks and Regional Rural Banks. During 2014-15 Government of India has created Producers' Organization Development and Upliftment Corpus (PRODUCE) Fund in NABARD. Under this Fund, NABARD has promoted 2,154 FPOs as on 31 May 2018.

### **Schemes of Government of India / SFAC for FPOs**

The Union Finance Minister, in the Budget Speech for 2013-14, announced two major initiatives to support Farmer Producer Organization (FPOs) viz., support to the equity base of FPOs by providing matching equity grants and credit guarantee support for facilitating collateral free lending to FPOs.

#### **1. Equity Grant Fund Scheme**

The equity grant support to eligible FPOs is provided by the SFAC on matching basis subject to a maximum of Rs 10.00 lakh per FPO, provided the FPO has a minimum shareholder membership of 50 farmers.

#### **2 Credit Guarantee Fund Scheme**

The main objective of the Credit Guarantee Fund scheme is to provide a Credit Guarantee Cover to Eligible Lending Institutions to enable them to provide collateral free credit to FPCs by minimizing their lending risks in respect of loans not exceeding Rs. 100.00 lakhs.

Under the schemes, only Farmer Producer Organization having minimum 500 individual shareholder members is eligible for Credit Guarantee cover. Maximum guarantee cover is restricted to the extent of 85 per cent of the eligible sanctioned credit facility, or to Rs. 85 lakhs, whichever is lower.

Ministry of Food Processing Industries, as created a scheme for Backward and Forward Linkages, integration for processed food industry by plugging the gaps in supply chain in terms of availability of raw material and linkages with the market. Under the scheme, financial assistance is provided for setting up of primary processing centres/ collection centres at farm gate and modern retail outlets at the front end along with connectivity through insulated/ refrigerated transport.

The Ministry of Rural Development, under its Deendayal Antyodaya Yojana a large number of Producers' Groups are being promoted and graduated into sustainable, member- owned and member-governed Producers' Enterprises (PEs).

The Government of India, in the Union budget 2018-19, announced the 100 per cent tax deduction for FPOs with annual turnover of up to Rs. 100 crores, to promote FPOs for a prosperous and sustainable agriculture sector that enable farmers to enhance productivity through efficient, cost-effective and sustainable resource use and realize higher returns of the produce. The benefit shall be available for a period of five years from 2018-19.

### **Farmer Producer Organizations in Karnataka**

The Department of Horticulture, Government of Karnataka has started a pilot program for promoting member-based Farmers' Producer Organization (FPOs) during 2014-15, in association with Small Farmers' Agri-business Consortium (SFAC), New Delhi a nodal agency for FPOs identified by Ministry of Agriculture Co-operative and Farmer Welfare, Government of India.

The program involved the mobilization of small and marginal farmers into FPOs across the state, under the schemes of the RKVY, NHM and SUJALA III. The objective of the project is to collectivize farmers, especially small and marginal producers, to share the benefits of collectivizes like adoption of new technology, improve productivity and enable improved access to inputs and services and increase income, thereby strengthening their sustainable horticulture-based livelihoods.

The Department of Horticulture in association with SFAC is supporting FPOs through enrolled Resource Institutions (RIs), which provide various inputs of training and capacity- building in the members and helps in linking FPOs to input suppliers, technology providers, and market players. Further, The Government of Karnataka established a Centre of Excellence for Farmer Producer Organizations (COE-FPO), first of its kind in India, during 2017 for the overall development of FPOs. It provides the handhold and institutional support with respect to training, knowledge dissemination, economic sustainability, self-reliance, policy analysis and evolution into effective enterprises working especially for economic benefit of small holder members in general and for Farmer Producer Organizations in particular. It will also serve as a platform for coordination among various departments and other related government agencies, NGOs, private sector firms, and other organizations dealing with the horticulture and allied sectors. In Karnataka at present 119 FPOs are promoted by the Department of Horticulture and 187 FPOs are promoted by NABARD. ([www.sfacindia.com](http://www.sfacindia.com))

Farmer Producer Organizations (FPOs) are being established so that it can help farmers in earning more returns through collective input purchase, collective marketing, processing, increasing productivity through procuring better inputs, augmenting knowledge of farmers in better management practices and ensuring quality. Member based FPOs offer a proven pathway to successfully deal with a range of challenges that confront farmers today, especially small producers. Overcoming the constraints imposed by the small size of their individual farms, FPO members are able to leverage collective strength and bargaining power to access financial and non- financial inputs, services and appropriate technologies, reduce transaction costs, tap high value markets and enter into partnership with private entities on more equitable terms. With fragmentation of the holdings due to generational transfer unlikely to abate, FPOs offer a form of aggregation irrespective of land titles with individual producers and uses the strength of collective planning for production, procurement and marketing to add value to member's produce. International and national experience in the performance of FPOs makes a strong case for policy support to member-based farmer bodies, to significantly increase their power in the market place, reduce risks and help them move up in the agri value chain.

Farmers Organization are essential institutions for the empowerment, poverty alleviation and advancement of farmers and also the rural poor. Politically, Farmers Organization strengthens the political power of farmers, by increasing the likelihood that their necessity and opinions are heard by policy makers and the public. Economically, Farmers Organizations can help to farmers gain skills, access inputs, form enterprises, process and market their products more effectively to generate higher incomes. By organizing, farmers can access information needed to. Produce, add value, market their commodities and develop effective linkages with input agencies such as financial service providers, as well as output markets. Farmers Organizations can achieve economies of scale, thereby lowering the costs and facilitating the processing and marketing of agricultural commodities for individual farmers. Marketing-oriented Farmer Organizations can assist their members to purchase necessary inputs and equipment, meet quality standards and manage the drying, storage, grading, cleaning, processing, packing, and branding, collection and transportation of produce. In this way Farmer Organizations provide a more reliable supply to buyers and sell larger quantities at higher prices. Organized farmers have greater bargaining power than individuals and are better able to negotiate with other more powerful market players to ultimately increase the profits that accrue to farmers rather than intermediaries and buyers. Collectivization of farmer producers, especially small and marginal farmers, into producer organizations has emerged as one of the most effective pathways to address the many challenges of agriculture. Most importantly, role of FPO in improved access to investments, technology, inputs and markets. It is found to be one of the most appropriate institutional forms for bringing about mobilization and capacity building of farmers in order to leverage their production and marketing strength. The agricultural marketing continues to be the main stay of life for majority of the Indian population, as more than 58 per cent of the population depends on agriculture.

There is a necessary for promoting and supporting of member-owned producer organizations that enable farmers to enhance productivity through efficient, cost-effective and sustainable resource use and realize higher returns for their produce, through collective action supported by the government, and fruitful collaboration with academia,

research agencies, civil society and the private sector. The main qualifying criterion for FPO to attract benefits under various schemes and programs of the Central and State Government is that it must be a registered body and administered by farmers and the organization must be focused on activities in the agriculture and allied sectors.

Considering the above background, a number of researchable issues were drawn which needed serious and sincere investigation. Thus the researchable questions are:

- What is the impact of the Farmer Producer Organisations on yield, annual income and social status of its members and non-members?
- Which are the factors contributing to success and sustainability of the Farmer Producer Organisations?
- The profile characteristics of members of Farmer Producer Organisations found any Association with their Attitude level?
- What are the constraints/problems encountered by the members of the Farmer Producer Organisations?

### **Statement of problem**

India is witnessing a tremendous shift of importance from increasing productivity (production per unit area) to increasing profitability (farmer share in consumer rupee). But, the question is how to achieve this? The answer to this problem lies in mobilization of farmers for group and collective efforts which will subsequently aid in higher economic gains or higher profitability for individual farmer. Though there have been a number of models of group approaches in forms of farmer cooperatives, farmer interest groups, farmer producer companies, commodity based organizations, etc. till date but many of them lack sustainability and efficient participation of members in different stages of organizational development, as a result of which the results become short-lived and insignificant. Mainly studies have been carried out on large scale organizations involving large well-to-do farmers, excluding the budding organizations from the context, which are operational at small scale level including the small and marginal farmers. Very few studies have been conducted to highlight the critical factors which contribute to the success and failure of the farmers' organizations. There are few studies that evaluate the

income effect of being member of farmers' organizations in India in general, and not tied to a particular organization. There is little empirical evidence for the income generating effect of farmers' organizations in India. It is also important to isolate the constraints which hinder the effective and efficient performance of the farmers' organizations, in order to combat them and thus, yield fruitful socio-economic benefits. It is high time to conduct an impact study of FPOs on yield, income and social status of the members and non-members. Therefore the present research study entitled "An Impact Analysis of the Farmer Producer Organisations (FPOs) in Mysuru district" was undertaken, highlighting two organizations, Varuna Horticulture Farmer Producer Company Limited (VHFPC) and Arkeshwara Horticulture Farmer Producer Company Limited (AHFPC). which are epitomes of unique models of group approaches. Compared to the conventional farmers, the organizational farmer members are distinguished as profit reapers. Both the organizations are in their budding stage and include the small and marginal farmers. The two successful farmer groups are serving as examples of institutional mechanisms contributing to the economic safety and better livelihood of the farmers. Therefore, these two organizations need careful study and examination in order to isolate the factors responsible for their smooth and successful operation.

**Objectives:**

1. To develop and standardize a scale to analyse the attitude of members towards Farmer Producer Organisations.
2. To analyse the impact of the Farmer Producer Organisations on yield, annual income and social status of its members and non-members.
3. To identify the factors contributing to success and sustainability of the Farmer Producer Organisations.
4. To study the association between the profile characteristics of members of Farmer Producer Organisations with their attitude level.
5. To document the case studies of the selected Farmer Producer Organisations
6. To identify the constraints and seek suggestions for effective functioning of Farmer Producer Organisations

## **Importance and Scope of the study**

The research study on Farmer Producer Organizations from Mysuru districts of Karnataka will be useful for the development of stakeholders, producers to develop favorable attitude among producers and to create awareness about producer organizations and different crops among beneficiaries. It will also help in developing a standardized scale to analyze the attitude of farmers towards FPOs. The results of the study highlighted the significant contribution of farmer organizations to analyse the impact of FPOs on yield, income and social status, thus making them self-sufficient and self-reliant. The study provided a reasonable understanding about the facilitating and inhibiting factors in functioning of these farmer organizations, thereby coming out with suggestions to improve their efficiency and sustainability. The study could throw some light on underlying factors associated with organizational sustainability. The study is expected to be very relevant for the civil society organizations, planners, policy makers, and researchers who work solely for mobilizing farmers to form into groups and thus, the study would facilitate in replication of similar initiatives in other parts of the country also. The study will be helpful for the development agencies for the effective formulation of strategy for initiation and upscaling of farmer organizations in other areas. Unlike the current views of small-scale farmers as permanent victims or beneficiaries of external interventions, the present study attempts to shed some light on how, despite their many asset constraints, small producers can be dynamic economic actors through innovative methods, trying to make markets work for them as they can or wish. The strength and unity that comes from cooperating and working together can be empowering for small-scale producers, who often lack the skills, knowledge and experience to successfully participate in the market. When farmers come together, they see it as an opportunity to socialize, share and learn. Thus, farmer organizations can provide important platforms for capacity building, information exchange, and innovation in rural settings.

## **Limitations of the study**

The major limitation was with respect to the duration of the study. Some aspects, which require longitudinal studies and observations that are time dependent, could not be studied as it was a student research constrained by funds and time. The findings of the

study are based on expressed opinion of the respondents. Hence the objectivity would be limited to the extent of the respondents' honest opinion. Even if the data were cross checked to minimize the error, it is a fact that the results of the study may be apt only for the area where the study had been conducted and this should be considered while generalizing the results to a larger area. It would not be appropriate to generalize the findings of the study for the areas which do not have similar conditions as the project under study. The FPOs in the state have been organized from 2004 onwards on a very small scale. Hence historical data on the subject is limited. The study was limited to Mysuru district. The data pertaining to FPOs was drawn from records maintained by FPOs, NABARD, the Department of Horticulture and from various agencies that are promoting FPOs. Hence it would be difficult to draw precise generalizations regarding the implications of the study. The findings in this study, interpretations and conclusions drawn could be best seen within these limitations.

#### **Null Hypothesis framed for the study**

- **Ho (1):** There is no significant difference in the attitude of members towards Farmer Producer Organisations
- **Ho (2):** There is no impact on crop yield, income and social status of members and non-members of Farmer Producer Organisations.
- **Ho (3):** There is no significant factors contributing to success and sustainability of the Farmer Producer Organisations
- **Ho (4):** There is no association between profile characteristics of members of Farmer Producer Organisations with their attitude level.

#### **Organization of the Thesis**

This thesis has been presented in seven chapters. The first one being the “**Introduction**” providing background information, genesis cum statement of the problem and scope of the investigation along with its limitations. Second chapter entitled as “**Review of Literature**” provides an insight to similar types of works/studies carried out by the researchers in the past. The third chapter, i.e., “**Methodology**” gives a

description of the sampling plan, various variables, their measuring techniques, statistical tools to be used for analysis of data etc. The findings of the study along with discussion there upon are presented in chapter fifth, entitled as “**Results and Discussion**”. The last chapter is “**Summary and Conclusions**”, which were concluded from the results of the study. At the end “**References**”, “**Annexures**” and “**Appendices**” provides related background details of the study.

### **Operational definitions of the terminologies used in the study**

**Attitude:** The degree of positive or negative feeling of members associated with the structure and the functioning of the FPOs in the project area.

**Impact:** The totality of positive and negative, primary and secondary changes produced in the life of the members due to their participation in farmer producer organizations which may be direct or indirect effect or intended or unintended changes.

**Income:** The annual income is operationally defined as the total annual net income realized in rupees by the members and non- members who grow the same crop (i.e banana and tomato).

**Crop yield:** The crop yield is operationally defined as the total annual quantity of the crop realized in quintals by the members and non-members who grow the same crop (i.e. banana and tomato).

**Social status:** It is the improvement in position or the rank of the member due to his/her participation in different phases of FPOs.

## II REVIEW OF LITERATURE

A comprehensive review of literature is essential in any research endeavour as it provides a sound theoretical frame work for research. Apart from understanding the previous work done, the other main functions of citing review of literature is to provide a base for developing a tool and insight into the method/procedure to be used to reach the objective of research. It helps to work out a basis for interpretation of the findings. Keeping in view the objective of the study, the literature found relevant to the present study were reviewed and brought out with the following headings.

2.1 Concept and studies on Farmer Producer Organizations.

2.2 Linkages of Farmer Producer Organizations.

2.3 Attitude of members towards Farmer Producer Organisations/ group extension approaches/rural development programmes/agriculture related programmes.

2.4 Impact of Farmer Producer Organization/ group extension approaches/ rural development programmes on yield, annual income and social status of its members

2.5 Factors contributing to success and sustainability of the Farmer Producer Organisations.

2.6 Case studies related to Farmer Producer Organizations.

2.7 Constraints and suggestions for effective functioning of Farmer Producer Organisations

### **2.1 Concept and studies on Farmer Producer Organizations**

Rondot and Collion (2001) defined the producer organizations as formal rural organizations whose members organized themselves with the objective of improving farm income through improved production, marketing and local processing activities. The Producer Organizations operate with the objective on pricing and export and import of agricultural products; access to inputs and services, including agricultural credit and local processing of agricultural production and its marketing.

Karim (2001) conducted a study on producer organizations and agricultural technology in West Africa. The study revealed that producer organizations have a key role to play in technology development and improving the livelihoods of the poor in developing countries. The role of producer organizations is especially important in the context of globalisation.

Dutta and Samar (2005) in his study on cooperatives in Agriculture observed that despite introduction of various cooperative acts including Multi State Cooperative Societies (MSCS) Act, the pace of reform has been far too slow. Hence, a new chapter on producer companies was introduced in 2002, to the Companies Act, which is an attempt to enable farmers and other primary producers to set up companies, mostly resembling as cooperatives.

Esham and Usami (2007) analyzed the performance of Ridi Bendi Ela Farmer Company in Srilanka, the study revealed that the commercialization of agriculture in respect of irrigation scheme was a failure by FPO as a formal collective group. This is mainly due to two reasons, one, the farmers' perception of the farmer company as a service provider and the restrictions on share ownership by outsiders from the irrigation scheme has limited the capital necessary for expanding the commercial activities of the farmer company. Further the awareness gap between the shareholders and the farmer company has resulted in poor farmer participation in commercial activities of the farmer company. The author suggested strengthening the capital base and organizing mutually beneficial farmers-agribusiness linkages. Increased number of shares per farmer and relaxation in restrictions on share ownership from outside the irrigation scheme to strengthen the capital base of the company. The author suggested allowing farmers to have control over their company in the share ownership of the agribusiness industry will help to preserve company's independence.

Anonymous (2007) conducted the work shop on "linking small farmers to markets" has concluded that the producer companies actually had a distinct advantage since it allowed professionals to take part in governance as Directors which helped to bridge the information asymmetry between the producer Directors and professional

managers. The Producer companies provided with the opportunity of retaining the unique characteristics of a cooperative enterprise even as it enabled flexibility in business operations that was not available under the Cooperative Act. There are undoubtedly going to be challenges, as in the case of cooperatives. There are other problems that would arise as a producer company created its space in the marketplace. These are only natural and only a professional management will be able to ensure that adequate commercial benefits accrued to all stakeholders.

Hellin *et al.*, (2008) conducted a study on Farmer Organization-collective action and market access in Meso-America. The study revealed that benefits of farmer organizations were more evident in the vegetable sector, characterized by high transaction costs associated with market access. However, horticultural farmer organizations in Honduras and El Salvador include less than 5 per cent of total horticultural producers. This is possibly due to farmer organizations limited business skills and non-replicable organizational models. There is less incentive for maize farmers to organize to access output markets as the transaction costs were relatively low. The benefits of maize farmer organizations were clearer when it comes to accessing inputs such as credit, seed and fertilizer.

Ilona (2008) studied on Agricultural producer groups in Poland and concluded that it is very important not only to analyze the economic and market situations of the groups, but also to investigate the nature of collective actions in their governance dimensions.

Murray (2009c) in his study on Producer Company Model- Current status and future outlook: Opportunities for bank finance examined the present status of financial opportunities available from different sources and concluded that capital was the major requirement and borrowing from banks was the challenge as companies may not have much ease than the producer member equity to leverage borrowings. Unconventional approaches would be required to assess the credibility, reputation and the principles on which the company operate which are the only tangible assets, not physical assets.

Elisabeth and Matin (2011) studied on linking smallholders to markets and concluded that farmer groups have greater capacity to implement innovations and absorb innovations and exchange information. Collective marketing leads to reduction in the external transaction costs through exploiting economies of scale in selling.

Nadiia (2011) conducted a study on Producer company in India. The study revealed that supporting organizations work at least against three fronts while establishing the producer company-institution building, creating linkages and organizational sustainability. The decision to establish the producer company as well as the choice of business model in case of supporting organizations is very important.

Venkattakumar and Sontakki (2012) conducted a study on producer companies in India-experience, implications and interpreted that the best practices followed by successful producer companies in capacity building, awareness creation and enabling environment for promotion across the country which were to be documented and disseminated.

Singh and Singh (2013) in his study on Producer Companies as New Generation Cooperatives, concluded that in comparison to cooperatives and PCs in government policy in India shows that cooperatives received income tax exemption, non-taxable welfare income exemption, land lease at nominal rates or free, fertilizer allocation to PACS, foundation seed supply and marketing support to seed cooperatives, state agency grants to cooperatives, export incentives and provision of distribution outlets for selling products, at the same time the author has revealed the PC in India have not received any of the above benefits provided to cooperatives.

Varun (2013) in his paper on Contract Farming through Farmer Producer Organizations (FPOs) in India. argued that the Farmer Producer Organization (FPO) was the best organization, in terms of the objective of eliminating the “Moral Economy”, and argued for the same using the tools of Transaction Cost Economics (TCE). He also argued that the problem of individual farmers being unable to pursue litigation against corporate would become less of an issue, because of the financial capacity of the FPO

and farmers, who were previously not exposed to any form of business organization, have become “experts” in marketing their produce to the public, a mere six months after their FPO was officially incorporated.

Radhikarani and Amarendra (2014) conducted their study on Producer Organizations in Indian Agriculture: Their Role in Improving Services and Intermediation and examines the role of producer organizations in improving service delivery to producers/farmers. The study has observed that access to technology and other farm advisory services for producers within a producer organization. Perceptible changes occurred in terms of increase in net incomes for members compared to non-members. The study reveals that the benefits arose mainly because of increase in market access, marketable surplus and bargaining power for producer organizations. The findings of the study support arguments for greater policy support to leverage the functioning of producer organizations for their sustenance and replication.

Chauhan (2015) conducted the study on Producer Companies in Madhya Pradesh with an objective to examine the business performance of the Producer organizations. The study found that there were 18 producer companies (15 agriculture, 02 dairy and 01 poultry) with the establishment of a new dairy-based company at Shivpuri - Hardol Milk Producer Company Ltd. Most of the producer companies were in agribusiness and its core activities were quality seed production, farm produce trading and agri-input supply. An evaluation of Farmer Producer Organizations in Chikkaballapur and Mysore Districts of Karnataka. A producer companies had 45,751 shareholders with annual turnover of Rs. 118.92 cr. and net profit of Rs. 89.93 lakh (2012-13). The study analyses the business performance of producer companies in the state of Madhya Pradesh based on secondary data provided by DPIIP Department from year 2010 to 2013. The assessment was based on financial indicator like number of shareholders, annual turnover and net profit of the companies. This study also highlights the constraints and challenges faced by producer companies.

Emmanuel *et al.* (2015) conducted their study on Economic Analysis of the Role of Farmer Organizations in Enhancing Smallholder Potato Farmers’ Income in Middle

Guinea. The study aims to examine the determinants and effects on farm income of group membership, with the sample of 90 smallholder potato producers in Middle Guinea. A probit model was used as a selection equation to identify factors that influence group membership decision by smallholder potato farmers. The results revealed that the age of the potato farmers, land ownership, extension service, credit access and off-farm income are positively associated with group membership, while gender and education level of the farmer negatively influenced their decision to join farmer groups, and farm income is predominantly determined by labour used, the size of the cultivated potato area, share of potato sold and potato market price.

Shubhangi (2016) studied on the effective linkage of small producers with market and concluded that Farmer Producer Organizations were important means to bring the small and marginal farmers together in local communities to build their own enterprise, managed by professionals Farmer Producer Organization offers a proven pathway to successfully deal with a range of challenges that confront farmers today, especially small producers. Farmer Producer Organization is the best way of linking producers to market for getting fair prices for their produce as it helps in giving market information on different markets and prices in different markets.

Ahmed and Mesfin (2017) in their study on Impact of agricultural cooperatives membership on the wellbeing of smallholder farmers: empirical evidence from eastern Ethiopia, evaluated that the impact of agricultural cooperative membership on the wellbeing of smallholder farmers using cross-sectional data collected from the eastern part of Ethiopia. Using consumption per adult equivalent as a wellbeing indicator, the study measured the impact of agricultural cooperative membership by implementing propensity score matching and endogenous switching regression estimation techniques, the results indicate that joining agricultural cooperatives has a positive impact on the wellbeing of smallholder farmers. Furthermore, the analysis also indicates that agricultural cooperative membership has a heterogeneous impact on wellbeing among its members.

Darshan *et al.* (2017) conducted a study on Farmer Producing Organizations for Development of Farmers in India: An Economic Perspective. The objective of the study is to find current status, performance and to document the case study of FPOs in different states of India, namely Madhya Pradesh, Maharashtra, Karnataka, West Bengal and Odisha in terms of number of FPO's. The secondary data was collected from various sources of government websites and authenticated sources for analysis. The analysis of cases of FPOs revealed a positive impact on the economic development of farmers. The FPOs have helped to organize the small and marginal farmers to improve their standards of living by providing assured income, employment, better technologies of production and post-harvest management activities.

Navaneetham *et al.* (2017) conducted a study on the Status of farmer producer companies in India. This study was aimed at predicting the trend of FPOs establishment over the years and challenges faced by FPOs. The primary data was collected from the secondary sources by an intensive survey of papers on Farmer Producer Companies in India published from 2011 to 2016, and analyzed using trend analysis, CAGR and conventional analysis. The study shows that during the period from 2004 to 2009 there was no growth, predicted with linear horizontal line, from 2010-2011 there has been an increasing interest in farmer producer companies. Taking a break at 2012, there has been an upward rise in the trend line touching peak during 2013, this was mainly due to information of Government schemes. The CAGR predictions from 2004 to 2016 shows a positive growth of 31.1 per cent.

Shivam (2017) revealed that the Farmer Producer Companies have been performing poorly in terms of solvency, efficiency and profitability. The liquidity positions of the companies are at marginal level. The Liquidity Variable is the only variable which is found to be under the average category whereas others are in the poor category. Hence the overall performance of FPOs was not satisfactory.

Yadav *et al.* (2018) have conducted a study on Management status of farmer producer organizations (FPOs) in Chhattisgarh plains, to examine the status and performance of Farmer Producer Organizations (FPOs) in Chhattisgarh Plains. They had

collected data from 10 FPOs in the area using case study and survey method. The study shows that the major business of FPOs were production and marketing of fruits and vegetable collectively, input supply, milk production, mushroom and its value-added products, vermi-compost and NTFPs etc. The average authorized capital ranged from Rs. 2.3 lakhs to 10 lakhs, mobilized share capital was Rs. 2.3 to Rs. 13.54 lakhs and annual turnover was in the range of Rs. 2 to 62 lakhs. All the FPOs studied were earning Profit (2016-17). The study suggesting to considered investment and working capital grants for creation of processing and marketing infrastructure. Further to Government, to exempt from corporate tax for few years and to provide a separate shop in Regulated market for FPOs at concessional rate.

## **2.2 Linkages of Farmer Producer Organizations**

Bingen *et al.* (2003) in their study on linking farmers to markets: different approaches to human capital development, examines the extent to which different types of investments influenced the capacity of farmers organizations to make their own social and economic choices and thereby become full actors in the market. Investment in capacity building requires a long-term and focused commitment to develop human skills and social capital. In contrast to technology-driven efforts, this type of investment values and encourages learning in order to deal with a broader set of actors and market opportunities. Based on this investment, access to agricultural goods and services tended to be demand driven as farmers played a key role in identifying their needs, and in capitalizing and managing their organizations.

Pradan (2007) in workshop on Producer Companies- Linking Small Producers to Markets stated that producer companies are engaged in livelihood promotion or support. They made specific efforts in collectivizing people, aggregating their products and services, and building their institutions. Importantly, they had to work on developing markets, sometimes new segments and alternate channels of marketing. It was suggested that producer companies could attract suitable capital issuing preferential shares or B class shares or voting shares. It was indicated that the existing legislation restricts mobilization of capital which needs to be looked at. A producer company can also look at

raising capital indirectly, through alliances, partnerships or joint ventures with another private company.

Bijman and Wollni (2009) in their paper on Producer organizations and vertical coordination: an economic organization theory perspective. The author defined that producer organization is an association, a society, a cooperative, a union, a federation, or even a firm that has been established to promote the interests of farmers. The main goal of the producer organization was to provide services that support producers in their farming activities, starting from information on selection of crop, variety, inputs, technical knowledge and also including the marketing of the farm products. The producer organizations are created to cater the overall needs of farmers at village level. An evaluation of Farmer Producer Organizations in Chikkaballapur and Mysore Districts of Karnataka.

Dhakal (2013) conducted a study on Seed Producer Organization of farmer: An Experience of Western Terai, Nepal. The primary data was collected through focus group discussions, interview with key informants and survey. The study found that the farmers' organizations have collapsed due to lack of ownership, group management skill and inability to link with the market. The business skills, technical skills and organizational management skills of ARC (Agricultural Resource centers) members were not promoted parallelly. The study indicated that autonomy and adequacy of time given to select the enterprise for groups have a long-term impact on ownership development. The study also revealed the high level of external influences which resulted in ARCs depending on resources from outside dependency and lack of problem-solving ability among members.

Elbehri *et al.* (2013) have conducted the study on process of change design with in producer organizations and in assessing the "Women in Action" In a Cooperative Union and developing a proposal for an institutional action. The members have clearly revealed the factors which motivated them to join the union; the access to training and market information and projects. The assessment workshop highlighted that the Union is still quite fragile as it has been set up by its leader and network of women's cooperatives

across the Milian territory. However, the union lacked human resources and effective organizational structure.

Maria *et al.* (2016) conducted a study on role of Producer Organizations in the vegetable value chain. The study attempted to identify differences in supply chain with a PO as intermediary and supply chain with a wholesaler as intermediary. The study reveals that farmers gain are more from FPO by adopting direct marketing system, which needs to be incentivized and promoted. Inefficiencies occur largely in traditional markets due to large number of intermediaries from farm to fork. The findings endorse the view that, to improve the efficiency of the supply chain, it is necessary to strengthen their role through their activities. By implementing the tools one can facilitate both vertical and horizontal coordination of the production to improve interaction between various players of the market. The study revealed that strong collective and coordinated action of all the actors of supply chain will enable a return to profitability, as well as efficiency of the supply chain.

Shubhangi (2016) in his study on Farmers producer organization for effective linkage of small producers with market examined the mode of operation of FPO and effectiveness of the FPO with reference to the small farmers in India. It brings together the small and marginal farmers and other small producers to build their own business enterprise that will be managed by professionals. FPO offers a proven pathway to successfully deal with a range of challenges that confront farmers, especially small producers and to participate in the market more effectively and help to enhance agricultural production, productivity, and profitability.

Rani *et al.* (2017) conducted their study on Formation of Farmer producer organization and its impact on the development of sustainable crop production in Karnataka. The study was conducted to know the problems and benefits to the farmers by forming the FPOs. On the basis of both qualitative and quantitative methods, the study results that no farmer was practicing organic farming in the locality, no regular and authentic source of information to the farmers regarding market prices. The farmers generally rely on their own past experiences and information provided by fellow farmers.

And the benefits after forming as FPOs were per hectare production improved by 10 per cent and minimum of 20 per cent rise in net income of the FPO farmers.

Gersch (2018) conducted a study on Producer organizations and contract farming: a comparative study of smallholders' market strategies in South India. The study compares the abilities of the models to address economic challenges of highly fragmented and small-scale dominated agriculture on a household as well as on an aggregate level. It analyses the empirical data from the Indian floriculture sector with the global value chain approach. The study reveals that the smallholders perceive both contract farming and producer organization to be beneficial for their household's economic risk situation, while only the producer organization has a positive effect on the household's income. The researcher pointed out that the contract farming model increases value creation in the overall chain, but it did not raise the producer's value capture while the producer organization model did not heighten value creation in the overall chain, but it lifts the producers' value capture. The author concludes that contract farming and producer organizations were not competitive strategies they are supplementing, and should be applied in combination

### **2.3 Attitude of members towards Farmer Producer Organisations/ group extension approaches/rural development programmes/agriculture related programmes.**

Natarajan and Muthaiah (1995) in their study on FFS found that a majority (73%) of the FFS beneficiaries had favourable attitude, while 17.50 per cent of them had less favourable attitude and 17.50 per cent of them more favourable attitude towards IRDP.

Micah (1997) in his study entitled "attitude and loyalty of farmers towards cooperatives in the state of Ohio" reported that farmers had an overall neutral attitude towards cooperatives. Cooperative member farmers had a more favourable attitude towards cooperatives than non-members.

Ghugarkar (1999) conducted a study on water users association in Ahmednagar district of Maharashtra observed that 45.48 per cent of members had moderately

favourable attitude and 26.92 per cent of water users association members had favourable attitude towards association.

Manohari (2001) in her study on attitude of primitive tribal groups towards improved agricultural technology reported that, a majority (58.75%) of the primitive tribal groups possessed favourable attitude towards improved agricultural technology followed by highly favourable attitude (26.25%). Only ten per cent were neutral category and five per cent had unfavourable attitude.

Ramakrishnan (2004) in his study entitled “analysis of self-employment generation for educated unemployed youth through Prime Minister`s Rozgar Yojana (PMRY) in Udaipur district of Rajasthan” reported that majority (62.5%) of the beneficiaries had favourable attitude towards PMRY.

Sadighi and Darvishinia (2005) in their study on farmers` professional satisfaction with the Rural Production Cooperative (RPC) approach reported that the members generally had a positive and favourable attitude towards the rural production cooperative and its activities.

Bhanu (2006) in his study on aspirations of rural youth and their attitude towards rural development activities in Dharwad district of Karnataka reported that majority (72.5%) of the rural youth had favourable attitude, while 15 and 12.5 per cent of them had less and more favourable attitude respectively, towards rural development activities.

Meshram *et al.* (2006) in their study entitled “attitude of beneficiaries to Swarna Jayanti Gram Swarajgar Yojna” reported that 17.5 per cent of the beneficiaries had negative attitude. Whereas, 56.67 per cent had moderate attitude and only 25.83 per cent were having positive attitude towards SGSY programme.

Muni (2006) in his study on beneficiaries` attitude and project facilitation services of Sujala watershed project in Karnataka reported that, most (46.66%) of the beneficiaries belonged to more favourable attitude category followed by 27.50 per cent of them

belonged to less favourable category and 26 percent of the respondents belonged to favourable attitude towards Sujala Watershed Project.

Banwari (2007) in his study on Commodity Interest Groups (CIGs) in Rajasthan indicated that majority (59.6%) of the members were found to have favourable attitude and 32 per cent of the members had unfavourable attitude towards CIGs while 8.4 per cent of CIGs members had neutral attitude towards CIGs.

Nicolas *et al.* (2012) in their study on local farmers organizations in Morocco reported that in cooperative A, 65 per cent of farmers showed a positive attitude, 33 per cent had a neutral attitude and two percent had a negative attitude. In cooperative B, 39 percent of farmers showed a positive attitude, 47 percent a neutral attitude and 14 percent had a negative attitude. Farmers who belonged to cooperative A had a more positive attitude towards their cooperative than who belonged to cooperative B.

Ramakant *et al.* (2012) conducted a study on attitude of farmers towards kisan mandals and kisan seva kendra in Jaipur district of Rajasthan reported that more than half of the respondents (60%) had favourable and 26.66 per cent farmers had most favourable attitude towards kisan mandal and kisan seva kendra. Remaining 13.33 per cent respondents had unfavourable attitude towards kisan mandals and kisan seva kendra.

Tala and Ali (2012) reported that the farmers' overall attitude towards the public agricultural extension activities was negative. The negative attitude of the participant farmers towards the public agricultural extension services means that the farmers were not satisfied with these services.

Meena and Singh (2013) in their study on impact of SHGs reported that a significant change in the attitude of SHG members was observed in the areas viz., socio-economic upliftment, educational and training, marketing and entrepreneurship qualities, technology adoption and participatory research and credit aspect. Overall, 91 per cent of the SHG members had a favourable attitude towards self-help groups.

## **2.4 Impact of Farmer Producer Organization/ group extension approaches/ rural development programmes on yield, annual income and social status of its members**

Bernard *et al.* (2008) conducted a study on impact of cooperatives on smallholder's commercialization behaviour and concluded that on an average, cooperatives managed to secure a higher price for the output marketed by their members at least 7 per cent higher than non-members.

Murray (2009c) conducted a study on linking farmers producing rainfed crops with markets and revealed that a model of organizing farmers into producers collectives at the village level for aggregation of produce with some degree of initial processing and linkages of these collectives with retail chains can ensure elimination of several layers in the market channel, thereby increasing the farmers share in the consumer rupee.

Agarwal (2010) studied that group approach to farming, especially in the form of bottom-up agricultural production collectives, offers substantial scope for enhancing agricultural productivity and income of farmers.

Singh *et al.* (2010) in their study on social impact of community radio in Karnataka observed that participation and awareness created in Namma Dhwani programmes had great impact on leadership behaviour among the beneficiaries.

Asante *et al.* (2011) studied that farmers join farmer producer organizations when they have access to credit/loans through the farmer producer organization. By having access to credit, farmers were able to increase their production and output, as well as their income.

Shiferaw *et al.* (2011) studied the role of farmer organizations which increased access of small producers to new technology, market information and business services in rural areas that contribute to productivity, growth and intensification and commercialization of smallholder agriculture, thereby increasing their incomes.

Terrence *et al.* (2011) in their study on farmers assessment of social and economic benefits derived from cooperatives in Turkey reported that farmers prefer cooperatives over firms and dealers. Farmers still have confidence in the ability of cooperatives to provide market led services they need and opportunities for social development and democratic expression.

Amrinder and Sushil (2012) found that the SHG – Bank Linkage Programme has considerable positive impact on the social conditions. It has also empowered women members substantially and has contributed to increased self-confidence and positive behavioural changes in the post-SHG period as compared to the pre-SHG period.

Andhale and Wagle (2012) in their case study entitled “collective marketing for better incomes” in Maharashtra reported that Maharashtra Institute of Technology Transfer for Rural Areas (MITTRA) promoted flower growers of Vikramgad of Thane district in Maharashtra State into *Vrindavan Pushpa Utpadak Sangha*, an informal organization of flower producers. Due to collective marketing the income of the farmers has been increased substantially.

Nigat Bekele *et al.* (2012) conducted a study on impact of group based training approaches and reported that Commodity Interest Groups (CIGs) participation did not show any significant impact on farmers’ income. The lack of impact of a CIG program on income might be attributed to lack of information on price for the different horticulture products that are grown using the IPM and conventional methods.

Ofuoku and Chukwuji (2012) conducted a study on farmers’ cooperative societies in Delta State of Nigeria and reported that after joining SHGs, the awareness level of savings increased. There is a paradigm shift from loans borrowed for consumption purposes to productive purposes after association with SHGs. It is found that the SHG programmes have positive effect on alleviation of poverty. The consumption expenditure of the members has increased after becoming members of SHGs.

Chitra *et al.* (2013) in their study on SHGs in Rajasthan concluded that after joining the SHGs, the income of the respondents increased. There was a significant

difference in the monthly additional income of the SHG members before and after joining the SHGs with a jump from 10.40 to 52.80 per cent.

Farhad *et al.* (2013) while comparing the SHG and non SHG members reported that there is significant relationship between the amount of financial independence, self confidence, decision making power and the amount of the awareness of women members of SHG.

Kamdem (2013) in their study on cocoa farmers' organizations in Cameroon concluded that collective marketing has a positive and statistically significant effect on the net price received by farmers. This effect is estimated that eight per cent increase on the individual sale price.

Kidanemariam *et al.* (2013) conducted a study entitled "the economic impact of a new rural extension approach in northern Ethiopia" reported that participation in the Integrated Household Extension Program (IHEP) is associated with sharp differences in households' income. The beneficiaries' income was high when compared to non-members.

Mwaura (2014) concluded that promoters of farmer groups should direct efforts in ensuring the efficacy of the strategy in enhancing productivity thereby improving the welfare of farmers.

Radhika and Amarendar (2014) observed that access to technology and other farm advisory services for producers within a producer organization or partner arrangement was much more effective than for non-partners. Perceptible changes occurred in terms of increase in net income for partners compared to non-partners, even though increase in yield was not always observed. Benefits arose mainly because of increase in market access, marketable surplus and bargaining power for producer organizations.

Trebbin (2014) has conducted a study on linking small farmers to modern retail markets through producer organizations and revealed that farmers organization can help smallholder farmers specially to improve their position in emerging value chains and

producer companies act as promising tools to strengthen the farmers position in the super market chains there by increasing the income of the farmers.

Emmanuel *et al.* (2015) has conducted a study on economic analysis of the role of farmer organizations in enhancing smallholder potato farmer's income in Middle Guinea. A probit model was used as a selection equation to identify the factors influencing group membership decision by smallholder potato farmers. The results revealed that the age of potato farmers, land ownership, extension service, credit access and off-farm income positively associated with group membership while gender and education level of the farmer negatively influenced their decision to join as farmer groups. The second stage outcome results showed the farm income effects of group membership. It was concluded that farm income is pre-dominantly determined by labor used, size of the cultivated potato area, share of crop sold and potato market price.

Preethi (2015a) has conducted a study on farmer producer organizations in Maharashtra in the era of globalization and concluded that farmers producer organizations were very much beneficial to improve the value chain of agricultural produce and thereby getting good prices for their produce.

Virendra *et al.* (2015) studied that there were a number of successful cooperatives in India like IFFCO and KRIBHCO in fertilizer sector. The institution like AMUL in dairy sector and SHGs formed by various institutions have immensely benefitted farmer members by increasing crop productivity and overall income by generating support in various programs related with agriculture.

Kavin and Divya (2019) analyzed the impact of socio-economic characteristics on the performance of farmer producer organization (FPO) in western region of Tamil Nadu. The study included thirty numbers of FPOs. There are many variables taken for the study and the results shown that age, education and experience were the determinant factors which influence the performance of farmer producer organization (FPO).

## **2.5 Factors contributing to success and sustainability of the Farmer Producer Organisations.**

Bruynis *et al.* (1997) executed an empirical survey with 52 American marketing cooperatives and distinguished eight keys to success, understood in terms of longevity, business growth, profitability, and member satisfaction. Such factors as implementation of a management training process, employing an experienced fulltime general manager, regularly distributing accurate financial statements among the management team, using marketing agreements to secure business volume commitments from the members, and utilizing human resources appeared to be significant for the researched organizations achieving success.

Stringfellow and Coulter (1997) identified three key factors that determine whether or not successful farmer cooperation for marketing is likely to take place: a) a match between the existing skills/experience of members and what is required to undertake joint activities; b) internal cohesion and a membership driven agenda; and c) successful, commercially oriented, integration of the organization into the wider economy. The dilemma for development practitioners is that the conditions for successful cooperation (minimum levels of education, skill, financial capacity, etc) tend to work against successful cooperation by the poor, especially the poorest of the poor (Hulme and Shepherd 2003). Farmers offer a reasonable attractive product to the market for getting the reasonable price from traders. They try to develop their own ability such as developing techniques, setting quality standards, delivering products in time, and negotiating prices, etc. This kind of farmers have a good business concepts because they try to make their product attractive to the business partners so that the buyers can be willing to pay on their product on the better prices, listen to their demand, and invest in them (Kit *et al.*, 2006).

There are many success stories of farmer organizations leading to active and effective farmer participation in value chains, e.g. in the case of coffee producers in South America (Hellin and Higman, 2003). One of the better known is the milk industry in India: more than 70 percent of India's milk is produced by households who own only

one or two milk animals, and these producers form part of a nationwide network of dairy cooperatives. (FAO 2004:24).

Stockbridge *et al.* (2003) found that the farmer organization is a more formal expression of collective action. Farmer organizations can provide farmers with many services that are critical to their success in accessing markets. 1. Marketing services (input supply, output marketing and processing, market information) Facilitation of collective production activities 2. Financial services (savings, loans and other forms of credit) 3. Technology services (education, extension, research) 4. Education services (business skills, health, general) 5. Welfare services, (health, safety nets) 6. Policy advocacy 7. Managing common property resources (water, pasture, fisheries, forests) Furthermore, successful association requires management and entrepreneurial skills, i.e. ‘soft’ assets that many small producers with little education are less likely to have (Pingali *et al.* 2005).

Sautier and Bienabe (2005) conducted a study on the role of small-scale producer organizations to address market access. The study revealed the potential of horizontal cooperation for sustaining market access pathways for small-holder producers that is not just a matter of cost sharing mechanisms nor economies of scale. Horizontal cooperation deserves high priority by donors, governments and NGOs and involvement from the private sector in order to develop a large array of innovative supporting strategies.

Alam and Verma (2007) conducted in Uttarakhand, India, where smallholder farmers try to connect with several traders and to control their production costs is the evidence to support the statement above. Their research shows that, farmers in Uttarakhand used to sell their tomatoes to private dealers at very low price, and they also spent much money on transportation and commission. But, later on, Mother Dairy Company offered them a better price and additionally they did no longer need to pay any commission. So, all the farmers prefer to sell their tomatoes to Mother Dairy Company. Currently, the market chain has changed because private dealers try to compete with Mother Dairy Company. Private dealers now offer a much higher price. Thus, farmers now have started to make decisions whether they should sell to Mother Dairy Company

or to a private dealer. Both entrepreneurs provide high profit to farmers if they calculate the costs of inputs, transportation, and commission. So, some farmers decide to sell to Mother Dairy Company while others sell to private dealers according to their location and their convenience.

Marie *et al.* (2008) conducted a study on rural producer organizations for pro-poor sustainable agricultural development. The study revealed that Rural Producer Organizations should be involved in accordance with equitable institutional modalities, in the preparation of public policies based on negotiated compromises and should access institutional and financial resources needed for the production of public goods to which they contribute, in addition to the economic functions they perform.

Braham and Chitemi (2009) conducted a study on collective action initiatives to improve market performance and suggested that more mature groups with strong internal institutions, functioning group activities and a good asset base were more likely to improve market situation. Gender composition of groups also affects group marketing performance, as an enabling factor for male dominated groups.

Paule *et al.* (2009) has conducted a study on role of farmer organizations supplying supermarkets with quality food. In Vietnam This study revealed that farmer associations that work in the form of private commercial organizations were regular supermarket suppliers for the selected products and their ability to supply supermarkets related to the combination of functions they make available to their members, especially regarding quality control and promotion. Farmer organizations not only supply to super markets, but also to public.

Wambagu *et al.* (2009) conducted a study on at western Kenya effect of social capital on performance of smallholder producer organizations and concluded that social capital increases the level of commercialization of small holders as indicated by the improved performance of their respective rural producer organizations.

Shiferaw *et al.* (2011) conducted a study on market access and agricultural productivity growth in developing countries and concluded that democratic governance,

homogeneous and optimal group size, transparency and market orientation can enhance the performance of producer organizations.

Anika and Markus (2012) conducted a study on Farmer Producer Companies in India. The study revealed that in the environment of greater instability and competition, organization and collective action could help to enhance farmers' competitiveness and increase their advantage in emerging market opportunities.

Ragasa and Jennifer (2012) the study employed Principal Component Analysis to identify the factors influencing functioning and performance of Rural Producer Organizations has conducted a study on the role of rural producer organizations for agricultural service provisions in fragile states and showed that there is significant provision of technical advice and joint marketing suggesting the complementary of the indicators of Rural Producer Organization performance. Governance and management were found to be significant factors affecting the performance of Rural Producer Organizations and the presence of governance rules and registration as a legal entity were positive and have a significant effect on performance. They concluded that the influence of family members in Rural Producer Organizations effects the performance negatively. The findings suggest that the strong institutions and management systems were positively correlated with performance and membership commitment is highly and positively correlated with performance.

Rohitha *et al.* (2012) conducted a study on the factors affecting performance of Farmer Companies in Sri Lanka. The study examined how the institutional, group and management characteristics of these farmer companies affect their performance. The study revealed that farmer companies perform better when shares were tradable between members, and patrons pay and receive market-related prices for their inputs and product.

Chauhan (2015) found that there were 18 producer companies (15 agriculture, 02 dairy and 01 poultry) with the establishment of a new dairy-based company at Shivpuri - Hardol Milk Producer Company Ltd. Most of the producer companies were in agribusiness and its core activities were quality seed production, farm produce trading

and agri-input supply. They were also engaged in capacity building and strengthening of community by organizing training in 12 different fields. In financial year 2012-13 producer companies had 45,751 shareholders with annual turnover of 118.92 cr. and net profit of 89.93 lakh. This study was an evaluative study and marked an assessment on the business performance of producer companies in the state of Madhya Pradesh based on secondary data provided by DPIP Department from year 2010 to 2013. The assessment was based on financial indicator like number of shareholders, annual turnover, and net profit of the companies. This study also highlights the problems and challenges faced by producer companies through interviews of DPM (District Project Management) of few producer companies and monitoring and evaluation coordinator of producer companies.

Evengy and Thomas (2015) conducted a study on networks of rural producer organizations in Uganda. The study highlighted different aspects of rural producer organizations in Uganda and provided different perspectives for the analysis. Combining several research methods helped in understanding the functioning of rural producer organizations and the problems they face. Visualization of stakeholder-provided information by means of collaborative mapping facilitated stakeholder involvement and improved the quality of the dialog between the respondents and the researchers.

Ogunleye *et al.* (2015) conducted study on socio economic factors affecting farmers participation in cooperative societies in Oyo State of South Western Nigeria. The results showed that majority of the respondents were male (60.00 %) with mean age of 44 years and married (80.00 %). The most important cooperative societies were credit and thrift cooperatives (82.00 %), processing cooperatives (17.00 %) and producer cooperatives (13.00 %). Major benefits derived by members include provision of input, accessibility to loan and marketing of the produce.

## **2.6 Case studies related to Farmer Producer Organizations**

Garg (2012) conducted a case study on the Rewa crop producer Company private Ltd. (RCPCPL). The study aims to examine the performance of PC and the study revealed that the growth in turnover, gross profit, and net profit was positive for the period from 2007-09. The business performance assessed through the liquidity ratios,

current and quick ratios was satisfactory. However, due to high inventory and lack of working capital the profits were very low. As a result, the profitability ratio of the company was found to be not satisfactory.

Trebbin and Hessler (2012) in their study on analytical framework in relation to the value-chain governance and the impact of collective-action emphasizing structural characteristics of agriculture in India and the regulatory framework on which the concept of producer companies is promoted. A case study of Vasundhara Agri-Horti producer Co. Ltd (VAPCOL) was conducted and analyzed in relation to the success of this producer company in empowering farmers and improving their livelihood. The author concluded that producer companies are promising model of smallholder organization, which needs support and need for further research.

Balasubramani and Senthil (2013) in their case study on Producer Company reported the company served as a good platform for convergence and a vehicle for transfer of technology, helping farmers to reduce cost of farm inputs and realize better farm prices.

Kalra *et al.*, (2013) in his case study of farmer groups in Punjab reported that besides contributing toward economic development, these farmers groups are important for social networking. While social activities are more prominent among groups with members who are wealthier, larger groups with more wealthy members mainly sought access to advanced technical information. Group involvement helps to establish appropriate marketing relationships and to minimize input costs. The results of the analysis indicate that both case study groups have the essential characteristics for effective group operation and are working successfully.

Preethi (2015b) in his Case Study of Farmer Producer Organization in Maharashtra in the Era of Globalization. The primary data was collected by interviewing the members of FPOs situated in Narayangaon Taluka Junnar District Pune. The secondary data was collected from the office bearers of FPO supporting organization. The study revealed that the success of producer companies depends on the farmers'

commitment to the company. The integrity and quality of the leadership, its acceptance an evaluation of Farmer Producer Organizations in Chikkaballapur and Mysore Districts of Karnataka within the community, as well as the market environment are the most crucial factors for a successful production company. At the same time, the company has to provide appropriate knowledge to generate excess production from within the community in order to maintain linkages to the target markets. Finally, the researcher concludes that producer companies are a promising new model for farmers, but one which needs continued support and further critical analysis.

Sankri and Ponnusamy (2015a) in their case study on A Comparative Analysis of the Processes of Formation of Selected Farmer Producer Companies, analyze the processes of formation of Farmer Producer Companies (FPCs). Three Farmer Producer Companies, namely, Ramnad Pesticide Free Chillies Producer Company, Ayakudi Guava and Fruits Producer Company and Dharmapuri District Minor Millets Producer Company were selected for the study. Focused Group Discussion method was used to collect the data from 71 respondents (Directors and Members). The study found that the major processes that led to the formation of FPCs were creating awareness, building confidence, convincing, capacity building for collective production, processing, value addition and marketing, conducting trainings, demonstrations, exposure visits, Buyer-Seller Meets and Stakeholders' Meets. The study concludes that the catalyst agency has, therefore, to use an appropriate combination of such processes for facilitating the formation of FPCs.

Sankri and Ponnusamy (2015b) conducted a case study on, A Process Analysis of Erode Precision Farm Producer Company in Tamil Nadu and explored the processes of formation and functioning of Erode Precision Farm Producer Company Ltd and to know their future plans and expectations. The Primary data was collected through Focused Group Discussion with 40 members using a checklist and personal visits to the farmer's fields in the 15 clusters and the constituent units of the Company. The study found that the catalytical role placed by Tamil Nadu Agricultural University, line departments and private agro companies in building techno managerial and marketing skills through trainings, demonstrations, exposure visits, negotiations, conducting field experiments etc., The study also revealed that Identification of opportunities, adoption of improved

technologies, coordination among the clusters of collective production, grading, processing and marketing were the other processes for the success of the Company.

## **2.7 Constraints and suggestions for effective functioning of Farmer Producer Organisations**

Shiferaw *et al.* (2006) conducted a study on Rural Institutions and Producer Organizations in Imperfect Markets: Experiences from Producer Marketing Groups in Semi- Arid Eastern Kenya. The study found that the functioning of markets is constrained by high transaction costs and coordination problems along the production-to consumption value chain. And suggests that the new kinds of institutional arrangements are needed to reduce these costs and to fill the vacuum left when governments withdrew from markets in the era of structural adjustments. One of these institutional innovations has been the strengthening of producer organizations and formation of collective marketing groups as instruments to remedy pervasive market failures in rural economies.

Braham and Chitemi (2009) in their study on Collective action initiatives to improve marketing performance: Lessons from farmer groups in Tanzania. The primary data was collected from group members and analyzed using Conceptual model and it Pointed out that Reliable water source, activity level and commodity types are the most strongly associated with improved marketing performance. Group maturity, partner agency, and education variables are also statistically significant. The study suggests that groups with more mature with strong internal institutions, functioning group activities, and a good asset base of natural capital are more likely to improve their market situation.

Murray (2009d) has conducted a study on producer company model and concluded that Banks refuse to lend credit to producer companies due to lack of guarantees from either central or state governments.

Camanzi *et al.* (2011) conducted a study on the role of producer organizations in supply concentration and marketing. The study was based on operational programs prepared by producer organizations to obtain financial aid from the European commission and considered production, value distribution and composition, marketing

channels (supermarkets, wholesale, small retail, and processing) and measures were provided to support farmers in production, marketing, and the protection of the environment. The study depicted the capability of producer organizations to concentrate on supply and promote the production of their members in three important producing countries.

Venkattakumar and Sontakki (2012) conducted a study on producer companies in India- experiences and implications and showed that producer companies were investing large amount of working capital for procurement, value addition and marketing as well as extending credit and loan advances. Being endowed by equity of shares of the primary producers, the companies may not have assets to leverage credit from the financial institutions.

Meena *et al.* (2013) conducted a study on Constraints of women dairy cooperative societies in adoption of animal husbandry practices. The primary data was collected from 144 respondents (72 members and 72 non-members). The study revealed that the member and non-member respondents perceived more constraints in terms of infrastructural and technical matters in adoption of improved animal husbandry practices. The least perceived constrain in adoption was economic constraints. There was similarity between rank assigned by member and non-member adopters in animal husbandry practices in different aspects of infrastructural, technical and economic constraints.

Olatinwo *et al.* (2014) in their study examined the constraints to productivity of Cooperative Societies and Non-Cooperative Women Farmers in Kwara State, Nigeria. The primary data for the study was collected from 160 respondents purposively in local An evaluation of Farmer Producer Organizations in Chikkaballapur and Mysore Districts of Karnataka 32 areas, and analysed the data using Descriptive statistics and Mann Whitney. The major constraints faced by the women famers is poor road network ( $X^2 = 111.728$  and statistically significant at (1%) and for non-cooperators) inadequate financial assistance (the  $X^2 = 173.000$  and statistically significant at (1%) using Kruskal). The Man-Whitney result revealed a significant relationship between source of capital for investment ( $Z = 1.865$ ,  $P < 0.05$ ), level of education ( $Z = 1.792$ ,  $P < 0.037$ ) and farm size

( $Z = 1.843$   $P < 0.040$ ). The study recommends that women farmers should be encouraged to participate in agricultural cooperative societies, and Government should intervene to provide soft loan for women farmers via their cooperative's societies.

Bernard and David (2015) conducted a study on Reaching the rural poor through rural producer organizations - A study of agricultural marketing cooperatives in Ethiopia. The objectives of the study is to examine the role of RPOs in supporting smallholder commercialization, and the extent to which principles of an inclusive, bottom-up approach relate to their marketing performance. The study revealed that many Rural Producer Organizations (RPOs) still struggled to offer services that would lead to higher output prices for their members. The study suggested that trust in leaders' motives and competence as well as trust in ordinary members were crucial for successful collective commercialization as a form of collective action.

Ogunleye *et al.* (2015) conducted a study on socio economic factors affecting farmers participation in cooperative societies and showed that management and leadership problems (73.00 %), limited membership problem (69.00 %), and low level of education of members (62.00 %) were the significant factors affecting farmers participation in cooperative society.

Swathi (2015) conducted an evaluative study on producer companies and result revealed showed that producer companies were in vigorous forward and back ward linkages. Banks do not lend producer companies as they were not having collateral security.

Evengy and Thomas (2015) conducted a study on networks of rural producer organizations and concluded that they were confronted with several limitations caused by insufficient capital endowment, weak information channels inside the organization, problems with local leadership and low member contribution

Kaaria *et al.* (2016) conducted a study on Rural women's participation in producer organizations: An analysis of the barriers that women face and a strategy to foster equitable and effective participation, the study was based on the secondary data.

The study found that, the double burden (Family maintenance and working in field) and triple roles (Age, social status and previous experience in organizations are the factors that can affect women's participation in producer organizations) of women are the key constraint to women's access to producer organizations, The study concludes that more gender-inclusive producer organizations can bring rural communities and families, to become members in their own right and access the services and benefits that these organizations can provide.

Kathiravan *et al.* (2017) conducted a study on Identification of Bottlenecks Perceived among the Farmer Producer Organizations. The study was carried in four FPOs with 45 respondents in Namakkal district of Tamil Nadu, through structured interview schedule. The primary data was analyzed by using Garratt ranking technique and the bottlenecks were ranked under organizational, socio - political, economic constraints and other constraints. The major constraint was lack of co-ordination for group activities (97.37) was ranked first and the non – availability of literature on FPO activities was ranked last with an average mean score (42.19) by the respondents.

Panchbhai *et al.* (2017) conducted a study on Constraints Faced by Co-Operative Dairy Farmers in Adoption of Recommended Dairy Management Practices with an objective to evaluate constraints faced by dairy farmers in co-operative of Shivamrut Dudh Utpadak Sahakari Sangh Maryadit, Akhuj dist. Solapur of Maharashtra. The primary data was collected from 200 dairy farmers. The study shows that, major constraints faced by Co- Operative Dairy Farmers were ticks and other ectoparasites present in animal shed, milk production of local breeds is very low, dairy animals require large quantity of feed, higher cost of concentrate and cross bred animals are more prone to diseases, impacting on the quality and quantity of the milk. The study concludes that dissemination of knowledge, transfer of technology and role of dairy cooperatives would be crucial for development of dairy sector.

Shivani *et al.* (2017b) conducted a study on farmer producer organization for promoting and processing food and concluded that farmer producer organizations have

the threats like big fluctuation in market prices, competition from local traders, poor and unstable macroclimate and changes in government policy by conducting SWOT analysis.

Singh *et al.* (2017) conducted a study on Constraints Faced by Women Dairy Cooperative Society Members in Jaipur. The primary data for the study was collected from 120 women dairy farmers using structured schedules. The study revealed that the major constraints are lack of awareness about facilities provided by the Government and milk unions for rearing animals, lack of knowledge about the women rights in their empowerment, illiteracy, lack of affordability to purchase feed additives and concentrates, high cost of veterinary medicines and inequality in issuing loans. The study also revealed that economic constraints were ranked first with a mean score of 3.06 followed by technology constraints (2.87), infrastructural constraints (2.74), social constraints (2.73), political constraints (2.69), organizational constraints (2.62), psychological constraints (2.56) and personal constraints (2.54).

### **III METHODOLOGY**

The study was carried out in Mysuru district of Karnataka state during 2019-20. The main objective was to study the impact of the Farmer Producer Organizations (FPOs) in Mysuru district. Keeping the research objectives in mind, the flow of the methodology used in this study is as follows:

- 3.1 Description of the study area
- 3.2 Locale of the study
- 3.3 Selection of respondents
- 3.4 Research design
- 3.5 Selection of variables
- 3.6 Dependent variables and their measurement
- 3.7 Independent variables and their measurement
- 3.8 Factors contributing to success and sustainability of Farmer Producer Organizations.
- 3.9 Constraints of Farmer Producer Organizations members and officials.
- 3.10 Suggestions for effective functioning of Farmer Producer Organizations as perceived by its members and officials.
- 3.11 Development of interview schedule and collection of data
- 3.12 Documentation of the case studies
- 3.13 Statistical methods employed for analysis of data.
- 3.14 Conceptual framework of the study

#### **3.1 Description of the study area**

Mysuru district is bounded by North Latitudes 12° 17' 52.48" and East Longitudes 76° 38' 21.30". the district is located in the southern region of Karnataka state. It has an area of 6854 km<sup>2</sup> (2646 sq. mi). It is bounded by Kodagu district in the west,

Chamarajanagar district in the south and south east, Mandya district in the north, Hassan district in the north west and the Kannur district of Kerala state in the south west.

Mysuru district is endowed with a number of perennials and non-perennials rivers. The Cauvery, which is the major river system of the district, traverses the Mysuru plateau from northwest to east along with its tributaries, Kabini, Suvarnavathi, Laxmanathirtha and others. The total catchment area of the river is the second largest in the state and it covers nearly 18 per cent of the land area of the state (Anonymous, 2017a).

The net sown area in Mysuru district comprises 72 per cent of the total geographical area, of which about 20 per cent is sown more than once. About 17 per cent of the total geographical area is under irrigation in the district, comprising of the command area of Krishanrajasagar and Kabini projects. The right bank high level canal of Krishanrajasagar known as the Varuna canal passes through Mysuru, T. Narsipura, Nanjangud and H.D.Kote taluks. Based on rainfall, soils and crops grown, the district is classified into two agro climatic zones viz., Southern Dry Zone (Krishnarajanagar (K.R.Nagara), Mysuru, T.Narasipur and Nanjangud) and Southern Transitional Zone (H.D.Kote, Hunsur and Periyapatna) (Anonymous, 2017b).

### **3.2 Locale of the study**

The study was conducted in purposively selected Mysuru district of Karnataka state (Fig. 1) because largest number of crop specific FPOs (10 FPOs) are operating in the district out of 182 FPOs in Karnataka state.

In the district Mysuru and K.R.Nagara taluks were selected purposively in order to bring a contrast between two areas showcasing the extremes, one representing the area most favourable for fruits i.e. Mysuru and the other, portraying the area with most favourable conditions for vegetables i.e. K.R.Nagara. The two organisations Varuna Horticulture Farmer Producer Company Limited (VHFPC) and Arkeshwara Horticulture Farmer Producer Company Limited (AHFPC) were purposively selected to assess the impact of farmer organisations as they adequately represent successful and assessable

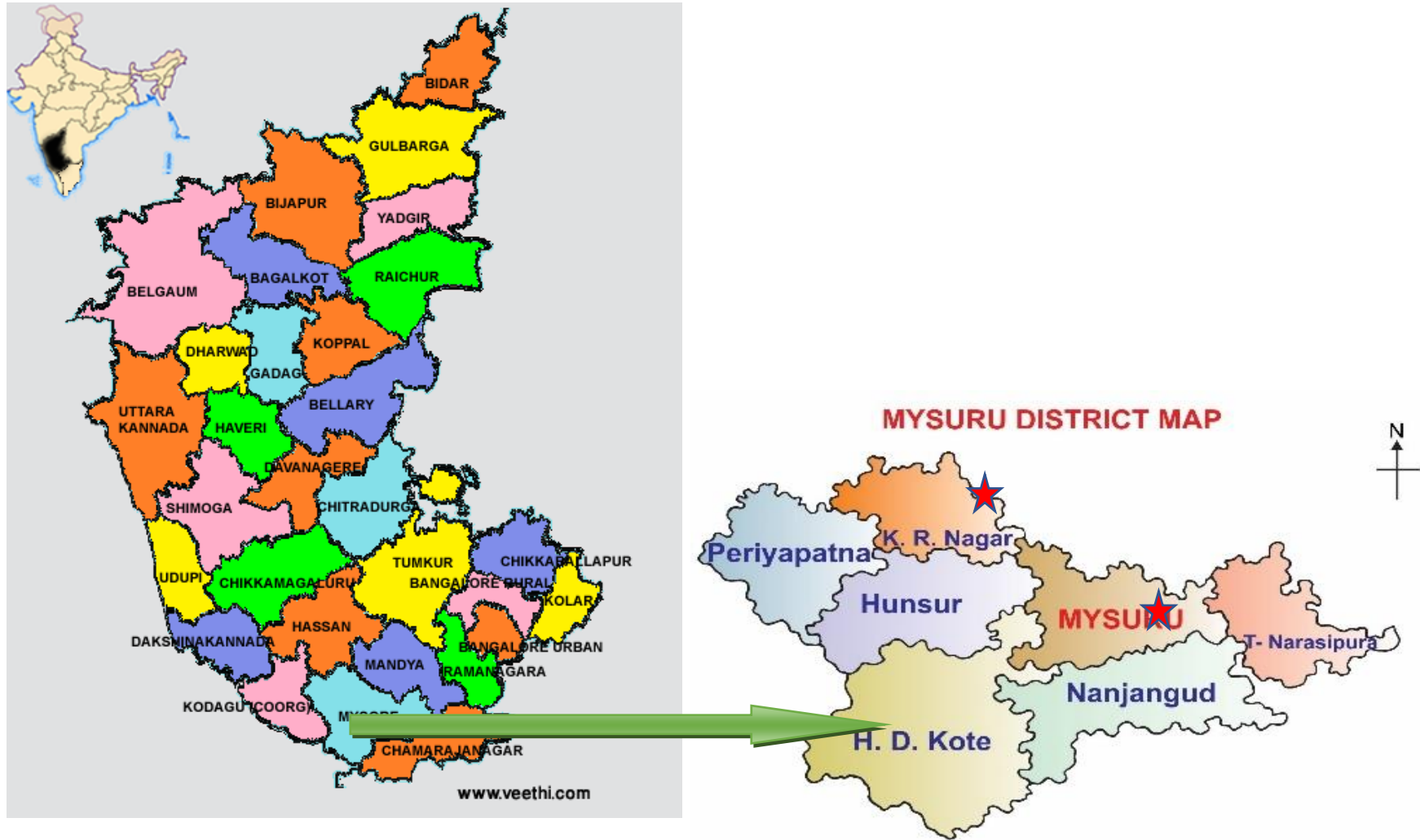


Fig. 1: Locale of the study

case studies of farmer organisations. In addition, both of them involve small and marginal farmers. The organisations are located in the Mysuru and K.R.Nagara taluk of Mysuru district. Thus, these two taluks were purposively selected.

### **3.3 Selection of the respondents**

In Mysuru taluk, Varuna village was selected purposively because the office of VHFPC was located in Varuna. Similarly, out of K.R.Nagara taluk in district of Mysuru, Hebbalu village was selected purposively because of the positioning of its main office in Hebbalu of the AHFPC.

#### **3.3.1 Selection of officials of the farmer organisations**

Ten officers comprising of seven Board of Directors (BODs), one Chief Executive Officer (CEO) and two staffs from each of the farmer producer organizations, VHFPC and AHFPC were selected by applying random sampling technique. Thus, a total of twenty officials were selected (Fig.2).

#### **3.3.2. Selection of farmers**

The respondents for the study were the members in the organisations and non-members. The list of organisational members was taken from each organisation growing Banana and Tomato crop thus 60 respondents were selected by simple random sampling technique. Thus, a total of 120 member farmers were selected for the study (Fig.2). Thirty farmers growing banana and tomato crop (not within the farmer organisation) in both the areas were selected randomly. Thus, a total of sixty non- member farmers were selected as control sample. Thus, the sample comprised of total 200 respondents.

### **3.4 Research design**

Research design is the most important and crucial aspect of research methodology. Keeping in the view the nature of the study, ex-post facto research design was adopted for the study. This was considered as appropriate because the phenomenon has already occurred.

Ex-post facto research design is a systematic empirical enquiry in which the researcher does not have direct control over independent variables, because their manifestation have already occurred or because they are inherently not manipulable and inferences about relationship among variables are made without direct intervention, from concomitant influence of independent variables on dependent variables (Kerlinger, 1973).

### **3.4.1 Pilot study**

Pilot study is a preliminary study conducted on a limited scale before the original study is carried out in order to gain some preliminary information, on the basis of which the main project would be planned and formulated. For this one non-sample farmer producer organization was selected for pilot study. Thus, pilot study was conducted on non-sample farmer producer organization. This pilot study was carried out with the 32 members of the Rajaghatta Horticulture Farmer Producer company Ltd in a systematic way and by organising Focused Group Discussion (FGD) to discuss all the relevant aspects of farmer producer organization. During this pilot study, following tasks were completed:

- Item analysis of the selected items for ‘Attitude scale’.
- Reliability test of statements of ‘Attitude scale’ was carried out.
- A set of probable factors contributing to success and sustainability of the farmer producer organization was listed up by using the ‘snowball technique’.
- Pre-testing of interview schedule.

### **3.5 Selection of variables**

The ‘Attitude towards Farmer Producer Organisation’ and ‘Impact of FPOs on yield, income and social status’ on the farmers were considered as dependent variables in the present study.

Nineteen independent variables were identified based on review of the study. These variables were grouped under personal variables, psychological and communication variables. An effort was made to classify the independent variables based on hypothetical perception of the researcher for better presentation of results.

## Sample Selection

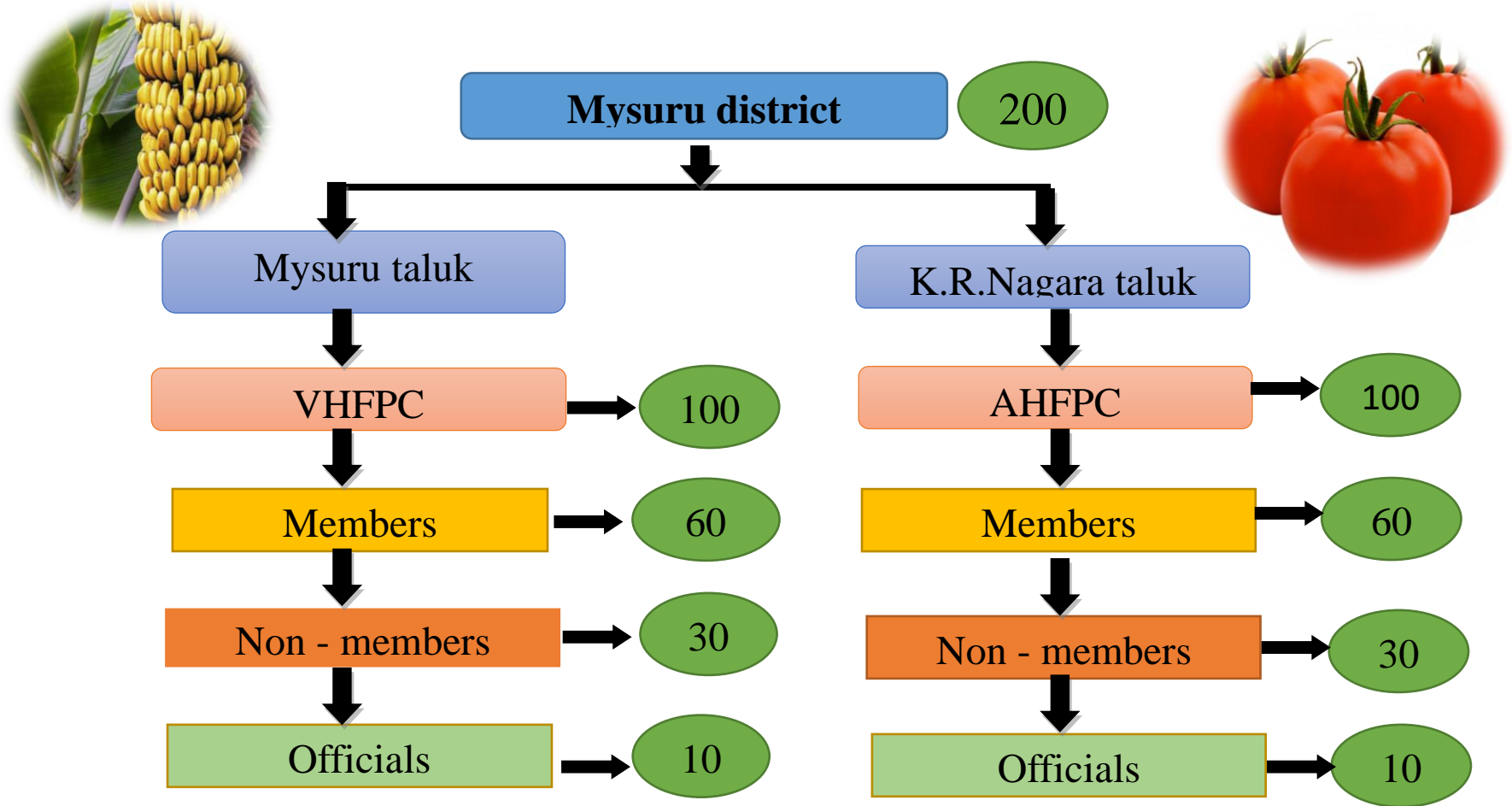


Fig. 2: Sample selection for the study

**Table 3.1. Variables considered for the study and their measurement**

<b>Sl. No</b>	<b>Variables</b>	<b>Empirical Measurement</b>
<b>Dependent variables</b>		
1.	Attitude towards Farmer Producer Organizations	Scale was developed for the study
2.	Impact of FPOs on yield, income and social status	1. Procedure followed by Vinay Kumar (2008) for yield and income. 2. Procedure followed by Narayana Gowda (1992) for social status
<b>Independent Variables</b>		
<b>Personal characteristics</b>		
1.	Age	Chronological age of the respondents
2.	Education	Procedure followed by Trivedi (1963)
3.	Family size	Procedure followed by Venkataramaiah (1983)
4.	Farming experience	Procedure followed by Marilingannavar and Manjunath (1992)
5.	Land holding	Procedure followed by Shashidhar (2003)
<b>Psychological and Communication characteristics</b>		
6.	Achievement motivation	Scale developed by Sushma (2007)
7.	Cosmopolinteness	Scale developed by Choudari (2006)
8.	Decision making ability	Procedure followed by Moulik (1965)
9.	Scientific orientation	Scale developed by Supe (1969)
10.	Management orientation	Scale developed by Samanta (1977)
11.	Economic motivation	Scale developed by Supe (1969)
12.	Risk orientation	Scale developed by Supe (1969)
13.	Innovative proneness	Scale developed by Feaster (1968)
14.	Social participation	Procedure followed by Trivedi (1963)
15.	Mass media exposure	Procedure followed by Byrareddy (1971)
16.	Participation in activities of FPO	Scale developed by Narayana Gowda (1992)
17.	Training received	Schedule was developed for the study
18.	Extension contact	Procedure followed by Byrareddy (1971)
19.	Extension participation	Procedure followed by Hiremath (2000)

### **3.6 Dependent and independent variables and their measurement**

To measure the identified dependent and independent variables, relevant standardized scales are listed above and a scale to measure the attitude of farmers towards FPOs was developed for the study.

The study consists of two dependent variables namely; attitude of farmers towards FPOs and impact of FPOs on yield, income and social status.

#### **3.6.1 Operationalization and measurement of dependent variables**

##### **3.6.1.1 Attitude of farmers towards Farmer producer organizations**

Attitude is the degree of positive or negative affect associated with some psychological object, person, ideas, institution or a phenomenon (Thurstone, 1946). Attitude was operationally defined as the degree of positive or negative feelings or effect of members towards Farmer Producer Organization. The method suggested by Likert (1932) and Edwards (1969) in developing summated rating scale was followed in the construction of the scale to measure the attitude of farmers towards Farmer Producer Organizations.

#### **Procedure followed for development of scale**

##### ***Step 1: Collection of items/ statements***

The items were carefully edited and selected in accordance with set criteria as the items in any psychological test. The first step in the construction of attitude scale was to collect exhaustive statements/ items pertaining to the FPOs each expressing some opinion about the psychological object under the study. A large number of items were collected from literature, informal discussions with agriculture extension experts, the other experts from the selected areas and informal interviews with the members of FPOs and director and members of the centre of Excellence for FPOs. Tentative list of 82 statements pertaining to the attitude of members towards the FPOs was prepared.

### ***Step 2: Editing of the items***

The statements were carefully edited, revised and restructured based on the 14 criteria enunciated by Edwards (1969) and Thurstone and Chave (1929). As a consequence, 27 statements were eliminated. The remaining 55 attitude statements were included for further analysis.

### ***Step 3: Relevancy Analysis***

The selected items were then subjected to scrutiny by an expert panel of judges to determine their relevancy and subsequent screening of items for their inclusion in the final scale. In this context, 55 statements were mailed to 110 experts in the field of social sciences working in State Agricultural Universities, Indian Council of Agricultural Research Institutes and MANAGE, to critically evaluate the relevancy of each statement viz. Most Relevant (MR), Relevant (R), Somewhat Relevant (SWR), Less Relevant (LR) and Not Relevant (NR) with the score of 5,4,3,2 and 1, respectively. The judges were also requested to make necessary modifications and additions or deletion of statements, if they desired to. A total of 80 (72.73%) judges returned the questionnaires duly completed and these were considered for further processing. From the data gathered, 'relevancy percentage' and mean relevancy score' were worked out for all the 55 statements. Using these criteria, individual statements were screened for relevancies using the following formulae:

$$R. P. = \frac{MR \times 5 + R \times 4 + SWR \times 3 + LR \times 2 + NR \times 1}{\text{Maximum possible score}} \times 100$$

$$M. R. S. = \frac{MR \times 5 + R \times 4 + SWR \times 3 + LR \times 2 + NR \times 1}{\text{No. of judges responded}}$$

Accordingly, statements having 'relevancy percentage' of 75 per cent and above and mean relevancy score of 3.75 and above were considered for final selection. 32 attitude statements were retained after relevancy test and these statements were suitably modified and written as per the comments of the judges wherever applicable.

#### Step 4: Item analysis

To delineate the items based on the extent to which they can differentiate the attitude items about FPOs as favourable or unfavourable. Item analysis was carried out on the items selected in the first stage. 32 statements were subjected for 't test' to know the difference in highest and lowest responses for the relevancy. Based upon the total scores, the judges were arranged in descending order. The top 25 per cent of the respondents with their total scores were considered as high group and the bottom 25 per cent as the low group so that these two groups provided the criterion groups in terms of evaluating the individual statements. Thus, out of 32 members of Rajaghatta Horticulture Farmer Producer company Ltd to whom the items were administered for item analysis, eight members with highest and eight members with lowest scores were used as criterion groups to evaluate individual items. The critical ratio, that is, the 't' value which analyses the extent to which a given statement differentiates between the better and poor groups of respondents for each statement, was calculated by using the following formula:

$$t = \frac{\bar{X}_H - \bar{X}_L}{\sqrt{\frac{\sum X_H^2 - \frac{(\sum X_H)^2}{n} \times \sum X_L^2 - \frac{(\sum X_L)^2}{n}}{n(n-1)}}$$

Where,

$\bar{X}_H$  = The mean score on given statement of the high group

$\bar{X}_L$  = The mean score on given statement of the low group

$\sum X_H^2$  = Sum of squares of the individual score on a given statement for high group

$\sum X_L^2$  = Sum of squares of the individual score on a given statement for low group

n = Number of respondents in each group

$\sum$  = Summation

t = The extent to which a given statement differentiates between the high and low groups.

**Table 3.2. Relevancy weightage for the attitude statements of FPO members**

Sl. No.	Attitude statements	RP	MRS	t-value
1.	FPOs help in increasing confidence among farmers	93.75	4.69	2.21**
2.	FPOs provide needful information on improved agricultural practices	89.25	4.46	2.19**
3.	FPOs is not a long- term solution to the problems of price inflation	86.00	4.30	2.11**
4.	FPOs is a boon for farmers	86.25	4.31	2.13**
5.	FPOs mismanages the local resources	77.75	3.89	1.79*
6.	Much is talked about FPOs but little work is done	77.50	3.88	1.78*
7.	Organizing farmers into groups is waste of money	83.50	4.18	2.03**
8.	FPOs have created more problems for members than solving	81.25	4.06	2.00**
9.	Attending FPOs work is time consuming for the members	83.25	4.16	2.02**
10.	Activities of FPOs are not as per members needs	80.00	4.00	1.90*
11.	I feel that FPOs is a prospective system to empower farmers	78.00	3.90	1.80*
12.	FPOs are not potential enough to bring about agricultural development	87.25	4.36	2.14**
13.	I endorse that FPOs is farmers friendly approach to sale farm products	84.75	4.24	2.07**
14.	FPOs induces cosmopolitness of its members	85.75	4.29	2.11**
15.	FPOs inculcate the decision-making ability among their members	84.75	4.24	2.07**
16.	FPOs work on the principle of democracy	82.50	4.13	2.01**
17.	FPOs provide need-based consultancy services to the members	84.25	4.21	2.06**
18.	FPOs is not rigid as co-operatives	77.75	3.89	1.79*
19.	Administration / management of FPOs involve too much of autocracy	85.25	4.26	2.09**
20.	FPOs increase overhead charges	74.50	3.73	1.76*
21.	Benefits from government / other institutions could be availed by FPOs members	84.50	4.23	2.08**
22.	Peer pressure affects the functioning of Farmers Producer Organization	78.00	3.90	1.81*

**RP-Relevancy Percentage, MRS- Mean Relevancy Score**

**Table 3.3. Scoring pattern of the statement for measuring the attitude of members towards Farmer Producer Organizations (FPOs).**

Sl. No.	Attitude statements	SA	A	UD	DA	SDA
1.	FPOs help in increasing confidence among farmers	5	4	3	2	1
2.	FPOs provide needful information on improved agricultural practices	5	4	3	2	1
3.	FPOs is not a long- term solution to the problems of price inflation	1	2	3	4	5
4.	FPOs is a boon for farmers	5	4	3	2	1
5.	FPOs mismanages the local resources	1	2	3	4	5
6.	Much is talked about FPOs but little work is done	1	2	3	4	5
7.	Organizing farmers into groups is waste of money	1	2	3	4	5
8.	FPOs have created more problems for members than solving	1	2	3	4	5
9.	Attending FPOs work is time consuming for the members	1	2	3	4	5
10.	Activities of FPOs are not as per members needs	1	2	3	4	5
11.	FPOs is a prospective system to empower farmers	5	4	3	2	1
12.	FPOs are not potential enough to bring about agricultural development	1	2	3	4	5
13.	FPOs is farmers friendly approach to sale farm products	5	4	3	2	1
14.	FPOs induces cosmopolitness of its members	5	4	3	2	1
15.	FPOs inculcate the decision-making ability among their members	5	4	3	2	1
16.	FPOs work on the principle of democracy	5	4	3	2	1
17.	FPOs provide need-based consultancy services to the members	5	4	3	2	1
18.	FPOs is not rigid as co-operatives	5	4	3	2	1
19.	Administration / management of FPOs involve too much of autocracy	1	2	3	4	5
20.	FPOs increase overhead charges	1	2	3	4	5
21.	Benefits from government / other institutions could be availed by FPOs members	5	4	3	2	1
22.	Peer pressure affects the functioning of Farmers Producer Organization	1	2	3	4	5

After computing the 't' value for all the 32 statements, 22 attitude statements with 't' value equal to or greater than 1.645 were finally selected and included in the final attitude scale. Ten statements were non-significant. 14 statements were significant at one per cent level and the remaining 6 statements were significant at five per cent level. Out of the remaining 22 statements, it contains 10 negative statements and 12 positive statements.

**Step 5: Standardization of scale**

The reliability and validity were ascertained for the standardization of the scale.

**Reliability of the scale developed**

The split-half method was employed to test the reliability of the attitude scale. The value of correlation coefficient was 0.5716 and this was further corrected by using Spearman Brown formula to obtain the reliability coefficient of the whole set. The 'r' value of the scale was 0.7274, which was significant at one per cent level indicating the high reliability of the scale. It was concluded that the attitude scale constructed was reliable.

**1. Half test reliability formula**

$$r_{1/2} = \frac{N(\sum XY - (\sum X)(\sum Y))}{\sqrt{(N\sum X^2 - (\sum X)^2)(N\sum Y^2 - (\sum Y)^2)}}$$

Where,

$\sum X$  = sum of the scores of the odd number items

$\sum Y$  = sum of the scores of the even numbers items

$\sum X^2$  = sum of the squares of the odd number items

$\sum Y^2$  = sum of the squares of the even number items

**2. Test reliability formula**

$$r_{11} = \frac{r_{1/2}}{1 + r_{1/2}}$$

Where,  $r_{1/2}$  = Half test reliability

### *Validity of the scale*

Validity formula

$$V=\sqrt{r}$$

The data was subjected to statistical validity, which was found to be 0.8528 for scale which is greater than the standard requirement of 0.70. Hence, the validity coefficient was also found to be appropriate and suitable for the tool developed. Thus, the developed scale to measure the attitude of members towards FPOs was found feasible and appropriate.

### *Step 6: Administration of the scale*

The final scale consists of 22 statements for determining the attitude of members towards FPOs. The response were collected on a five-point continuum, namely, Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (DA), and Strongly Disagree (SDA) with assigned score of 5, 4, 3, 2 and 1 respectively for positive statements and reverse scoring for negative statements. Thus, the minimum and maximum score one could get is 22 and 110, respectively. Higher the attitude score indicates the high favourableness of respondents towards FPOs and lesser the attitude score indicates less favourableness towards FPOs. The total attitude score for each respondent was obtained by adding the weights of individual responses made to the total scale items.

The attitude scale developed was administered to 120 FPO members. Based on the mean and standard deviation, the FPO members were classified into three attitude categories namely, less favourable, favourable and more favourable.

Category	Criteria	Mean Score		
		VHFPC members	AHFPC members	Pooled
Less favourable	Less than (Mean- ½ SD)	<67.462	<78.010	<71.488
Favourable	Between (Mean ± ½ SD)	67.462-71.872	78.010-83.232	71.488-78.846
More favourable	More than (Mean + ½ SD)	>71.872	>83.232	>78.846

<b>VHFPC members:</b>	Mean = 69.667	SD = 4.410
<b>AHFPC members:</b>	Mean = 80.667	SD = 5.313
<b>Pooled sample:</b>	Mean = 75.167	SD = 7.358

### **3.6.1.2 Impact of Farmer producer organizations on yield, income and social status**

#### **3.6.1.2.1 Impact of Farmer producer organizations on yield**

The yield is operationally defined as the total quantity of the crop yield realized in quintals by the members and non-members who grow the same crop (i.e. banana and tomato). Structured schedule was developed to measure the yield of the banana and tomato growers.

The yield of banana and tomato crop of FPO members and non-members was analysed by comparing the means of yield.

#### **3.6.1.2.2. Impact of Farmer producer organizations on income**

The income is operationally defined as the total annual net income (Rupees) obtained by growing from specific crop viz. banana and tomato by the members and also non-members who grow the same crop (viz. banana and tomato). Procedure followed by Vinay Kumar (2008) was used to measure the annual net income of the members and non-members.

Annual net income (ANI) is measured using the following formula

$$\text{ANI} = \text{Gross income from the specific crop} - \text{total expenditure on the cultivation of that particular crop.}$$

The impact on income of FPO members and non-members was calculated by comparing the means of annual net income.

### **3.6.1.2.3. Impact of Farmer producer organizations on social status**

Social status is defined as “the extent to which the status of a farmer has improved in the social system in which he lives as a result his involvement in a programme (Linton, 1964).

Social status is operationally defined as the improvement in position or the rank of the member due to his/her participation in the activities of FPOs. For measurement of social status of the FPO members the scale developed by Narayana Gowda (1992) was used with slight modifications done by Gopala (2015). Narayana Gowda (1992) has developed a scale to measure the participation of people in watershed development programme.

The scale consists of 12 statements indicating the changes that are the consequences of participation in the FPOs. The responses were collected on four-point continuum namely, ‘always’, ‘frequently’, ‘occasionally’ and ‘never’ with a score of 3,2,1 and 0 respectively. The maximum and minimum score a respondent could obtain under this variable was 36 and 0 respectively. The score obtained on the basis of responses for each statement was pooled to find out the total score of the respondents. The statistical tools such as mean and standard deviation were used to measure the impact on social status.

The impact on social status of FPO members and non-members was calculated by comparing the means of social status score.

## **3.7. Independent variables and their measurement**

### **3.7.1. Age**

It referred to the chronological age of the respondents completed at the time of investigation.

The respondents were categorized into three groups by using the procedure followed by Karpagam (2000) and Raghunandan (2004). Further, frequencies and percentage were used to present data.

<b>Category</b>	<b>Age (in years)</b>	<b>Score</b>
Young	Up to 35 years	1
Middle	36 to 50 years	2
Old	50Years and above	3

### **3.7.2. Education**

Education is operationalised as the number of years of formal education the person has undergone. For each year of schooling score was given. The respondents were grouped into different categories and scores by using the procedure followed by Trivedi (1963). The mean educational scores for Banana and Tomato FPO members were 4.02 and 4.41 respectively. The mean educational score for pooled sample was 4.20.

<b>Category</b>	<b>Score</b>
Illiterate	0
Upto middle school	1
High school	2
ITI/JOC/Diploma	3
PUC	4
Graduate	5

### **3.7.3. Family Size**

It refers to the number of members living in a family. Measurement and scoring were done in accordance with the socio-economic scale developed by Venkataramaiah (1983) and the respondents were grouped into following categories. The average family size of banana growers, tomato growers and pooled sample was 7, 5 and 6 respectively.

<b>Category</b>	<b>Criteria</b>	<b>Score</b>
Small	(2-4 members)	1
Medium	(5-7 members)	2
Big	(8 and above)	3

### 3.7.4. Farming experience

It refers to the total number of years of farming experience of the farmers. The experience of the farmer in completed years at the time of the investigation was considered.

They were categorized into low, medium and high by considering mean and standard deviation as a measure of check and by using the procedure followed by Marilingannavar and Manjunath (1992).

Category	Criteria	Mean score		
		VHFPC members	AHFPC members	Pooled sample
Low	Less than (Mean- ½ SD)	<16.605	<11.110	<13.565
Medium	Between (Mean ± ½ SD)	16.605- 25.795	11.110- 18.657	13.565- 22.519
High	More than (Mean + ½ SD)	>25.795	>18.657	>22.519

**VHFPC members:** Mean = 21.200      SD = 9.191

**AHFPC members:** Mean =14.883      SD = 7.547

**Pooled sample:**      Mean = 18.042      SD = 8.954

### 3.7.5. Land holding

The extent of land actually possessed by the farmers was recorded and this converted in to standard acres based on Karnataka land reforms act 38 of 1996. According to this act, one acre of garden and wet land was considered equal to 3 acres of dry land. The scale followed by Shashidhara (2003) was used.

Category	Score
Marginal farmers (<2.5acres)	1
Small farmers (2.5-5acres)	2
Big farmers (> 5 acres)	3

### 3.7.6. Achievement motivation

Achievement motivation was operationalized as a social value that emphasizes a desire for excellence for an individual to attain a sense of personal accomplishment.

This variable was quantified by using the procedure followed by Sushma (2007). The scale consists of six statements to be rated on a five-point continuum namely strongly agree, Agree, Undecided, Disagree and strongly disagree with the scores of 4, 3, 2, 1 and 0, respectively. The total score of the respondents were classified into three categories by using the mean and standard deviation as a measure of check.

Category	Criteria	Mean score		
		VHFPC members	AHFPC members	Pooled sample
Low	Less than (Mean- ½ SD)	<15.654	<15.221	<15.441
Medium	Between (Mean ± ½ SD)	15.654- 18.546	15.221- 18.246	15.441- 18.393
High	More than (Mean + ½ SD)	>18.546	>18.246	>18.393

**VHFPC members:** Mean = 17.100                      SD = 2.892

**AHFPC members:** Mean =16.733                      SD =3.025

**Pooled sample:** Mean = 16.917                      SD = 2.952

### 3.7.7. Cosmopolitanness

It is operationally defined as the degree to which a farmer is oriented towards outside of his social system. The variable was quantified by using the procedure followed by Choudhari (2006).

The scale consists of six statements and responses were obtained on five-point continuum viz., Strongly agree, Agree, Undecided, Disagree and Strongly disagree by assigning a weightage of 4, 3, 2, 1 and 0, respectively for positive statements while, it was reversed for negative statements. There were six statements out of these, the statements numbered 1, 3 and 5 were negative and 2, 4, & 6 were the positive statements.

Further, based on the total score, the respondents were grouped into three categories by using the mean and standard deviation as a measure of check.

Category	Criteria	Mean score		
		VHFPC members	AHFPC members	Pooled sample
Low	Less than (Mean- ½ SD)	<16.421	<16.161	<16.354
Medium	Between (Mean ± ½ SD)	16.421-18.679	16.161-18.472	16.354-18.596
High	More than (Mean + ½ SD)	>18.679	>18.472	>18.596

**VHFPC members:** Mean = 17.550                      SD = 2.258

**AHFPC members:** Mean = 17.317                      SD = 2.311

**Pooled sample:**        Mean = 17.475                      SD = 2.242

### 3.7.8. Decision making ability

Decision making ability is a belief that best state of affairs brought about by self-determination of individual without coercion or pressure from any outside force. This variable was measured by using statements proposed by Moulik (1965) with modification in weights given to the statements. For Positive statements 3, 2 and 1 scores were assigned respectively for agree, undecided and disagree and reverse order of scoring was followed for negative statements. The maximum score an individual could obtain on this scale was 12 and minimum was four. Further, the respondents were categorised into three categories taking mean and standard deviation as measure of check.

Category	Criteria	Mean score		
		VHFPC members	AHFPC members	Pooled sample
Low	Less than (Mean- ½ SD)	<6.484	<6.792	<6.629
Medium	Between (Mean ± ½ SD)	6.484-7.383	6.792-7.841	6.629-7.621
High	More than (Mean + ½ SD)	>7.383	>7.841	>7.621

**VHFPC members:** Mean = 6.933 SD = 0.899  
**AHFPC members:** Mean = 7.317 SD = 1.049  
**Pooled sample:** Mean = 7.125 SD = 0.992

### 3.7.9. Scientific orientation

It is defined as the degree to which a small and marginal farmer is oriented to use the scientific methods in Integrated Farming System. The variable was quantified by using the scientific orientation scale of Supe (1969). The scale consists of six statements and responses were obtained on five-point continuum viz., Strongly agree, Agree, Undecided, Disagree and Strongly disagree by assigning a weightage of 4, 3, 2, 1 and 0, respectively for positive statements while, it was reversed for negative statements. The summation of the score obtained by a farmer for all the six statements indicates their scientific orientation. The total score ranged from 0 to 24. The level of scientific orientation was categorized as indicated below using the mean and standard deviation as a measure of check.

Category	Criteria	Mean score		
		VHFPC members	AHFPC members	Pooled sample
Low	Less than (Mean - ½ SD)	<16.083	<13.940	<14.904
Medium	Between (Mean ± ½ SD)	16.083- 17.717	13.940- 16.260	14.904- 17.096
High	More than (Mean + ½ SD)	>17.717	>16.260	>17.096

**VHFPC members:** Mean = 16.900 SD = 1.633  
**AHFPC members:** Mean = 15.100 SD = 2.319  
**Pooled sample:** Mean = 16.000 SD = 2.192

### 3.7.10. Management orientation

Management orientation refers to the degree to which a farmer is oriented towards scientific management of farm comprising of planning, production and marketing functions.

The management orientation of the respondents was measured by using the scale developed by Samanta (1977). The scale consisted of eighteen statements, six each for planning, production and marketing orientation. In each group both positive and negative items were mixed. Each item has two-point scales. The positive statements were given the score of 'one' for Yes and 'zero' for No response and reverse scoring was followed for negative statements. The management orientation score for the individual respondents was obtained by summation of the scores awarded for each statement.

The respondents were grouped into three categories based on the total score obtained and taking the mean and standard deviation as the bench mark.

Category	Criteria	Mean score		
		VHFPC members	AHFPC members	Pooled sample
Low	Less than (Mean- ½ SD)	<14.702	<14.981	<14.841
Medium	Between (Mean ± ½ SD)	14.702- 16.865	14.981- 16.786	14.841- 16.826
High	More than (Mean + ½ SD)	>16.865	>16.786	>16.826

**VHFPC members:** Mean = 15.783                      SD = 2.164

**AHFPC members:** Mean = 15.883                      SD = 1.805

**Pooled sample:** Mean =15.833                      SD =1.985

### 3.7.11. Economic motivation

Economic motivation refers to the values or attitude for which the small and marginal farmers attached greater importance to profit maximization. This was quantified

by using the scale developed by Supe (1969). The scale consists of six statements. The responses were recorded on five-point continuum ranging from strongly agree, agree, undecided, disagree and strongly disagree with scores of 5, 4, 3, 2 and 1. Maximum and minimum scores obtainable by the individual on the scale were 30 and 6 respectively. By considering the total score obtained by each respondent they were equally divided into three groups as low, medium and high economic motivation based on the mean and standard deviation.

Category	Criteria	Mean score		
		VHFPC members	AHFPC members	Pooled sample
Low	Less than (Mean- ½ SD)	<18.551	<18.166	<18.357
Medium	Between (Mean ± ½ SD)	18.551- 20.349	18.166- 20.001	18.357- 20.176
High	More than (Mean + ½ SD)	>20.349	>20.001	>20.176

**VHFPC members:** Mean =19.450                      SD = 1.799

**AHFPC members:** Mean =19.083                      SD =1.835

**Pooled sample:**                      Mean =19.267                      SD =1.818

### 3.7.12. Risk orientation

It was operationalised as the degree to which small and marginal farmers are oriented towards risk and uncertainty and has courage to face the problems in working situation. The risk orientation was measured with the help of risk preference scale developed by Supe (1969). The scale consists of six items and these were scored on two-point continuum as “agree” and “disagree”. There were four positive statements and two negative statements. The scoring pattern followed for positive statements were as 2 for agree and 1 for disagree. For the negative statements the reverse order of scoring was followed. Thus, the minimum and maximum score possible was 6 and 12 respectively.

Category	Criteria	Mean score		
		VHFPC members	AHFPC members	Pooled sample
Low	Less than (Mean- ½ SD)	<8.127	<8.777	<8.444
Medium	Between (Mean ± ½ SD)	8.127-10.073	8.777-10.656	8.444-10.373
High	More than (Mean + ½ SD)	>10.073	>10.656	>10.373

**VHFPC members:** Mean = 9.100 SD =1.946

**AHFPC members:** Mean = 9.717 SD = 1.878

**Pooled sample:** Mean =9.408 SD =1.929

### 3.7.13. Innovative proneness

It is defined as the socio psychological orientation of an individual to get linked or closely associated with change, adopting innovative ideas and practices. The variable was quantified by using the scale of Feaster (1968) was used in the study. Thirteen statements were included for the present study with three response categories as strongly Agree, Agree and Disagree. For the positive statements, a score of two was assigned to strongly agree response, a score of one to agree, and zero for disagree. The scoring procedure was reversed in the case of negative statements. The summation of the score obtained by the participants for all 13 statements indicated the innovation proneness of each respondent. The total score ranged from 0 to 39. The respondent was classified into three categories taking mean and standard deviation as a measure of check.

Category	Criteria	Mean score		
		VHFPC members	AHFPC members	Pooled sample
Low	Less than (Mean- ½ SD)	<26.463	<26.915	<26.696
Medium	Between (Mean ± ½ SD)	26.463-31.103	26.915-31.319	26.696-31.204
High	More than (Mean + ½ SD)	>31.103	>31.319	>31.204

**VHFPC members:** Mean = 28.783 SD =4.640

**AHFPC members:** Mean = 29.117 SD = 4.404

**Pooled sample:** Mean = 28.950 SD = 4.507

### 3.7.14. Social participation

Social participation was operationalized as the degree of involvement of an individual from mere membership to organizational positions and their active participation in the activities of local formal organizations. This was quantified by using the method suggested by Trivedi (1963). The respondents were provided with a list of eight organisations and were asked to delineate their extent of participation in each of them. The scoring procedure for each of the organization was as follows,

Sl. No.	Membership / office bearer	Score
1	Member in any organization	1
2	Office bearer in any organization	2

Sl. No.	Extent of participation	Score
1	Regular	2
2	Occasional	1
3	Never	0

The respondent were divided into three groups as low, medium and high using mean and standard deviation as a measure of check.

Category	Criteria	Mean score		
		VHFPC members	AHFPC members	Pooled sample
Low	Less than (Mean- ½ SD)	<3.342	<3.560	<3.447
Medium	Between (Mean ± ½ SD)	3.342-4.624	3.560-5.073	3.447-4.853
High	More than (Mean + ½ SD)	>4.624	>5.073	>4.853

**VHFPC members:** Mean = 3.983 SD = 1.282

**AHFPC members:** Mean = 4.317 SD =1.513

**Pooled sample:** Mean =4.150 SD =1.406

### 3.7.15. Mass Media Exposure

This refers to the exposure of an individual to different mass media and the degree of participation in them. The different mass media sources were listed and the respondents were asked to indicate as to how often they participate in each of these activities. The procedure suggested by Byrareddy (1971) was used in assigning weightages as detailed below.

Sl. No.	Sources	Extent of participation		
		Regularly	Occasionally	Never
1	Reading the newspaper	2	1	0
2	Listening to radio	2	1	0
3	Reading Farm magazines	2	1	0
4	Viewing agricultural programmes in TV	2	1	0

Based on the total score, the respondents were grouped into three categories by using the mean and standard deviation as a measure of check.

Category	Criteria	Mean score		
		VHFPC members	AHFPC members	Pooled sample
Low	Less than (Mean- ½ SD)	<3.122	<3.558	<3.342
Medium	Between (Mean ± ½ SD)	3.122-4.945	3.558-5.642	3.342-5.308
High	More than (Mean + ½ SD)	>4.945	>5.642	>5.308

**VHFPC members:** Mean = 4.033 SD = 1.822

**AHFPC members:** Mean = 4.600 SD = 2.085

**Pooled sample:** Mean =4.325 SD = 1.967

### **3.7.16. Participation in activities of Farmer producer organizations**

People's participation is considered to be an important component in the successful implementation of planned efforts and this is more so in a democratic country, where people are expected to acquire fuller meaning and depth for their active involvement in planning and also in plan execution. The formal emphasis on participation of people started during 1958-59 with the constitution of Balwanthray Mehta Committee to study people's participation in community development programme of India. Since then, a number of committees were set up from time to time to suggest suitable recommendations for ensuring peoples' participation in development programmes/activities.

People's participation in the context of present study is defined as the degree to which the beneficiary has actually involved in different activities of FPOs. The scale developed by Narayana Gowda (1992) was used to measure the members' participation in the activities of FPOs.

The four stages were identified to measure the people's participation viz., formation, production orientation, training orientation and market orientation. The responses were collected on three-point continuum viz., fully participated, partially participated and not participated in the activity and responses were given scores of 2, 1 and 0, respectively to each of the response. Accordingly, the total score obtained from all the steps constituted the extent of participation of respondent in the four activities of FPOs.

Based on the total score, the respondents were grouped into three categories by using the mean and standard deviation as a measure of check.

Category	Criteria	Mean score		
		VHFPC members	AHFPC members	Pooled sample
Low	Less than (Mean- ½ SD)	<2.883	<3.646	<3.248
Medium	Between (Mean ± ½ SD)	2.883-4.483	3.464-5.020	3.248-4.768
High	More than (Mean + ½ SD)	>4.483	>5.020	>4.768

**VHFPC members:** Mean = 3.683                      SD = 1.600

**AHFPC members:** Mean = 4.333                      SD = 1.374

**Pooled sample:** Mean =4.008                      SD = 1.520

### 3.7.17. Training received

Training is one of the means by which the desired changes in knowledge and skills of the respondents can be brought out. It is also possible, that individuals' attitudes and motivations are influenced by training leading to better performance.

In the present study, the trainings undergone by the members were considered. The respondents were asked to indicate as to whether they attended any training since they were the members in the FPO. if so, purpose of attending and the duration of the training was recorded. The benefits of the training were recorded as fully benefitted, partially benefitted and not benefitted and responses were given scores of 2, 1 and 0, respectively to each of the response. Accordingly, the total score obtained from all the steps constituted the benefits of attending the training by the members of the FPOs.

The different training required by the members of the FPOs were listed and the need of the training and the level of importance of the training was recorded as important and very important and the response was given scores of 1 and 2 respectively.

### 3.7.18. Extension contact

Extension contact was operationally defined as the degree of contacts made by the respondent farmers with different extension workers in order to seek information on different aspects. The extension contact was measured by using the procedure followed by Byrareddy (1971). This variable was quantified as follows:

Frequency of contact	Score
Regularly	2
Occasionally	1
Never	0

Thus, the maximum score that one could get was 20 and minimum being zero. Based on the score obtained, the respondents were classified into three categories using mean and standard deviation as a measure of check.

Category	Criteria	Mean score		
		VHFPC members	AHFPC members	Pooled sample
Low	Less than (Mean- ½ SD)	<6.643	<4.287	<5.370
Medium	Between (Mean ± ½ SD)	6.643-9.024	4.287-7.380	5.370-8.296
High	More than (Mean + ½ SD)	>9.024	>7.380	>8.296

**VHFPC members:** Mean = 7.833                      SD = 2.380

**AHFPC members:** Mean = 5.833                      SD =3.093

**Pooled sample:**                      Mean = 6.833                      SD =2.926

### 3.7.19. Extension participation

It is the degree to which an individual respondent has participated in various extension activities including individual, group and mass contact methods with a view to obtain information related to farming and allied aspects.

Respondents were asked to indicate the participation in the activities among the pre-listed activities in the interview schedule. The responses were collected and subjected to the scoring treatments. The extent of regular participation was quantified by adopting a scoring of 2 for regular and 1 for occasional and 0 for non-participation, respectively based on the procedure followed by Hiremath (2000)

Category	Score
Never	0
Occasionally	1
Regularly	2

Then the respondents were categorized into three categories viz., high, medium and low based on mean and standard deviation.

Category	Criteria	Mean score		
		VHFPC members	AHFPC members	Pooled sample
Low	Less than (Mean- ½ SD)	<5.857	<6.149	<5.999
Medium	Between (Mean ± ½ SD)	5.857-9.143	6.149-10.017	5.999-9.584
High	More than (Mean + ½ SD)	>9.143	>10.017	>9.584

**VHFPC members:** Mean = 7.500                      SD = 3.286

**AHFPC members:** Mean = 8.083                      SD = 3.868

**Pooled sample:**      Mean = 7.792                      SD = 3.585

### 3.8. Factors contributing to success and sustainability of Farmer Producer Organisations

The success factors for the organisation were analysed through an arbitrary scale developed that contains a set of statements under the categories of technical and organisational variables, economic variables and marketing variables. Responses were scored as Yes = 1 and No = 0.

**Organisational Sustainability** is defined as “the ability of an organisation to secure and manage sufficient resources to enable it to fulfil its mission effectively and consistently over time without excessive dependence on any single funding source, including maintaining its ability to continue offering quality services and having an impact long after primary donor funding is withdrawn.”

A culture of sustainability is one in which organisational members hold shared assumptions and beliefs about the importance of balancing economic efficiency, social equity and environmental accountability.

To measure the factors leading to sustainability, data were collected under the following heads (1, 2 and 4) from the officials and 3 from the members. For categories 1 and 2, data of subsequent years were collected. In VHFPC, data of 3 years i.e. 2017, 2018 and 2019 were collected. In AHFPC, data of 3 years i.e. 2017, 2018 and 2019 were collected.

**3.8.1. Organisational variables** in terms of total number of members, total number of villages covered, number of outlets created, and number of activities carried out over the subsequent years.

### **3.8.2. Economic efficiency**

- Investment capital in terms of rupees per year
- Annual turnover in terms of volume of sales per year
- Portion of profit invested in business (percent)
- Employment generated in terms of number of employment days generated

### **3.8.3 Social equity**

- Equitable access to organisational services- The responses were scored as yes =1 and no =0
- Equitable access to organisational assets- The responses were scored as yes =1 and no =0

- Involvement of poor and marginal farmers in the organisation- The responses were scored as yes =1 and no =0
- Ethical and transparent dealings and transactions- The responses were scored as yes =1 and no =0

**3.8.4 Environmental accountability-** The responses were scored as yes =1 and no =0 for the following questions:

- Are the products produced in conditions and processes that confer to the international ISO standards?
- Are the products certified by a nationally recognized agency?
- Are the majority of the produce procured are organically grown?
- Is the produce graded?

### **3.9 Constraints of Farmer Producer Organizations members and officials**

For the measurement of constraints, they were categorized under two headings

#### **3.9.1. Constraints as perceived by farmer members and officials**

Under the category of ‘Constraints’, constraints unique to each organisation as perceived by the member farmers and officials were listed separately. The set of constraints are mentioned. Respondents were asked to indicate their responses to each question as ‘Agree’ or ‘Disagree’. The rank order was used to tabulate the data.

#### **3.9.2. Constraints at farm level for members.**

The farm level constraints as perceived by the members farmers were categorized under broad headings of: - i) Technical constraints, ii) Labour constraints, iii) Economic constraints, and iv) Marketing constraints. The statements under each dimension. respondents were asked to indicate their responses to each question as ‘Yes’ or ‘No’ . The rank order was used to tabulate the data.

### **3.10 Suggestions for effective functioning of Farmer Producer Organizations as perceived by the members and officials**

Suggestions are the hints or proposals or ideas or submissions offered by the individuals for further improvement or to resolve the problems or to overcome from the constraints. In the present study, the suggestions expressed by the farmers and officials were also sought and the rank order was used to tabulate the data.

### **3.11 Development of interview schedule and collection of data**

Taking into the consideration the objectives of the study, an interview schedule was prepared after perusal of available literature and thorough consultation with the experts in the field of extension education and other related areas. Each question was improved for its relevance and meaning by constant interaction with the expert in the area. The schedule was separately developed with two parts-The first part depicting all the variables and the second pertaining to the dependent variables. Pretesting of the schedule was made and suitable changes were incorporated in the formation of items, questions and their sequences. Adequate caution was exercised to make the schedules unambiguous, clear, complete, comprehensive and understandable. The final version of the interview schedule is appended in the Appendix.

In the spirit of Mann (1917) village studies, Resident Investigator Concept was adopted for gathering data from the respondents. Many of the early studies in the agricultural extension concerning farmers followed a common format of interviews by visits. But it was felt that these snap shot approach do not help the in-depth understanding of situation and also under this approach research relies mainly on data gathered through structured interviews but fails to recognise the importance of informal discussion and observations made in the village. Therefore, in view of this and also keeping the importance of the study, ethnographic approach of anthropologist's was adopted.

Accordingly, the researcher resided in the village for 10 to 15 days for data collection. Before the actual data collection, preliminary rapport establishing contacts were made along with the key informants of the village or official of the farmer producer

organizations of the village. Later, using list of members of the FPOs and the village family list, each farmer was contacted and interviewed in an informal atmosphere. Each questionnaire was explained clearly before eliciting the response and influence of onlookers was also avoided.

In addition to interview, the researcher's stay in the study villages, provided opportunity for informal discussions and also to make some observations related to research study. All these helped investigators to interpret the results in the full context of material and non-material relationships existing in the community. The data was collected during 2019-2020.

### **3.12 Documentation of the case studies**

Case study is a method of exploring and analysing the life of social unit i.e. person, a family, an institution or a community is known as the case study method. The case study is often termed as a method, a technique and an approach, to understand the social reality and a mode of organizing data in terms of some chosen units. It is in fact a technique which considers all pertinent aspects of the situations, employed as a unit for study of an individual or group intensively investigating it. It examines the complex situations in identifying the casual factors operating. In the present investigation, case study method is used to document the impact of FPOs in social and economic aspects of the members.

For the purpose of documenting case studies, two FPOs were purposively selected based on performance and economic benefit of the members viz, (1) Varuna Horticulture Farmer Producer Company Limited, (2) Arkeshwara Horticulture Farmer Producer Company Limited. A pre-tested interview schedule was used to document the case studies of the above two FPOs.

### **3.13 Statistical methods employed for analysis of data**

The collected data were scored, quantified, analysed, categorized and tabulated by using the following statistical tools.

**3.13.1. Mean:** Sum of the observed values of a set divided by the number of observations in the set is called a mean or an average. The calculated mean was used for grouping the respondents.

**3.13.2. Standard deviation:** The positive square root of the variance is called standard deviation. It explains the average amount of variation on either side of the mean. The mean and standard deviation were used to classify the farmers into three categories.

**3.13.3. Frequencies:** A frequency distribution was used to quantify the socio-economic characteristics of the farmers. It was also used in the response analysis of vulnerability and interpretation of suggestions.

**3.13.4. Percentage:** Percentage was used to make the simple comparison of different groups where ever needed.

#### **3.13.5. Chi-Square test**

The chi-square test was applied to measure the association between independent and dependent variables (Attitude, yield, annual income, social status and impact).

#### **3.13.6. Multiple regression analysis**

It was used to measure the extent of combined effect of independent variables on dependent variables (Attitude, yield, annual income, social status and impact). Further,  $R^2$  was used to assess the level of contribution of the individual variable towards dependent variables under study.

#### **3.13.7. Student 't' Test**

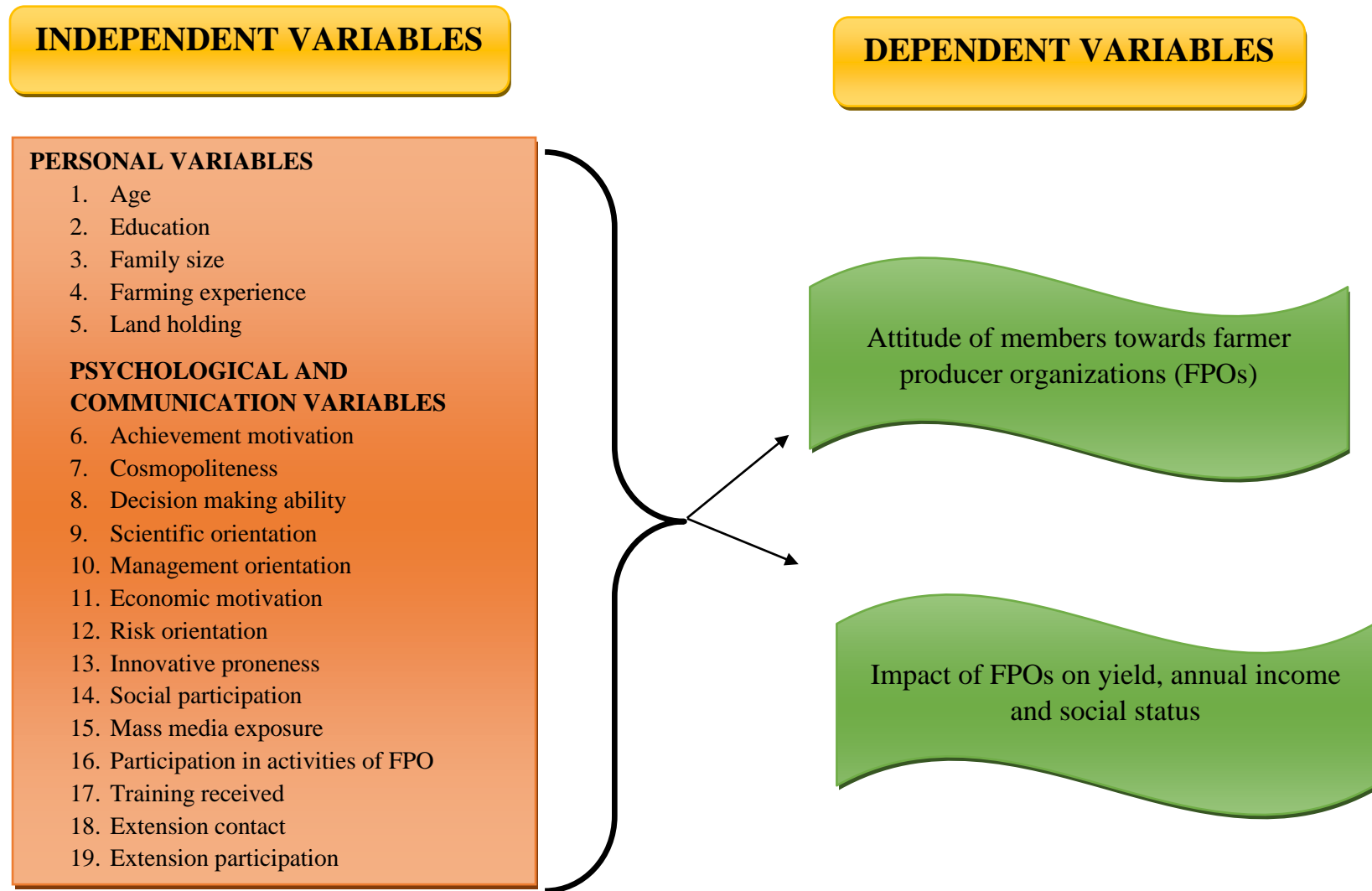
This test was used to know the comparison between characteristics of dependent variable between members and non-members farmers growing banana and tomato crop. It was also used to compare the factors contributing to the success of the two organizations.

### **3.14. Conceptual framework of the study**

Conceptual model is a diagrammatic representation outlining the dominant elements of a system and their inter relationships with respect to criterion variable. (East-west Technology and Development Institute, 1977). Conceptual model is formulated on the basis of experience or intuition. It represents the researcher understating of particular set of circumstances and of the simplifications which he feels may be made to inherently complex relationships. In the present study, in addition to experience and intuition, review of related studies was also formed the basis for the conceptual model developed for the study. The variables included in the study were classified under dependent and independent variables.

Independent variables are conceived as those which precede the others in the order of time and which theoretically expected to lead or to be followed by certain other variables. In the present study, personal, psychological and communication variables of farmers were considered as independent variables.

The dependent variable is the one that is being predicted from independent variables. Attitude of the farmers towards FPO and impact of FPO on yield, annual income and social status were the dependent variables in the present study. The conceptual model is depicted in Fig.4



**Fig. 3: Conceptual Framework of the study**

## **IV RESULTS AND DISCUSISION**

Keeping in view the objectives of the study, the primary data was collected and analyzed using different statistical tools as described in methodology chapter. The results are presented under the following headings.

- 4.1. Profile characteristics of Farmer Producer Organizations (FPOs) members.
- 4.2. Attitude of Farmer Producer Organizations (FPOs) members towards the organization.
- 4.3. Participation of members in the activities of Farmer Producer Organizations (FPOs).
- 4.4. Benefits availed by Farmer Producer Organization (FPOs) members.
- 4.5. Impact of the Farmer Producer Organisations on yield, annual income and social status of its members and non-members.
- 4.6. Factors contributing to success and sustainability of the Farmer Producer Organisations.
- 4.7. Association between the profile characteristics of members of Farmer Producer Organisations with their attitude level, crop yield, annual income, social status and overall impact.
- 4.8. Extent of contribution between the profile characteristics of members of Farmer Producer Organizations with their attitude level, crop yield, annual income, social status and overall impact.
- 4.9. Case studies of the selected Farmer Producer Organisations
- 4.10. Constraints of Farmer Producer Organisations members and officials.
- 4.11. Suggestions for effective functioning of Farmer Producer Organisations as perceived by members and officials

## **4.1 Profile characteristics of Farmer Producer Organizations (FPOs) members**

The personal psychological and communication characteristics of members of two FPOs and the pooled sample were studied and quantified. The variables included for the study are age, education, family size, farming experience, land holding, achievement motivation, cosmopolitaness, decision making ability, scientific orientation, management orientation, economic motivation, risk orientation, innovative proneness, social participation, mass media exposure, participation in the activities of FPO, training received, extension contact and extension participation. The results are systematically presented in Table 4.1 under separate headings.

### **4.1.1. Age**

Age of the respondents shows maturity and thinking ability. It is visualized from the results presented in Table 4.1 that majority (70.00 %) of the VHFPC members were belonging to middle age group, followed by young (20.00 %) and old age group (10.00 %). With respect to AHFPC members more than half (56.67 %) of the tomato growers were of young aged, followed by middle (40.00 %) and old age (3.33 %) category.

The Pooled data revealed that over half (55.00 %) of the respondents belonged to middle age group followed by young (38.33 %) and old age (6.67 %) group.

Usually the middle-aged farmers are more enthusiastic and have great amount of responsibility as well as they are efficient compared to old and young farmers. Further, the respondents between 31 to 50-year age group have more physical vigor and more responsibility towards family than the young farmers. The results are in line with the findings of the study conducted by Gopala (2015) and shivani *et al.*, (2016).

### **4.1.2. Education**

Education of the individual determines their knowledge level and the mental status of the individual. Results pertaining to the education level of VHFPC members depicted that less than half (35.00 %) of them had high school education and nearly one fourth (18.33 %) of the VHFPC members had PUC level education, followed by JOC/ITI/Diploma level (16.67%) education.

**Table 4.1: Profile characteristics of Farmer producer Organizations members**

Sl. No.	Characteristics	Particulars	Mean	SD	Category	Frequency	%
I	<b>Personal characteristics</b>						
1	Age	VHFPC members (n <sub>1</sub> =60)	-	-	Young (upto 35 years)	12	20.00
					Middle (36 to 50 years)	42	70.00
					Old (above 50 years)	6	10.00
		AHFPC members (n <sub>2</sub> =60)			Young (upto 35 years)	34	56.67
					Middle (36 to 50 years)	24	40.00
					Old (above 50 years)	2	3.33
		Pooled sample (N=120)			Young (upto 35 years)	46	38.33
					Middle (36 to 50 years)	66	55.00
					Old (above 50 years)	8	6.67
2	Education	VHFPC members (n <sub>1</sub> =60)	-	-	Illiterate	6	10.00
					Upto middle school	5	8.33
					High school	21	35.00
					JOC/ITI/Diploma	10	16.67
					PUC	11	18.33
					Graduate	7	11.67
		AHFPC members (n <sub>2</sub> =60)			Illiterate	4	6.67
					Upto middle school	4	6.67
					High school	20	33.33
					JOC/ITI/Diploma	11	18.33
					PUC	15	25.00
					Graduate	6	10.00

Sl. No.	Characteristics	Particulars	Mean	SD	Category	Frequency	%
		Pooled sample (N=120)	-	-	Illiterate	9	7.50
					Upto middle school	41	34.17
					High school	21	17.50
					JOC/ITI/Diploma	26	21.67
					PUC	13	10.83
					Graduate	10	8.33
<b>3</b>	Family size	VHFPC members (n <sub>1</sub> =60)	-	-	Small (2-4members)	6	10.00
					Medium (5-7members)	27	45.00
					Big (8 and above)	27	45.00
		AHFPC members (n <sub>2</sub> =60)			Small (2-4members)	12	20.00
					Medium (5-7members)	39	65.00
					Big (8 and above)	9	15.00
		Pooled sample (N=120)			Small (2-4members)	18	15.00
					Medium (5-7members)	66	55.00
					Big (8 and above)	36	30.00
<b>4</b>	Farming experience	VHFPC members (n <sub>1</sub> =60)	21.2	9.191	Low (<16.605)	23	38.33
					Medium (16.605-25.795)	21	35.00
					High (>25.765)	16	26.67
		AHFPC members (n <sub>2</sub> =60)			Low (<11.110)	27	45.00
					Medium (11.110-18.657)	22	36.67
					High (>18.657)	11	18.33

Sl. No.	Characteristics	Particulars	Mean	SD	Category	Frequency	%
		Pooled sample (N=120)	18.042	8.954	Low (<13.565)	36	30.00
					Medium (13.565-22.519)	57	47.50
					High (>22.519)	27	22.50
<b>5</b>	Land holding	VHFPC members (n <sub>1</sub> =60)	-	-	Marginal (<2.5acres)	11	18.33
					Small (2.5-5 acres)	13	21.67
					Big (>5 acres)	36	60.00
		AHFPC members (n <sub>2</sub> =60)			Marginal (<2.5acres)	12	20.00
					Small (2.5-5 acres)	28	46.67
					Big (>5 acres)	20	33.33
		Pooled sample (N=120)			Marginal (<2.5acres)	23	19.17
					Small (2.5-5 acres)	41	34.17
					Big (>5 acres)	56	46.66
<b>II</b>	<b>Psychological and Communication characteristics</b>						
<b>6</b>	Achievement motivation	VHFPC members (n <sub>1</sub> =60)	17.1	2.892	Low (<15.654)	16	26.67
					Medium (15.654-18.546)	23	38.33
					High (>18.546)	21	35.00
		AHFPC members (n <sub>2</sub> =60)			Low (<15.221)	19	31.67
					Medium (15.221-18.246)	24	40.00
					High (>18.246)	17	28.33
		Pooled sample (N=120)			Low (<15.441)	35	29.17
					Medium (15.441-18.393)	47	39.17
					High (>18.393)	38	31.66

Sl. No.	Characteristics	Particulars	Mean	SD	Category	Frequency	%
7	Cosmopolitaness	VHFPC members (n <sub>1</sub> =60)	17.55	2.258	Low (<16.421)	20	33.33
					Medium (16.421-18.679)	19	31.67
					High (>18.679)	21	35.00
		AHFPC members (n <sub>2</sub> =60)	17.317	2.311	Low (<16.161)	19	31.67
					Medium (16.161-18.472)	20	33.33
					High (>18.472)	21	35.00
		Pooled sample (N=120)	17.475	2.242	Low (<16.354)	38	31.67
					Medium (16.354-18.596)	40	33.33
					High (>18.596)	42	35.00
8	Decision making ability	VHFPC members (n <sub>1</sub> =60)	6.933	0.899	Low (<6.484)	19	31.67
					Medium (6.484-7.383)	23	38.33
					High (>7.383)	18	30.00
		AHFPC members (n <sub>2</sub> =60)	7.317	1.049	Low (<6.792)	9	15.00
					Medium (6.792-7.841)	16	26.67
					High (>7.841)	35	58.33
		Pooled sample (N=120)	7.125	0.992	Low (<6.629)	28	23.33
					Medium (6.629-7.621)	39	32.50
					High (>7.621)	53	44.17
9	Scientific orientation	VHFPC members (n <sub>1</sub> =60)	16.9	1.633	Low (<16.083)	12	20.00
					Medium (16.083-17.717)	32	53.33
					High (>17.717)	16	26.67

Sl. No.	Characteristics	Particulars	Mean	SD	Category	Frequency	%
		AHFPC members (n <sub>2</sub> =60)	15.1	2.319	Low (<13.940)	13	21.67
					Medium (13.940-16.260)	31	51.66
					High (>16.260)	16	26.67
		Pooled sample (N=120)	16	2.192	Low (<14.904)	22	18.33
					Medium (14.904-17.096)	76	63.33
					High (>17.096)	22	18.34
<b>10</b>	Management orientation	VHFPC members (n <sub>1</sub> =60)	15.783	2.164	Low (<14.702)	17	28.33
					Medium (14.702-16.865)	15	25.00
					High (>16.865)	28	46.67
		AHFPC members (n <sub>2</sub> =60)	15.883	1.805	Low (<14.981)	15	25.00
					Medium (14.981-16.786)	18	30.00
					High (>16.786)	27	45.00
		Pooled sample (N=120)	15.833	1.985	Low (<14.841)	32	26.67
					Medium (14.841-16.826)	33	27.50
					High (>16.826)	55	45.83
<b>11</b>	Economic motivation	VHFPC members (n <sub>1</sub> =60)	19.45	1.799	Low (<18.551)	21	35.00
					Medium (18.551-20.349)	23	38.33
					High (>20.349)	16	26.67
		AHFPC members (n <sub>2</sub> =60)	19.083	1.835	Low (<18.166)	23	38.33
					Medium (18.166-20.001)	24	40.00
					High (>20.001)	13	21.67

Sl. No.	Characteristics	Particulars	Mean	SD	Category	Frequency	%
		Pooled sample (N=120)	19.267	1.818	Low (<18.357)	44	36.67
					Medium (18.357-20.176)	47	39.16
					High (>20.176)	29	24.17
12	Risk orientation	VHFPC members (n <sub>1</sub> =60)	9.1	1.946	Low (<8.127)	23	38.33
					Medium (8.127-10.073)	13	21.67
					High (>10.073)	24	40.00
		AHFPC members (n <sub>2</sub> =60)	9.717	1.878	Low (<8.777)	14	23.33
					Medium (8.777-10.656)	13	21.67
					High (>10.656)	33	55.00
		Pooled sample (N=120)	9.408	1.929	Low (<8.444)	37	30.83
					Medium (8.444-10.373)	26	21.67
					High (>10.373)	57	47.50
13	Innovative proneness	VHFPC members (n <sub>1</sub> =60)	28.783	4.64	Low (<26.463)	16	26.67
					Medium (26.463-31.103)	23	38.33
					High >31.103	21	35.00
		AHFPC members (n <sub>2</sub> =60)	29.117	4.404	Low <26.915	18	30.00
					Medium 26.915-31.319	22	36.67
					High >31.319	20	33.33
		Pooled sample (N=120)	28.95	4.507	Low <26.696	38	31.66
					Medium 26.696-31.204	41	34.17
					High >31.204	41	34.17

Sl. No.	Characteristics	Particulars	Mean	SD	Category	Frequency	%
14	Social participation	VHFPC members (n <sub>1</sub> =60)	3.983	1.282	Low <3.342	18	30.00
					Medium 3.342-4.624	29	48.33
					High >4.624	13	21.67
		AHFPC members (n <sub>2</sub> =60)	4.317	1.513	Low <3.560	16	26.67
					Medium 3.560-5.073	26	43.33
					High >5.073	18	30.00
		Pooled sample (N=120)	4.15	1.406	Low <3.447	34	28.33
					Medium 3.447-4.853	51	42.50
					High >4.853	35	29.17
15	Mass media exposure	VHFPC members (n <sub>1</sub> =60)	4.033	1.822	Low <3.122	9	15.00
					Medium 3.122-4.945	26	43.33
					High >4.945	25	41.67
		AHFPC members (n <sub>2</sub> =60)	4.6	2.085	Low <3.558	17	28.33
					Medium 3.558-5.642	23	38.34
					High >5.642	20	33.33
		Pooled sample (N=120)	4.325	1.967	Low <3.342	42	35.00
					Medium 3.342-5.308	44	36.67
					High >5.308	34	28.33
16	Participation in activities of FPO	VHFPC members (n <sub>1</sub> =60)	3.683	1.6	Low <2.883	14	23.33
					Medium 2.883-4.483	26	43.34
					High >4.483	20	33.33

Sl. No.	Characteristics	Particulars	Mean	SD	Category	Frequency	%
		AHFPC members (n <sub>2</sub> =60)	4.333	1.374	Low <3.646	21	35.00
					Medium 3.464-5.020	24	40.00
					High >5.020	15	25.00
		Pooled sample (N=120)	4.008	1.52	Low <3.248	24	20.00
					Medium 3.248-4.768	44	36.67
					High >4.768	52	43.33
17	Training received	VHFPC members (n <sub>1</sub> =60)	15.917	4.552	Low (<13.641)	14	23.33
					Medium (13.641-18.193)	28	46.67
					High (>18.193)	18	30.00
		AHFPC members (n <sub>2</sub> =60)	13.283	2.552	Low (<12.007)	24	40.00
					Medium (12.07-14.559)	11	18.33
					High (>14.559)	25	41.67
		Pooled sample (N=120)	14.6	3.905	Low (<12.647)	37	30.83
					Medium (12.647-16.553)	53	44.17
					High (>16.553)	30	25.00
18	Extension contact	VHFPC members (n <sub>1</sub> =60)	7.833	2.38	Low <6.643	14	23.33
					Medium 6.643-9.024	36	60.00
					High >9.024	10	16.67
		AHFPC members (n <sub>2</sub> =60)	5.833	3.093	Low <4.287	18	30.00
					Medium 4.287-7.380	32	53.33
					High >7.380	10	16.67

Sl. No.	Characteristics	Particulars	Mean	SD	Category	Frequency	%
		Pooled sample (N=120)	6.833	2.926	Low <5.370	44	36.67
					Medium 5.370-8.296	49	40.83
					High >8.296	27	22.50
19	Extension participation	VHFPC members (n <sub>1</sub> =60)	7.5	3.286	Low <5.857	18	30.00
					Medium 5.857-9.143	26	43.33
					High >9.143	16	26.67
		AHFPC members (n <sub>2</sub> =60)	8.083	3.868	Low <6.149	22	36.68
					Medium 6.149-10.017	19	31.66
					High >10.017	19	31.66
		Pooled sample (N=120)	7.792	3.585	Low <5.999	34	28.33
					Medium 5.999-9.584	44	36.67
					High >9.584	42	35.00

**VHFPC-Varuna Horticulture Farmer Producer Company Ltd**

**AHFPC- Arkeshwara Horticulture Farmer Producer Company Ltd**

In case of AHFPC members, 33.33 per cent of them were having high school level education. Whereas, 25.00 and 18.33 per cent of them were having PUC level and JOC/ITI/Diploma level of education, respectively.

The pooled data of education status of the farmers revealed that a little more than one third (34.17 %) of the respondents were having upto middle school level of education followed by JOC/ITI/Diploma level (21.67 %) education.

Education helps to have fair amount of knowledge about the functioning of FPOs and its consequences. The result shows that awareness about FPOs will have greater impact in understanding level of the farmers. Even though the formal education of the respondents is low, their farming experience is medium which is necessary to know about impact of FPOs on yield and income and to adopt respective technologies to improve the same. The results are in line with the findings of the study conducted by Vinay Kumar (2008) and Gopala (2015).

#### **4.1.3. Family size**

The Table 4.1 shows that little less than half (45.00 %) each of the VHFPC members were having medium and big sized family, followed by small (10.00 %) family. Similarly, more than half (65.00 %) of the AHFPC members were having medium sized family, followed by small (20.00 %) and big (15.00 %) family.

The pooled data revealed that more than half of the respondents had medium sized (55.00 %) family, followed by big (30.00 %) and small sized (15.00 %) family.

In the present-day context the individuals are well aware of the importance of small and medium sized families. The role of government and NGOs in bringing awareness on farm technologies and also the efforts of the mass media might have contributed for the above trend. The disintegration of joint families due to social and financial reasons might have also contributed for the emergence of small and medium sized families. besides the medium size families, which were having five to seven

members may influence the collective decision-making ability of farmers. The results of the present study are in line with the findings of the study conducted Pat Bogue (2013).

#### **4.1.4. Farming experience**

The data in Table 4.1 depicts that, 38.33 per cent of the VHFPC members were having low level of farming experience, followed by medium (35.00 %) and high (26.67 %) level of farming experience. It can also be visualized from the table that 45.00 per cent of the tomato growers were having low level of farming experience, followed by medium level (36.67 %) and high level (18.33 %) of farming experience.

Nearly half (47.50 %) of the respondents were having medium level farming experience, followed by low (30.00 %) and high (22.50 %) level of farming experience in case of polled sample.

The farming experience is one of the important components, which helps the farmers to take decisions on suitable strategies related to crop cultivation. The banana and tomato crop require improved knowledge and skills for its cultivation otherwise the farmers may lose huge investment made on cultivation. The farming experience of the farmers will certainly influence their ability to accept and adopt the technologies with respect to cultivation. The medium level of farming experience also contributes for taking rational decisions. Hence, nearly half of the respondents are found in medium level of farming experience.

The results of the present study are in line with the findings of Vinay Kumar (2008) and Shanabhoga *et al.*, (2017c).

#### **4.1.5. Land Holding**

The Table 4.1 revealed that more than half (60.00 %) of the VHFPC members were big farmers, followed by small (21.67 %) and marginal (18.33%) farmers. The results also reveal that nearly half (46.67 %) of the tomato growers were having small land holdings, followed by big (33.33 %) and marginal farmers (20.00 %).

The pooled data depicted that, nearly half (46.66 %) of the respondents are big farmers, followed by small (34.17 %) and marginal (19.17 %) farmers.

It is needless to explain that the study area has more plain land and, in such lands, large holding are common unlike in hilly and coastal zones. The fragmentation of land due to family and social issues has also contributed to a greater number of smallholdings. The results are in line with the results of the study conducted by Gopala (2010).

#### **4.1.6 Achievement motivation**

The data presented in Table 4.1 revealed that, more than one third (38.83 %) of the VHFPC members were having medium level of achievement motivation and 35.00 per cent of growers were having high level followed by low level (26.67 %) of achievement motivation. In case of AHFPC members, 40.00 per cent of the farmers were having medium level of achievement motivation followed by 31.67 per cent of them having low level and 28.33 per cent were having high level of achievement motivation.

The pooled data of the VHFPC members and tomato growers depicts that more than one third (39.17 %) of the respondents were having medium level of achievement motivation, followed by high (31.66 %) and low (29.17 %) level of achievement motivation.

It is evident that majority of the VHFPC members are having sufficient land and easy access to inputs which helps to diversify the crops and to excel in crop production to get better returns. The main risk factors for tomato production are yield, price and cost risks. Hence the motivational level among AHFPC members is low. However, achievement motivation helps an individual to decide and complete the tasks in a certain direction, which in turn helps in achieving the desired results. Hence, majority of the respondents belonged to medium to high level achievement motivation category. Similar results were observed by Shivani *et al.*, (2017b) and Shanabhoga *et al.*, (2017b)

#### **4.1.7 Cosmopolitaness**

It could be observed from the table 4.1 that, 35.00 per cent of the VHFPC members were having high level of cosmopolitaness, followed by 33.33 per cent had low level and 31.67 per cent had medium level of cosmopolitaness. It can also be seen from the table 4.1 that 35.00 per cent of the AHFPC members were having high level of cosmopolitaness, followed by medium (33.33 %) and low (31.67 %) level of cosmopolitaness.

The pooled data revealed that 35.00 per cent of the respondents were having high level of cosmopolitaness, followed by medium (33.33 %) and low (31.67 %) level of cosmopolitaness.

A larger number of farmers had high level of cosmopolitaness because majority of the VHFPC members and AHFPC members had frequent contact with other members and officials of FPO as well as other individuals outside their social system. Farmers are also very keen and enthusiastic to know about the advances in agricultural field and other improved technologies from the fellow farmers. This would provide an opportunity for interpersonal communication within the members of the FPO to discuss about the new schemes and improved production practices. The results are line with the findings reported by Gopala (2015).

#### **4.1.8. Decision making ability**

Table 4.1 revealed that, 38.33 per cent of the VHFPC members showed medium level of decision-making ability, followed by low (31.67 %) and high (30.00 %) level of decision-making ability. In case of AHFPC members, more than half (58.33 %) were having high level of decision-making ability, followed by medium (26.67 %) and low (15.00 %) level of decision-making ability.

Pooled data revealed that, 44.17 per cent of the respondents were having high-level decision-making ability, followed by medium (32.50 %) and low (23.33 %) level of decision-making ability.

The ability of the farmer to make decision among the choices is the major psychological character which influences the cultivation of the crops and practice with the appropriate production technologies. Since, both VHFPC members and AHFPC members are the members of FPOs it was easy for them decide the timely operations required in all the stages of crop production with proper guidance by the FPO officials. The study is in line with the results of the study conducted by Shanabhoga *et al.*, (2017c).

#### **4.1.9 Scientific orientation**

It could be seen from the Table 4.1 that, little more than half of the VHFPC members (53.33 %) and tomato (51.66 %) growers exhibited medium level of scientific orientation. An equal number of VHFPC members and AHFPC members (26.67%) each belonged to high level of scientific orientation category. Whereas 20.00 per cent of the VHFPC members and 21.67 per cent of the AHFPC members are belonged to low level scientific orientation category.

The pooled data revealed that, majority (63.33 %) of the respondents belonged to medium level of scientific orientation, followed by high (18.34 %) and low (18.33 %) level of scientific orientation category.

The interventions of the FPOs to create awareness on the improved crop production technologies are not reaching to the VHFPC members and AHFPC members to the fullest. Though the respondents are having high degree of acceptance towards adopting scientific technologies, situational factors like income, climate, soil etc., hinders them to accept and adopt the new scientific production techniques. Similar findings were reported by Gopala (2015) and Shivani *et al.*, (2017a).

#### **4.1.10. Management orientation**

It is very interesting to know from the Table 4.1 that, nearly half (46.67 %) of the VHFPC members had high level of management orientation followed by low (28.33 %) and medium (25.00 %) level of management orientation. It is also very interesting to know from the same table that, 45.00 per cent of the AHFPC members had high level of

management orientation, followed by medium (30.00 %) and low (25.00 %) level of management orientation.

The pooled data shows that, 45.83 per cent of the respondents were having high level of management orientation, followed by medium (27.50 %) and low (26.67 %) level of management orientation.

The reasons for majority of the respondents belonging to high level of management orientation is that all the respondents are FPO members and they have good extension contacts and communication with field extension personnel. This helped them to re-orienting their current management practices to plan and implement of the production practices accordingly for the benefit. The personal exposure of farmers to various professional situations like extension meeting, exhibitions, field days, Krishimela etc., also might have contributed to develop certain level of management orientation as compared to other farmers. The study is in line with the results of the study conducted by Shankara (2019) and Shanabhoga *et al.*, (2019).

#### **4.1.11. Economic motivation**

The data shown in the Table 4.1 revealed that, over one third (38.33 %) of the VHFPC members were having medium level of economic motivation, followed by low (35.00 %) and high level (26.67 %) of economic motivation. Whereas, 40.00 per cent of the AHFPC members were having medium level of economic motivation, followed by low level (38.33 %) and high level (21.67 %) economic motivation.

With respect to pooled data, 39.16 per cent of the respondents were having medium level economic motivation followed by low level (36.67 %) and high (24.17 %) level economic motivation.

Every farmer will have an urge to increase his farm income by increasing farming efficiency in terms of B:C ratio by adopting better production practices. In this case, the FPOs are involved in providing better production techniques to VHFPC members and AHFPC members. In spite of it the members are not able to realize better price for their

produce in the market because of extreme price fluctuations. Hence, majority of the respondents are exhibiting medium to low level of economic motivation. However, the FPOs can plan and provide guidance in market-oriented issues to members for their sustainable income. The similar results can be seen in the study conducted by Lavanya (2010).

#### **4.1.12. Risk orientation**

It is clear from the Table 4.1 that, forty per cent of the VHFPC members had high level of risk orientation, followed by 38.33 and 21.67 per cent of the VHFPC members were having low and medium level of risk orientation respectively. However, 55.00 per cent of the AHFPC members had high level of risk orientation, followed by 23.33 and 21.67 per cent of them had low and medium level of risk orientation, respectively.

The pooled data revealed that, nearly half (47.50 %) of the respondents were having high level, followed by low (30.83 %) and medium (21.67 %) level of risk orientation.

Majority of the VHFPC members and AHFPC members are young to middle age group and have good education. Factors like land holding and other psychological characters of the farmer's also influences on their risk-taking behavior in farming situation. Though the farming experience of the respondents is high, the guidance and advices from the FPOs is helping them to analyze the situation to take risk and better decisions. The risk bearing ability of the respondents will play a vital role in adopting the improved cultivation practices and to take decisions on market of the produce. The results are in line with the study of Shanabhoga *et al.*, (2017c).

#### **4.1.13. Innovative proneness**

The data in Table 4.1 showed that, 38.33 per cent of the VHFPC members were having medium level of innovative proneness and 35.00 and 26.67 per cent of the VHFPC members were having high and low level of innovative proneness, respectively. Whereas, over one-third of the AHFPC members (36.67 %) had medium level of

innovative proneness and 33.33 and 30.00 per cent of the AHFPC members were having high and low levels of innovative proneness respectively.

The pooled data depicted that, equal per cent (34.17 % each) of the respondents were having high and medium level of innovative proneness and 31.66 per cent of the respondents were having low level of innovative proneness.

Majority of the respondents belonged to medium and high level of innovativeness. Innovativeness plays a greater role in the individuals' personality. The person with higher innovativeness can do things rapidly and more precisely than others. This also may be attributed to the fact that majority of the respondents had high schooling and pre university/diploma. Generally, higher the formal education level, higher the attitude towards innovations. In such conditions, the members of the FPOs try to seek more information and try out new ideas and technologies within their budget and limits and members who are prone to innovations will try to gather information regarding the new technology from various specialists from the training or the advice given from the FPO, they wanted to learn new ways of farming, improved cultivation practices and adopt those technologies at faster rate with maximum accuracy. These results are in line with the study conducted by Gopala (2010) and Yavana Priya (2010).

#### **4.1.14. Social participation**

The data from Table 4.1 depicts that, nearly half (48.33 %) of the VHFPC members had medium level of social participation, followed by low (30.00 %) and high level (21.67 %) of social participation. Whereas, nearly half (43.33 %) of the AHFPC members were having medium level of social participation, followed by high (30.00 %) and low (26.67 %) level of social participation.

The pooled data revealed that 42.50 per cent of the respondents were belonged to medium level of social participation category, followed by high (29.17 %) and low (28.33 %) level category.

The presence of Farmer producer organizations in the village and members involvement in the organizational activities directly or indirectly provides them social contact, which greatly influence in adopting various new agricultural practices as well as help them share the views and ideas on various farming aspects of banana and tomato. Also, the initiation of different programmes and schemes from the Government as well as from line departments were contributing towards active participation of the respondents in social activities. The study is in line with the results of the study conducted by Lavanya (2010).

#### **4.1.15. Mass media exposure**

It is seen from the Table 4.1 that, 43.33 per cent of the VHFPC members had medium level of mass media exposure followed by high (41.67 %) and low level (15.00 %) of mass media exposure. Whereas, 38.34 per cent of the AHFPC members had medium level of mass media exposure and 33.33 per cent of the AHFPC members belonged to high level, followed by 28.33 per cent of them belonged to low level of mass media exposure.

In the pooled data, a little more than one third (36.67 %) of the respondents were having medium level of mass media exposure, followed by low (35.00 %) and high (28.33 %) level of mass media exposure.

Mass media plays major role in disseminating information effectively. Farmers who are members in the FPOs are more accessible to the mass media such as television, radio, newspaper and smartphones. High level of mass media utilization explains respondents are very much dependent on mass media not only as a source of information but also as a source of entertainment. Mass media helps the members of the FPO to get the updates on the latest developments which are a good sign for the interest of farmers. The members in the FPO use social media platforms like WhatsApp and Facebook group to disseminate the information among them. Thereby the respondents can be aware of the things, which are happening in day-to-day life. The study depicts that the respondents having medium level of mass media exposure have greater influence in adopting new

agricultural technologies. The obtained results are in line with the study conducted Lavanya (2010).

#### **4.1.16. Participation in activities of FPO**

It is depicted from the Table 4.1 that, 43.34 per cent of the VHFPC members had medium level of participation in the activities of FPO followed by high (33.33 %) and low level (23.33 %) of participation in the activities of FPO. Whereas, 40.00 per cent of the AHFPC members had medium level of participation in the activities of FPO and 35.00 per cent of the AHFPC members belonged to high level, followed by 25.00 per cent of them belonged to low level of participation in the activities of FPO.

In the pooled data, 43.33 per cent of the respondents were having high level participation in the activities of FPO, followed by medium (36.67 %) and low (20.00 %) level participation in the activities of FPO.

The members of the FPO are educated and majority belong to medium to high innovative proneness category, hence the members are much interest in farming as well as to know different aspects of new agricultural technologies developed in banana as well as tomato cultivation. This shows that they show much interest in the participation of various activities of the FPO, which in turn help them to increase the yield and which also help them to increase the income level to lead a better standard of living. The results are in line with the study conducted by Gopala (2015).

#### **4.1.17. Training received**

It is depicted from the Table 4.1 that, nearly half (46.67 %) of the VHFPC members had medium level of training received followed by high (30.00 %) and low level (23.33 %) training received. Whereas, 41.67 per cent of the AHFPC members had high level of training received and 40.00 per cent of the AHFPC members belonged to low level, followed by 18.33 per cent of them belonged to medium level of training received.

In the pooled data, 44.17 per cent of the respondents were having medium level of training, followed by low (30.83 %) and high (25.00 %) level of training received.

The members of the FPO are much interested to know about the cultivation practices of banana and tomato, thus they attain various training programmes conducted by the FPO, training provides an opportunity to farmers to know about the improved farming practices, marketing linkages etc., The results are similar to the study conducted by Narayanaswamy (2005) and Gopala (2015).

#### **4.1.18 Extension contact**

The data in Table 4.1 revealed that 60.00 per cent of the VHFPC members had medium level of extension contact, followed by 23.33 per cent having low level and 16.67 per cent of them having high level of extension contact. Whereas, a little more than half (53.33 %) of the AHFPC members had medium level of extension contact and interestingly 30.00 per cent of the AHFPC members belonged to low level of extension contact, followed by 16.67 per cent of them belonging to high level of extension contact.

The pooled data depicts that 40.83 per cent of the respondents were having medium level extension contact, followed by low (36.67 %) and high (22.50 %) level of extension contact.

Extension contact results in purposeful action which is largely contingent upon an individual's belief in his ability to perform the action correctly and effectively and thus he frequently contacts various departmental officials to seek more information and to clarify the doubts pertaining to the latest and improved crop production practices on banana and tomato. The present study depicts that medium level of extension contact help the respondents in gathering more information from the extension personnel regarding various aspects of scientific cultivation of banana and tomato. The study is in line with the results of the study conducted by Karla *et al.* (2013).

#### **4.1.19. Extension participation**

The data in Table 4.1 depicts that, 43.33 per cent of the VHFPC members were having medium level of extension participation followed by low (30.00 %) and high level (26.67 %) of extension participation. It can also be observed from the Table 4.1 that, 36.68 per cent of the AHFPC members were having low level of extension participation, followed by an equal per cent (31.66 %) each of the AHFPC members belonged to medium and high level of extension participation.

From the pooled data it can be visualized that one third (36.67 %) of the respondents were having medium level of extension participation, followed by high (35.00 %) and low (28.33 %) level of extension participation.

Participation in the extension activities provides opportunities for contrived experiences and sources of improved agricultural production technologies prevailing in the region or locality. The extension activities conducted by FPOs were according to the needs and interest of the farmers, which has motivated its members to take up cultivation of banana and tomato in a better manner with improved technologies. The results obtained may be due to eagerness of the respondents in solving their problems with extension workers, also the interest in extension activities to gather recent information about banana and tomato cultivation practices. The study is in line with the results of the study conducted by Karla *et al.* (2013) and Gopala (2015).

### **4.2. Attitude of farmer producer organizations members towards the organization**

#### **4.2.1 Statement-wise attitude of farmer producer organizations members towards the organization**

##### **4.2.1.1. VHFPC members**

A critical appraisal of Table 4.2.1 indicates the statement wise attitude of farmer producer organizations members towards the organization. Among the statement wise attitude of VHFPC members, “FPOs are not rigid as co-operatives” was the statement with first rank (I), followed by “Activities of FPOs are not as per members needs” was ranked second (II), “FPOs inculcate the decision- making ability among their members”

was ranked third (III), “FPOs increase overhead charges” was ranked fourth (IV), “FPOs induces cosmopolitnness of its members” and “FPOs mismanages the local resources” was ranked fifth (V), “FPOs is a prospective system to empower farmers” was ranked seventh (VII), “FPOs help in increasing confidence among farmers” was ranked eighth (VIII), “FPOs are not potential enough to bring about agricultural development” was ranked ninth (IX), “FPOs provide need-based consultancy services to the members” and “Benefits from government / other institutions could be availed by FPOs members” was ranked tenth (X), “Attending FPOs work is time consuming for the members” was ranked twelve (XII), “FPOs work on the principle of democracy”, “FPOs provide needful information on improved agricultural practices” and “Administration / management of FPOs involve too much of autocracy” was ranked thirteen (XIII), “FPOs have created more problems for members than solving” was ranked sixteen (XVI), “Peer pressure affects the functioning of Farmers Producer Organization” was ranked seventeen (XVII), “FPOs is not a long- term solution to the problems of price inflation” was ranked eighteen (XVIII), “FPOs is a boon for farmers” was ranked nineteen (XIX), “FPOs is farmers friendly approach to sale farm products” was ranked twenty (XX), “Much is talked about FPOs, but little work is done” was ranked twenty one (XXI) and “organizing farmers into groups is waste of money” was ranked twenty two (XXII).

#### **4.2.1.2. AHFPC members**

Among the statement-wise attitude of AHFPC members (Table 4.2.1), “FPOs is not rigid as co-operatives” was ranked one (I), “Activities of FPOs are not as per member’s needs” was ranked second (II), “FPOs provide needful information on improved agricultural practices” was ranked third (III), “FPOs help in increasing confidence among farmers” was ranked fourth (IV), “FPOs increase overhead charges” was ranked fifth (V), “FPOs inculcate the decision-making ability among their members” and “FPOs is a boon for farmers” was ranked sixth (VI), “FPOs are not potential enough to bring about agricultural development” was ranked eighth (VIII), “FPOs mismanages the local resources”, “Organizing farmers into groups” is waste of money, “FPOs induces cosmopolitnness of its members” and “Much is talked about FPOs, but little work is done”

**Table 4.2.1: Statement-wise attitude of farmer producer organizations members towards the organization**

Sl. No.	Attitude statements	VHFPC members (n <sub>1</sub> =60)		AHFPC members (n <sub>2</sub> =60)		Pooled sample (N=120)	
		Attitude score	Rank	Attitude score	Rank	Attitude score	Rank
1.	FPOs help in increasing confidence among farmers	202	VIII	247	IV	450	VII
2.	FPOs provide needful information on improved agricultural practices	172	XIII	255	III	429	IX
3.	FPOs is not a long-term solution to the problems of price inflation	161	XVIII	217	XV	381	XVII
4.	FPOs is a boon for farmers	145	XIX	233	VI	382	XVI
5.	FPOs mismanages the local resources	220	V	227	IX	452	VI
6.	Much is talked about FPOs, but little work is done	135	XXI	227	IX	368	XVIII
7.	Organizing farmers into groups is waste of money	129	XXII	227	IX	366	XIX
8.	FPOs have created more problems for members than solving	169	XVI	184	XX	361	XX
9.	Attending FPOs work is time consuming for the members	182	XII	192	XIX	383	XV
10.	Activities of FPOs are not as per members needs	256	II	261	II	524	II
11.	FPOs is a prospective system to empower farmers	213	VII	202	XVII	426	X

Sl. No.	Attitude statements	VHFPC members (n <sub>1</sub> =60)		AHFPC members (n <sub>2</sub> =60)		Pooled sample (N=120)	
		Attitude score	Rank	Attitude score	Rank	Attitude score	Rank
12.	FPOs are not potential enough to bring about agricultural development	201	IX	232	VIII	445	VIII
13.	FPOs is farmers friendly approach to sale farm products	142	XX	150	XXII	305	XXII
14.	FPOs induces cosmopolitnness of its members	220	V	227	IX	461	V
15.	FPOs inculcate the decision-making ability among their members	248	III	233	VI	496	III
16.	FPOs work on the principle of democracy	172	XIII	218	XIV	406	XIV
17.	FPOs provide need-based consultancy services to the members	186	X	208	XVI	411	XI
18.	FPOs is not rigid as co-operatives	276	I	272	I	566	I
19.	Administration / management of FPOs involve too much of autocracy	172	XIII	220	XIII	411	XI
20.	FPOs increase overhead charges	229	IV	236	V	485	IV
21.	Benefits from government / other institutions could be availed by FPOs members	186	X	200	XVIII	407	XIII
22.	Peer pressure affects the functioning of Farmers Producer Organization	164	XVII	172	XXI	358	XXI

was ranked ninth (IX), “Administration / management of FPOs involve too much of autocracy” was ranked thirteen (XIII), “FPOs work on the principle of democracy” was ranked fourteen (XIV), “FPOs is not a long- term solution to the problems of price inflation” was ranked fifteen (XV), “FPOs provide need-based consultancy services to the members” was ranked sixteen (XVI), “FPOs is a prospective system to empower farmers” was ranked seventeen (XVII), “Benefits from government / other institutions could be availed by FPOs members” was ranked eighteen (XVIII), “Attending FPOs work is time consuming for the members” was ranked nineteen (XIX), “FPOs have created more problems for members than solving” was ranked twenty (XX), “Peer pressure affects the functioning of Farmers Producer Organization” was ranked twenty one (XXI) and “FPOs is farmers friendly approach to sale farm products” was ranked twenty two (XXII).

#### **4.2.1.3. Pooled sample**

The statement-wise attitude of the pooled sample in the Table 4.2.1 depicts that the statement “FPOs is not rigid as co-operatives” was ranked one (I), “Activities of FPOs are not as per members needs” was ranked second (II), “FPOs inculcate the decision-making ability among their members” was ranked third (III), “FPOs increase overhead charges” was ranked fourth (IV), “FPOs induces cosmopolitness of its members” was ranked fifth (V), “FPOs mismanages the local resources” was ranked sixth (VI), “FPOs help in increasing confidence among farmers” was ranked seventh (VII), “FPOs are not potential enough to bring about agricultural development” was ranked eighth (VIII), “FPOs provide needful information on improved agricultural practices” was ranked ninth (IX), “FPOs is a prospective system to empower farmers” was ranked tenth (X), “FPOs provide need-based consultancy services to the members” and “Administration / management of FPOs involve too much of autocracy” was ranked eleven (XI), “Benefits from government / other institutions could be availed by FPOs members” was ranked thirteen (XIII), “FPOs work on the principle of democracy” was ranked fourteen (XIV), “Attending FPOs work is time consuming for the members” was ranked fifteen (XV), “FPOs is a boon for farmers” was ranked sixteen (XVI), “FPOs is not a long- term solution to the problems of price inflation” was ranked seventeen

(XVII), “Much is talked about FPOs, but little work is done” was ranked eighteen (XVIII), “Organizing farmers into groups is waste of money” was ranked nineteen (XIX), “FPOs have created more problems for members than solving” was ranked twenty (XX), “Peer pressure affects the functioning of Farmers Producer Organization” was ranked twenty one (XXI) and “FPOs is farmers friendly approach to sale farm products” was ranked twenty two (XXII).

The possible reasons for farmers having favourable attitude towards FPOs is explained in the ensuing paragraphs:

FPOs provide platform for sharing experience among the members. The plausible reason for this could be that, the FPOs have brought farmers together into a group and farmers perceive it as an opportunity to socialize and learn together which is the one of the principles of group approach. The FPOs have brought together all the categories of farmers whether big, small or marginal farmers and provided them a platform to share their knowledge in the group.

The necessity of the formation of FPOs was to avail the benefits from the government. The possibility of interacting directly with the line departments such as agriculture, horticulture, forestry, fishery, animal husbandry, banks and various credit institutions might be the reason for the members to have get favorable attitude towards benefits from government/ other institutions could be availed by FPOs.

FPO members have ‘strongly agreed’ to the statement, ‘FPOs are boon to farmers’. The FPOs are established with a motive of effective management of natural resources, easy reach of inputs to members, better utilization of farm machinery, implements and equipment’s, addressing labour problems, promotion of labour sharing in the FPOs creating local market for the produce, reducing the overhead charges during production and marketing of agricultural produce and improvement in the bargaining power of small and marginal farmers for the price, might be the conceivable reasons for the members to believe that FPO as boon to the farmers.

The FPO membership enabled the farmers to have frequent contact with specialists of Krishi Vignana Kendra, extension workers of the line departments and also with the farm scientists of the University of Agricultural Sciences. Due to adoption of the relatively recent technology the production and productivity has increased to substantial level which has recognized by the fellow farmers. Also, the FPOs involved in some of the social works like planting, demonstration of new technology and talent sharing might be the reasons for the members to get recognition in the villages.

The FPO members availed both direct and indirect by virtue of becoming members which includes upgradation of the agricultural production, technology, reduction in the marketing cost, marketing facility for the agriculture produces produced by the members, frequent contact with extension professionals of various line department and agricultural university. FPOs have improved the access to agricultural credit, extension services, inputs, insurance, government programmes, bargaining power of farmers in marketing and input procurement and FPOs have substantially reduced the cost of marketing of agricultural produce. All these factors are complementary to the agriculture.

The marketing orientation activities of the FPOs such as direct marketing, pooled marketing, developing market network, common transport facility, entrepreneurship development, price fixing and negotiations, processing and value addition might be the reasons for many of the members to have a strong agreement with the statement. Apart from the marketing activities of the FPOs, the members are also provided with the training related marketing of agricultural produce which might be the reason for many of the members inculcate the professionalism in marketing.

The FPOs regularly conduct the meeting to discuss about the various activities to be carried out on the different aspects of FPOs. Members opined that their suggestions are valued greatly in each of the discussion. Each member is free to express his opinion in meetings and all the deliberations of the FPOs. The decision based on the consensus of each member in the FPOs might be the reason for most of FPO members to be 'agreed' with the statement 'FPOs work on the principle of democracy'.

Large number of members 'strongly disagreed' with the statement, 'attending FPOs work is time consuming for the members'. The FPO has improved standard of living of the members, generated substantial amount of employment and the social status of the members has increased over the period. The impact of any programmes can be seen over a period and it is possible in case of FPO through organizing various activities like awareness creation programmes, training on production, marketing, processing and various other aspects. All the activities are carried out during the time where farmers were free from the agricultural work. Hence, most of the members 'strongly disagreed' with statement that attending FPOs work is time consuming.

The FPO are able to provide both direct and indirect benefits to the members. Direct benefits include assured income to growers, generates additional employment opportunities and elimination of middle man in the marketing chain. The Indirect benefits include the improving soil fertility and helps in moisture conservation and introduction of technology which is scale neutral and feasible for adoption by all the categories of farmers. Looking into the advantages most of the members have 'strongly disagreed' with the statement 'much is talked about FPOs but little work is done'.

The results of the study indicate that most of the members 'strongly disagreed' with the statement, 'FPO mismanages the local resources'. The core objective of the FPOs is efficient management of natural resources like soil and water. The members have been trained on the integrated farming systems, mixed cropping, crop diversification, crop protection, water management and eco restoration. Hence, most of the members have 'strongly disagreed' with the statement. The results are in line with the study conducted by Gopala (2015).

#### **4.2.2: Overall attitude of FPO members towards the organization**

The results regarding the overall attitude of FPO members towards organizations is presented in Table 4.2.2 and figure 5. It can be visualized from the table 4.2.2 that 40.00 per cent of VHFPC members had favourable attitude towards the FPOs, followed by 31.67 per cent of them having more favourable attitude and the remaining 28.33 per cent of them having less favorable attitude towards FPOs. Whereas in case of AHFPC

members, 38.33 per cent of them had favorable attitude and the remaining 33.34 and 28.33 per cent of the FPO members exhibits more favorable attitude and less favourable attitude towards the FPOs, respectively.

**Table 4.2.2: Overall attitude of FPO members towards the organization**

Sl. No.	Attitude category	VHFPC members (n <sub>1</sub> =60)		AHFPC members (n <sub>2</sub> =60)		Pooled sample (N=120)	
		No.	%	No.	%	No.	%
1	Less favourable	17	28.33	17	28.33	43	35.83
2	Favourable	24	40.00	23	38.33	33	27.50
3	More favourable	19	31.67	20	33.34	44	36.67
Total		60	100.00	60	100.00	120	100.00

With respect to the pooled sample it was found that as high as 36.67 per cent of farmers possessed more favourable attitude towards FPOs, while 35.83 and 27.50 per cent of farmers possessed less favourable and favourable attitude towards FPOs, respectively.

The possible reason is that large number of members of FPO are small and marginal farmers in the project area. They felt the necessity of associations are more essential for their sustained development than large farmers, hence the results. FPOs helps to enhance the producer share in the consumer rupee thereby enhancing the confidence among the peasants to continue in agriculture profession. The producer share in the consumer rupee has enhanced greatly and the net income of the farmers has raised to a considerable level. Apart from the cost reduction and resource management, the FPOs have also helped the members to involve in the income generating activities. Through FPOs, the members have received training on various aspects of agriculture production, processing, marketing, entrepreneurship and financial management might be the reasons for the majority of FPO members to have favorable attitude towards the associations.

The results are in conformity with the results obtained by Natarajan and Muthaiah (1995), Sadighi and Darvishinia (2005), Bhanu (2006), Muni (2006), Nicolas *et al.* (2012) and Ramakant *et al.* (2012).

#### **4.2.3. Test of significance in respect of attitude towards farmer producer organizations between VHFPC members and AHFPC members**

Table 4.2.3. shows the test of significance in respect of attitude towards farmer producer organizations between VHFPC members and AHFPC members. The VHFPC members had attitude mean score of 69.67 and the AHFPC members had the attitude mean score as 80.67, thus there is a significant difference at one per cent level with the t-value of 12.34 between VHFPC members and AHFPC members' attitude towards the farmers producer organization.

**Table 4.2.3.: Test of significance in respect of attitude towards farmer producer organizations between VHFPC members and AHFPC members**

<b>Sl. No.</b>	<b>Particulars</b>	<b>Attitude mean score</b>	<b>t-value</b>
1	VHFPC members (n=60)	69.67	<b>12.34**</b>
2	AHFPC members (n=60)	80.67	

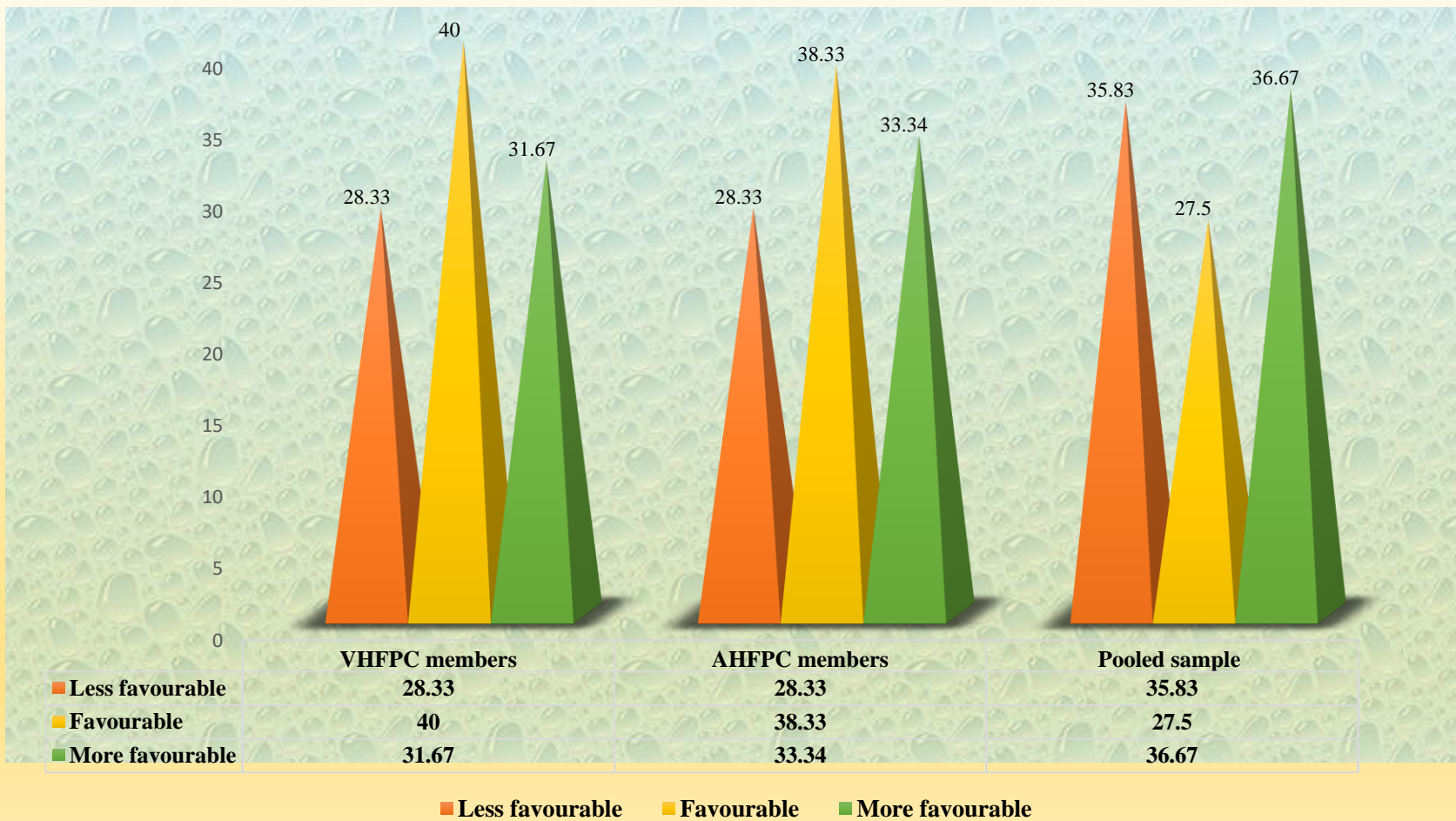
\*\* Significant at 1 per cent level

Majority of the psychological studies says that every individual or group will have different attitude or opinion towards something. Likewise, in this study both VHFPC members and AHFPC members were having different level attitudes towards FPOs. This is because the exposure and association of both VHFPC members and AHFPC members with respective FPOs is different. These results reflect the randomized sampling effects and the similar results can be seen in the study conducted by Gopala (2015).

#### **4.3. Participation of members in the stages/ activities of farmer producer organizations**

The participation of members in the FPOs was analyzed in respect of four stages namely; (1) Formation of FPOs, (2) Production orientation activities of FPOs, (3)

## OVERALL ATTITUDE OF FPO MEMBERS TOWARDS THE ORGANIZATION



**Fig. 4: Overall attitude of FPO members towards the organization**

Training orientation of FPOs, and (4) Marketing orientation of FPOs. Finally, the overall participation was measured using the combined score of all the four stages/ aspects of both Varuna and AHFPCs.

#### **4.3.1. Participation of members in the stages/ activities of farmer producer organizations**

##### **4.3.1.1 Participation of members in the formation stage of FPOs**

The results in Table 4.3.1 shows that in the formation stage of FPOs, in VHFPC as high as 55.00 per cent of the FPO members had participated occasionally. Whereas, 40.00 per cent of them had participated regularly and the remaining five per cent of the FPO members had not participated. Whereas, in AHFPC, 53.33 per cent of the FPO members had regularly participated, followed by 26.67 per cent of them had participated occasionally and the remaining 20.00 per cent of the FPO members had not participated.

The pooled sample shows that 46.67 per cent of the FPO members had participated regularly, followed by 40.83 per cent of them had participated occasionally and the remaining 12.50 per cent of them had not participated.

The FPO has conducted good number of meetings for conveying the rationale behind the formation of the FPOs. The creditability of information for farmers regarding the advantages of FPOs have direct effect on the farmers. The educational activities conducted by FPO in the area before the establishment of the FPOs have enabled the FPO members to acquire knowledge regarding the advantages of the FPOs. These are the reason for FPO members to take active part in the formation of FPOs. These findings are similar to the findings reported by Savanolla (2002), Chethana (2005), Yekinni (2010), Suchithkumar (2011) and Gopala (2015).

##### **4.3.1.2 Participation of members in the production orientation activities of FPOs**

The results in Table 4.3.1. shows that in the production orientation activities stage of FPOs, in VHFPC as high as 56.67 per cent of the FPO members had participated occasionally. Whereas, 23.33 per cent of them had not participated and the remaining 20.00 per cent of the FPO members had participated regularly. In AHFPC, 51.67 per cent

of the members had participated occasionally, followed by 30.00 per cent of them had participated regularly and the remaining 18.33 per cent of the FPO members had not participated.

**Table 4.3.1.: Participation of members in the stages/ activities of farmer producer organizations**

Sl. No.	Particulars	Participation category					
		Regularly		Occasionally		Never	
		No.	%	No.	%	No.	%
<b>I</b>	<b>VHFPC (n<sub>1</sub>=60)</b>						
1	Formation of FPO	24	40.00	33	55.00	3	5.00
2	Production orientation activities of FPO	12	20.00	34	56.67	14	23.33
3	Training orientation of FPO	10	16.67	11	18.33	39	65.00
4	Marketing orientation of FPO	7	11.67	37	61.67	16	26.66
<b>II</b>	<b>AHFPC (n<sub>2</sub>=60)</b>						
1	Formation of FPO	32	53.33	16	26.67	12	20.00
2	Production orientation activities of FPO	18	30.00	31	51.67	11	18.33
3	Training orientation of FPO	24	40.00	16	26.67	20	33.33
4	Marketing orientation of FPO	6	10.00	37	61.67	17	28.33
<b>III</b>	<b>Pooled sample (N=120)</b>						
1	Formation of FPO	56	46.67	49	40.83	15	12.50
2	Production orientation activities of FPO	30	25.00	65	54.17	25	20.83
3	Training orientation of FPO	34	28.33	27	22.50	59	49.17
4	Marketing orientation of FPO	13	10.83	74	61.67	33	27.50

The pooled sample shows that 54.17 per cent of the FPO members had participated occasionally, followed by 25.00 per cent of them had participated regularly and the remaining 20.83 per cent of them had not participated.

The FPOs were established with an objective of reducing the production cost. The parent organization FPO after the establishment of the associations conducted various programmes for the benefit of FPO members on crop production practices. FPO is made

self-sustainable through linkages with line departments, Krishi Vignana Kendra and University of Agricultural Sciences, Bangalore.

The FPOs are linked with the technology production system and the transfer of technology system. The members have received benefits from both the systems on various activities such as field trials on production practices in the FPO jurisdiction, identification of technical and product opportunities, popularizing the crops in the jurisdiction, implementing the cropping programme, seedling distribution camps, training programme for rural youth, consolidation of land holdings for large scale farming, apiary, vermi-composting, nursery raising, fish rearing and labour sharing for production and marketing purpose. Due to the realization of benefits that they can derive from being members to FPOs, most of the members were having high level of participation in the production orientation activities of the FPOs.

The results are in conformity with the finding of Shashi Kumar (1998), Subhash Chandra (2002), Afolami *et al.* (2012) and Augustine and Paul (2012).

#### **4.3.1.3 Participation of members in the training orientation of FPOs**

The results in Table 4.3.1. shows that in the training orientation stage of FPOs, in VHFPC as high as 65.00 per cent of the FPO members had not participated. Whereas, 18.33 per cent of them had participated occasionally and the remaining 16.67 per cent of the FPO members had regular participation. Whereas, in AHFPC 40.00 per cent of the FPO members had participated regularly, followed by 26.67 per cent of them had participated occasionally and the remaining 33.33 per cent of the FPO members had not participated.

The pooled sample shows that 49.17 per cent of the FPO members had not participated, followed by 28.33 per cent of them had participated regularly and the remaining 22.50 per cent of them had participated occasionally.

The organization of the training programmes to enhance the agricultural production and minimize the production cost of the members happened to be the prime

objective of the FPOs. FPO has provided its members need based training on the various aspects of the crop production.

A good number of training programmes were organized by FPO on crop production, animal husbandry, IPM, IDM, INM, processing and value addition, marketing and personality development of FPO members. The FPO members have actively participated in the training programmes. Hence, a greater number of FPO members had high level of participation in training programmes. The similar type of results was reported by Kusumanjali (1996), Subhash Chandra (2002) and Augustine and Paul (2012).

#### **4.3.1.4 Participation in the marketing orientation activities of FPOs.**

The results in Table 4.3.1. shows that in the marketing orientation stage of FPOs, in VHFPC as high as 61.67 per cent of the FPO members had participated occasionally. Whereas, 26.66 per cent of them had not participated and the remaining 11.67 per cent of the FPO members had regular participation. In case of AHFPC 61.67 per cent of the FPO members had participated occasionally, followed by 28.33 per cent of them had not participated and the remaining 10.00 per cent of the FPO members had participated regularly.

The pooled sample shows that 61.67 per cent of the FPO members had participated occasionally, followed by 27.50 per cent of them had not participated and the remaining 10.83 per cent of them had participated regularly.

The FPOs intend to reduce the marketing cost and enhance the income of the members. The FPOs have carried out marketing activities for the benefit of the members, which includes bulk selling, direct marketing, pooling of commodities, develop market networks and make market assessments, providing common transport facility for the produce, promoting participation of FPOs members in melas for marketing of the produces, price fixing, negotiation and processing and grading of commodities produced by FPO members.

Most of the FPO members are small and marginal farmers and are having many marketing problems with limited quantity of produce that continued to persist. Besides, transportation and handling of such small quantity of produce to the market has resulted in increased marketing cost which was not viable for most of the members before they become members of FPOs. In order to make agriculture a viable option for them, the FPOs had taken up various activities in marketing of the produce produced by the members. Hence, most of the members had high level of participation in the marketing activities of the FPOs.

The results are in agreement with the findings reported by Kusumanjali (1996, Subhash Chandra (2002) Augustine and Paul (2012) and Shanabhoga *et al.*, (2017b).

#### **4.3.2. Participation of members in training programmes conducted by farmer producer organizations**

The details on participation of members in training programmes conducted by farmer producer organizations is depicted in Table 4.3.2 and Figure 6. The participation in training was higher among the farmers of AHFPC (61.67 %) as against VHFPC (35.00%). On the whole, 48.33 per cent had participated in the training.

**Table 4.3.2.: Participation of members in training programmes conducted by farmer producer organizations**

Sl. No.	Particulars	Category	VHFPC (n <sub>1</sub> =60)		AHFPC (n <sub>2</sub> =60)		Pooled sample (N=120)	
			No.	%	No.	%	No.	%
1	Participation in training programme	Yes	21	35.00	37	61.67	58	48.33
		No	39	65.00	23	38.33	62	51.67
2	Benefits received from the training	Fully benefited	17	28.33	33	55.00	50	41.67
		Partially benefited	4	6.67	4	6.67	8	6.66
		Not benefited	39	65.00	23	38.33	62	51.67

With respect to the benefits received from the training (Figure 7) under VHFPC, 28.33 per cent of them had fully benefited, followed by partially benefitted (6.67%) and the remaining farmers (65.00 %) of them derived no benefits from training. In case of AHFPC, 55.00 per cent of the farmers were fully benefitted from training followed by partially benefitted (6.67 %) and the remaining (38.33 %) had not benefitted from the training organized by the FPO.

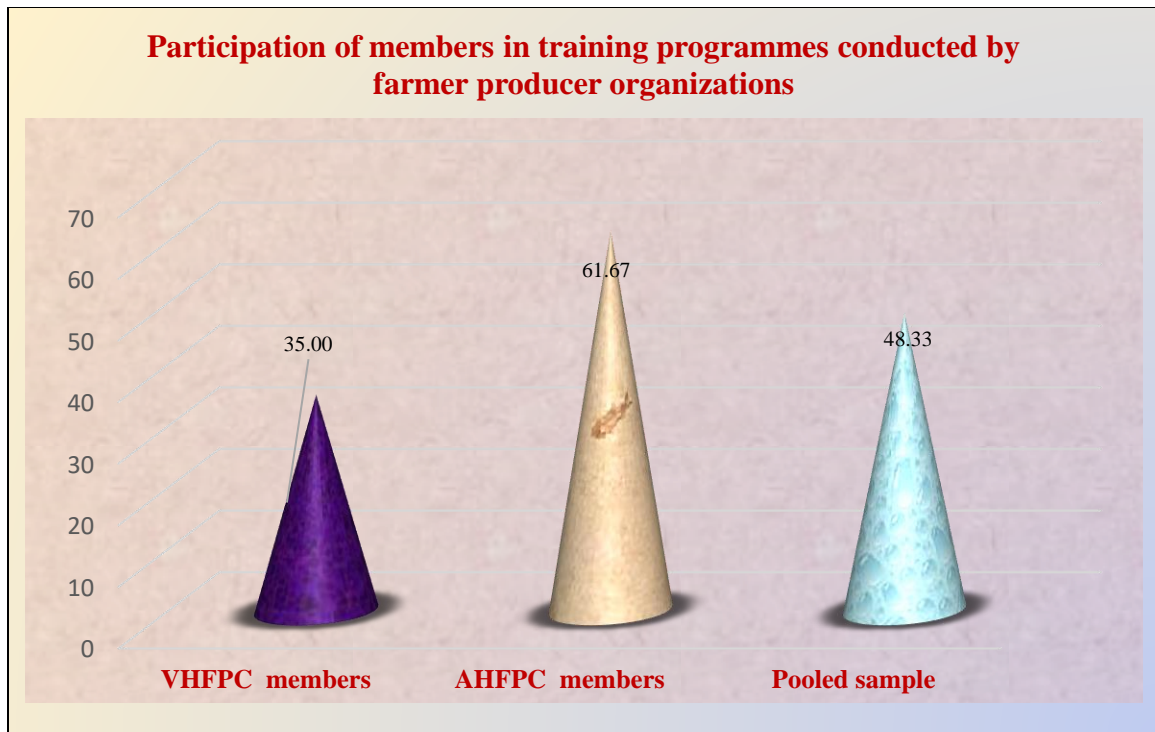
The pooled sample data depicted that, 41.67 per cent of the farmers reported as to having fully benefitted from the training while 6.66 percent indicated as partially benefitted. The remaining farmers (51.67 %) had reported no benefits from the training. The organizations conduct the training programmes to enhance the agricultural production and minimize the production cost of the members is the prime objective of the FPOs. The organizations had provided FPO members need based training on the various aspects of the crop production. Thus, the farmers had benefited from it which in turn would help in increasing the yield and annual income from the crops.

#### **4.3.3. Area of training required by the farmer producer organizations members**

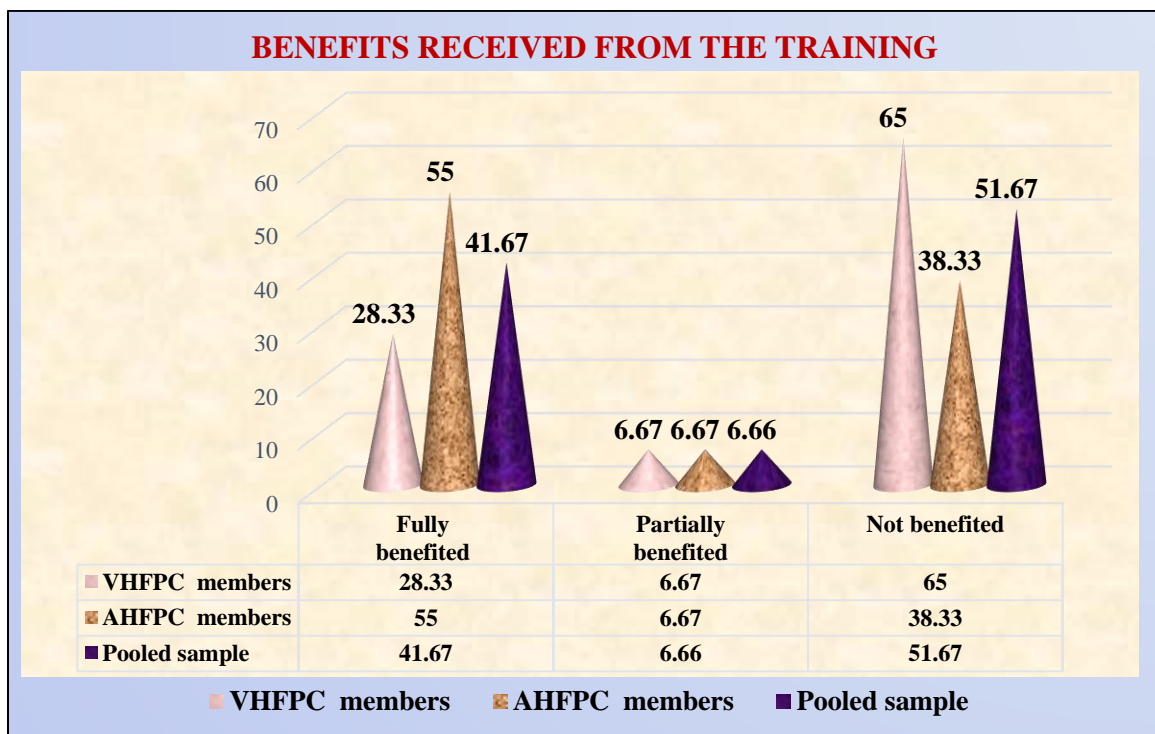
The results in the table 4.3.3 presents the data on the farmers perception regarding the need of training.

In case of VHFPC, majority (90.00%) of the members felt the need of training was high for marketing/ net-working/ linkages etc, followed by different schemes of different line departments (86.67%), production (85.00%), post-harvest and value addition (85.00%), awareness about FPO/structure/services (80.00%), FPO Governance and Management (80.00%) and FIG formation, norms, and benefits (78.33%).

In AHFPC, 96.67 per cent of the members considered production (IPM/INM/IWM/Cropping pattern etc.) as the most needed area of training, followed by Marketing/Net-working/linkages etc (93.33%), post-harvest & value addition (83.33%), different schemes of different line departments (75.00%), awareness about FPO/structure/services (65.00%), FIG formation, norms and benefits (63.33%) and FPO Governance and Management (61.67%).



**Fig. 5: Participation of members in training programmes conducted by Farmer Producer Organizations**



**Fig. 6: Benefits received from the training**

**Table 4.3.3.: Area of training required by the farmer producer organizations members**

Sl. No.	Area of Training	Need of training		Level of importance			
				Important		Very important	
		No.	%	No.	%	No.	%
<b>I</b>	<b>VHFPC (n<sub>1</sub>=60)</b>						
1	FIG formation, norms, and benefits	47	78.33	30	50.00	17	28.33
2	Awareness about FPO/structure/services/	48	80.00	31	51.67	17	28.33
3	FPO Governance and Management	48	80.00	28	46.67	20	33.33
4	Production (IPM/INM/IWM/Cropping pattern etc.)	51	85.00	18	30.00	39	65.00
5	Marketing/Net-working/linkages etc.	54	90.00	18	30.00	37	61.67
6	Post-harvest and value addition	51	85.00	16	26.67	31	51.67
7	Different schemes of different line departments	52	86.67	22	36.67	36	60.00
<b>II</b>	<b>AHFPC (n<sub>2</sub>=60)</b>						
1	FIG formation, norms and benefits	38	63.33	30	50.00	8	13.33
2	Awareness about FPO/structure/services/	39	65.00	25	41.67	14	23.33
3	FPO Governance and Management	37	61.67	29	48.33	8	13.33
4	Production (IPM/INM/IWM/Cropping pattern etc.)	58	96.67	41	68.33	17	28.33
5	Marketing/Net-working/linkages etc.	56	93.33	44	73.33	12	20.00
6	Post-harvest & value addition	50	83.33	40	66.67	10	16.67
7	Different schemes of different line departments	45	75.00	33	55.00	12	20.00
<b>III</b>	<b>Pooled sample (N=120)</b>						
1	FIG formation, norms, and benefits	85	70.83	60	50.00	25	20.83
2	Awareness about FPO/structure/services/	87	72.5	56	46.67	28	23.33
3	FPO Governance and Management	85	70.83	57	47.5	35	29.17
4	Production (IPM/INM/IWM/Cropping pattern etc.)	115	95.83	59	49.17	56	46.67
5	Marketing/Net-working/linkages etc.	111	92.5	62	51.67	49	40.83
6	Post-harvest & value addition	97	80.83	56	46.67	41	34.17
7	Different schemes of different line departments	103	85.83	55	45.83	48	40.00

However, with respect to pooled sample, purposes for which the farmers indicated the reason for training were, production (95.83%), marketing/Net-working/linkages etc (92.50%), different schemes of different line departments (85.83%), Post-harvest & value addition (80.83%), awareness about FPO/structure/services/ (72.50%), FIG formation, norms, and benefits (70.83%), FPO Governance and Management (70.83%),

This might be out of the perception that better marketing linkages will bring in better knowledge about the prices of the produce. FPO provide need-based training in that area so that it will enhance the agricultural production and decrease the production costs. FPO members require training in order to enhance their knowledge on various aspects like marketing, production, post-harvest & value addition, different schemes from various line departments. These aspects act as a key role in enhancing the production and income of the farmers. The results are in line with the study conducted by Gopala (2015).

#### **4.3.4. Awareness and participation of members in the governance of Farmer Producer Organizations**

The result in the table 4.3.4 represents the awareness and participation of members in the governance of Farmer Producer Organizations. On an average, 60.00 per cent of the farmers were members of the FPO for more than two years. This was the case in AHFPC (61.67%) and VHFPC (58.33%) as well.

With regard to the source of information regarding the FPO, 43.33 per cent of the farmers learnt it from the progressive farmers, whereas FPO staff, Village leader, and Friends acted as source of information for 27.50 per cent, 18.33 per cent and 10.83 per cent of the farmers, respectively.

It was seen that about 33.33 per cent of the farmers became the member of the FPO for subsidy, while 20.00 per cent of the farmers indicated the reason as information relate to market and technology, 26.67 per cent of the farmers mentioned forward and backward linkage facilities as the reason and the remaining farmers were made the members of the FPO forcefully.

**Table 4.3.4: Awareness and participation of members in the governance of farmers producer organizations**

Sl. No.	Stages	Category	VHFPC (n <sub>1</sub> =60)		AHFPC (n <sub>2</sub> =60)		Pooled sample (N=120)	
			No.	%	No.	%	No.	%
1	Member of FPO	Yes	60	100.00	60	100.00	120	100.00
		No	0	0.00	0	0.00	0	0.00
2	Duration of membership in FPO	One year	2	3.33	4	6.67	6	5.00
		Two years	23	38.33	19	31.67	42	35.00
		More than two years	35	58.33	37	61.67	72	60.00
3	Source of awareness about FPO	Friends/ Neighbours	11	18.33	2	3.33	13	10.83
		Village leader	16	26.67	6	10.00	22	18.33
		Progressive farmer	20	33.33	32	53.33	52	43.33
		FPO staff	13	21.67	20	33.33	33	27.50
4	Reason for becoming member of FPO	Subsidy	22	36.67	18	30.00	40	33.33
		Information related to market and technology	17	28.33	7	11.67	24	20.00
		Forward and backward linkage facilities	9	15.00	23	38.33	32	26.67
		Forcefully	12	20.00	12	20.00	24	20.00
5	Awareness about the FPO formation meeting conducted in the village	Yes	53	88.33	55	91.67	108	90.00
		No	7	11.67	5	8.33	12	10.00
6	Participation in the meeting	Yes	28	46.67	39	65.00	67	55.83
		No	32	53.33	21	35.00	53	44.17
7	Frequency of the meeting	Monthly	54	90.00	60	100.00	114	95.00
		Bimonthly	6	10.00	0	0.00	6	5.00
8	Aware about the rules of the FPO	Yes	57	95.00	60	100.00	117	97.50
		No	3	5.00	0	0.00	3	2.50
9	Received share certificate	Yes	60	100.00	60	100.00	120	100.00
		No	0	0	0	0	0	0.00
10	Aware about the board of directors of FPO	Yes	60	100.00	60	100.00	120	100.00
		No	0	0	0	0	0	0.00
11	Aware about the CEO of FPO	Yes	60	100.00	60	100.00	120	100.00
		No	0	0	0	0	0	0.00
12	Participation in the AGM of the FPO	Yes	41	68.33	39	65.00	80	66.67
		No	19	31.67	21	35.00	40	33.33
13	Duration of the intimation of the AGM notice	Before 1 week	51	85.00	60	100.00	111	92.50
		More than 1 week	9	15.00	0	0	9	7.50
14	Mode of notice	Pamphlets	60	100.00	60	100.00	120	100.00
		Announcement in sound system	0	0	0	0	0	0.00

Majority of the farmers of VHFPC (88.33%) and AHFPC (91.67 %) indicated that they were aware about the FPO meetings conducted in the village, while 46.67 per cent of the farmers from VHFPC and 65.00 per cent of the farmers from AHFPCs participated in the meetings.

About 95.00 per cent of the farmers indicated that the meetings were conducted monthly whereas the remaining farmers mentioned that the meetings were conducted bimonthly.

It is observed that majority (97.50%) of the farmers were aware about the rules of the FPO and all the members had received certificate on share. All the farmers were aware about the Board of Directors, and the CEO of the FPO.

Two-third (66.67 %) of the farmers indicated participation in the AGM of the FPO While, 92.50 per cent of the farmers indicated that they were intimated regarding the AGM notice before a week. All the farmers mentioned that the mode of notice was received through the pamphlets.

The farmers are formed into informal groups which help them to share the information related to crop production, marketing, value addition etc. The members also interact with the progressive farmers, village leaders or the FPO staff to gain knowledge as well as to know the day to day activities related to the FPOs. Majority of the farmers have become members of the FPOs to gain the facility of subsidy, market information, forward and backward linkage etc. FPO conducts the meeting frequently to share the knowledge as well as the information regarding various aspects related to agriculture which will help the farmers to enhance the production. The meetings conducted by the FPO will help the farmers to know about the activities undergone in the FPO and also about the various activities to be carried out based on different aspects of the FPOs. Members opined that their suggestions are valued greatly in each of the discussion. Each member is free to express his opinion in meetings and all the deliberations of the FPOs. The results are in line with the study conducted by Gopala (2015)

#### **4.4. Benefits availed by farmer producer organization members**

##### **4.4.1. Benefits availed by farmer producer organization members - Backward linkages**

The Benefits availed by farmer producer organization members - Backward linkages is represented in Table 4.4.1 and Figure 8.

With respect to VHFPC, majority (65.00 %) of the farmers obtained seeds from the FPO. About 58.33 per cent of the farmers indicated cost reduction as the reason for purchase of the seeds from FPO, 38.33 per cent mentioned quality material, 41.67 per cent indicated timely availability and 36.67 indicated easy access. 38.33 per cent of the farmers availed planting material from the FPO. About 36.67 and 28.33 per cent of them indicated quality material and timely availability respectively as the reasons for procurement of the planting materials from the FPO. Of all the benefits received, most of the farmers (68.33%) indicated they mainly purchased fertilizers from the FPO. The farmers mostly indicated timely availability (65.00%) and easy access (51.67%) as the reasons for purchase of the fertilizers. Whereas, 43.33 per cent of farmers availed pesticides from the FPO. About 31.67 per cent and 30.00 per cent of them indicated that timely availability and easy access respectively as the reasons for the availing the pesticides.

With respect to AHFPC, majority (81.67 %) of the farmers obtained seeds from the FPO. About 48.33 per cent of the farmers indicated cost reduction as the reason for purchase of the seeds from FPO, 23.33 per cent mentioned quality material, 46.67 per cent indicated timely availability and 60.00 indicated easy access. 43.33 per cent of the farmers availed planting material from the FPO. About equal per cent (35.00 %) of them indicated quality material and timely availability respectively as the reasons for procurement of the planting materials from the FPO. Of all the benefits received, a vast majority of the farmers (90.00%) indicated they mainly purchased fertilizers from the FPO. The farmers mostly indicated easy access (80.00%), timely availability (65.00%) and cost reduction (60.00%) as the reasons for purchase of the fertilizers. Similarly, majority (80.00%) of farmers also purchased pesticides from the FPO. About 71.67 per

cent and 60.00 per cent of them indicated that easy access and timely availability respectively as the reasons for the availing the pesticides.

**Table 4.4.1: Benefits availed by farmer producer organization members - Backward linkages**

Sl. No.	Inputs	Benefits availed		Reasons for availing benefits							
				Cost reduction		Quality material		Timely availability		Easy access	
		No.	%	No.	%	No.	%	No.	%	No.	%
<b>I</b>	<b>VHFPC (n<sub>1</sub>=60)</b>										
1.	Seeds	39	65.00	35	58.33	23	38.33	25	41.67	22	36.67
2.	Planting materials	23	38.33	7	11.67	22	36.67	17	28.33	5	8.33
3.	Fertilizers	41	68.33	17	28.33	6	10.00	39	65.00	31	51.67
4.	Pesticides	26	43.33	10	16.67	4	6.67	19	31.67	18	30.00
<b>II</b>	<b>AHFPC (n<sub>2</sub>=60)</b>										
1.	Seeds	49	81.67	29	48.33	14	23.33	28	46.67	36	60.00
2.	Planting materials	26	43.33	8	13.33	21	35.00	21	35.00	9	15.00
3.	Fertilizers	54	90.00	36	60.00	10	16.67	39	65.00	48	80.00
4.	Pesticides	48	80.00	24	40.00	17	28.33	36	60.00	43	71.67
<b>III</b>	<b>Pooled samples (N=120)</b>										
1.	Seeds	88	73.33	64	53.33	37	30.83	53	44.17	58	48.33
2.	Planting materials	49	40.83	15	12.5	43	35.83	38	31.67	14	11.67
3.	Fertilizers	95	79.17	53	44.17	16	13.33	78	65	79	65.83
4.	Pesticides	74	61.67	34	28.33	21	17.5	55	45.83	61	50.83

With respect to the pooled sample, majority (73.33 %) of the farmers obtained seeds from the FPO. About 53.33 per cent of the farmers indicated cost reduction as the reason for purchase of the seeds from FPO, 30.83 per cent mentioned quality material, and 44.17 per cent indicated timely availability. 40.83 per cent of the farmers availed planting material from the FPO. About 35.83 and 31.67 per cent of them indicated quality material and timely availability respectively as the reasons for procurement of planting materials. Of all the benefits received, most of the farmers (79.17%) indicated that they mainly purchased fertilizers from the FPO. The farmers mostly indicated timely availability (65.00 %) and easy access (65.83%) as the reasons for purchase of fertilizers. Whereas, most (61.67%) of farmers availed pesticides from the FPO. About 50.83 per cent and 45.83 per cent of them indicated that timely availability and easy access respectively as the reasons for the availing the pesticides.

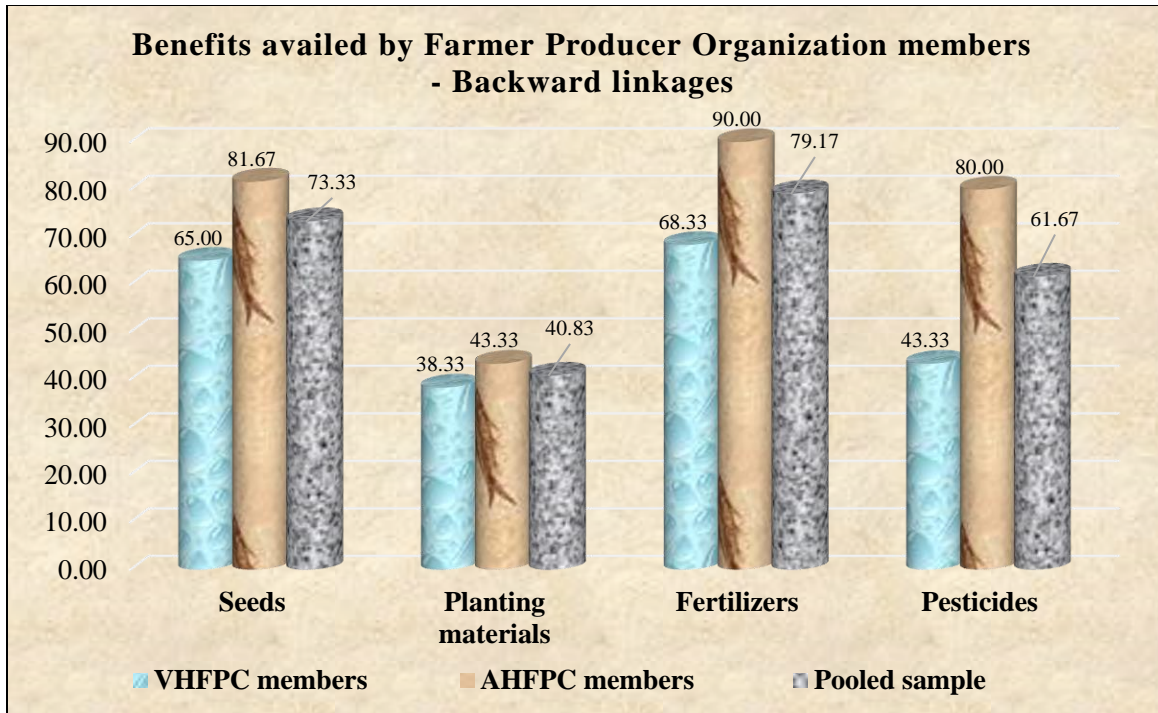
The FPOs provide various backward linkages like seeds, planting materials, pesticides and fertilizers at a reasonable cost and it is made sure that is available to the farmers at the right time. The members of the organizations have easy access to these materials which will help them to carry out the agricultural activities at the right time and also with the reduced production cost. This will also benefit the farmers to gain better returns and help to increase the agriculture production with enhanced income. The farmers have received numerous benefits from these interventions which included easy accessibility to quality agricultural inputs without the fear of spurious products and assured availability of the inputs throughout the season. The results are in line with the study conducted by Swati *et al.*, (2019).

#### **4.4.2. Benefits availed by farmer producer organization members - Financial support**

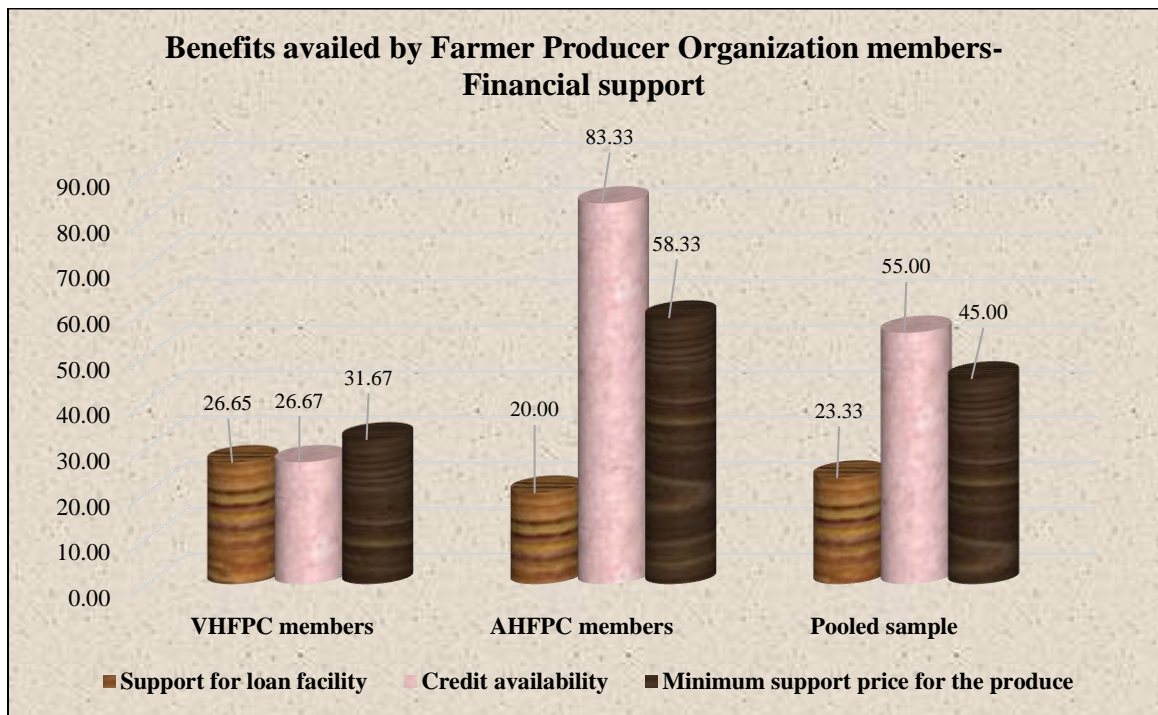
The results in the table 4.4.2 and figure 9 indicates the various financial support availed from the FPOs. In case of VHFPC, 26.66 per cent of the farmers availed the benefit of support for loan facility, the reason for availing the benefits of support for loan facility were low rate of interest (15.00%), timely availability (13.33%), easy access (6.67%) and minimum procedures (15.00%). 26.67 per cent of them availed the benefits of credit availability.

**Table 4.4.2: Benefits availed by farmer producer organization members - Financial support**

Sl. No.	Financial support	Benefits availed		Reasons for availing benefits							
				Low rate of interest		Timely availability		Easy access		Minimum procedure	
		No.	%	No.	%	No.	%	No.	%	No.	%
<b>I</b>	<b>VHFPC (n<sub>1</sub>=60)</b>										
1.	Support for loan facility	16	26.65	9	15.00	8	13.33	4	6.67	9	15.00
2.	Credit availability	16	26.67	0	0.00	13	21.67	7	11.67	13	21.67
3.	Minimum support price for the produce	19	31.67	0	0.00	6	10.00	10	16.67	15	25.00
<b>II</b>	<b>AHFPC (n<sub>2</sub>=60)</b>										
1.	Support for loan facility	12	20.00	2	3.33	4	6.67	10	16.67	10	16.67
2.	Credit availability	50	83.33	15	25.00	40	66.67	45	75.00	25	41.67
3.	Minimum support price for the produce	35	58.33	0	0.00	13	21.67	25	41.67	33	55.00
<b>III</b>	<b>Pooled samples (N=120)</b>										
1.	Support for loan facility	28	23.33	11	9.17	12	10.00	14	11.67	19	15.83
2.	Credit availability	66	55.00	15	12.5	53	44.17	52	43.33	38	31.67
3.	Minimum support price for the produce	54	45.00	0	0.00	19	15.83	35	29.17	48	40.00



**Fig. 7: Benefits available by Farmer Producer Organization members - Backward linkages**



**Fig. 8: Benefits available by Farmer Producer Organization members - Financial support**

The reason for availing the benefits of credit availability were timely availability (21.67 %), easy access (11.67 %) and minimum procedures (21.67 %). Whereas, 31.67 per cent of them availed the benefits of MSP for the produce. The reason for availing the benefits of MSP for the produce were timely availability (10.00 %), easy access (16.67 %) and minimum procedures (25.00 %).

With respect to AHFPC, 20.00 per cent of the farmers availed the benefit of support for loan facility, the reason for availing the benefits of support for loan facility were low rate of interest (3.33 %), timely availability (6.67 %), easy access (16.67%) and minimum procedures (16.67 %). Majority (83.33 %) of them availed the benefits of credit availability. The reason for availing the benefits of credit availability were low rate of interest (25.00 %), timely availability (66.67 %), easy access (75.00 %) and minimum procedures (41.67 %). Whereas, little more than half (58.33 %) of them availed the benefits of MSP for the produce. The reason for availing the benefits of MSP for the produce were timely availability (21.67 %), easy access (41.67 %) and minimum procedures (55.00 %).

With respect to pooled sample, 23.33 per cent of the farmers availed the benefit of support for loan facility. The reason for availing the benefits of support for loan facility were low rate of interest (9.17 %), timely availability (10.00 %), easy access (11.67%) and minimum procedures (15.83 %). Little more than half (55.00 %) of them availed the benefits of credit availability. The reason for availing the benefits of credit availability were low rate of interest (12.50 %), timely availability (44.17 %), easy access (43.33 %) and minimum procedures (31.67 %). Whereas, nearly half (45.00 %) of them availed the benefits of MSP for the produce. The reason for availing the benefits of MSP for the produce were timely availability (15.83 %), easy access (29.17 %) and minimum procedures (40.00 %).

The FPO members gain a very much benefits from the financial support like credit facilities, MSP etc. so that the farmers have a hope of a guaranteed price and assured market to the produce and also the produce can be protected from the price fluctuations and market imperfections which is a major threat to the AHFPC members.

The credit facility provides helps in facilitating the funding requirements at the time of initial production, and term loans for the further development activities.

#### **4.4.3 Custom hiring Center (CHC) facility availed by farmer producer organization members**

The data in the table 4.4.3 and figure 10 indicates the various custom hiring center (CHC) facilities availed from the FPOs. In case of VHFPC, 55.00 per cent of the farmers availed the benefit of farm machinery, the reason for availing the benefits of farm machinery were cost reduction (16.67 %), seasonal availability (45.00%) and less rent (28.33%). 38.33 per cent of them availed the benefits of various resource conservation tools. The reason for availing the benefits of various resource conservation tools were cost reduction (15.00 %), seasonal availability (28.33 %) and less rent (11.67 %). Whereas, 56.67 per cent of them availed the benefits of various water conservation tools. The reason for availing the benefits of various water conservation tools were cost reduction (20.00 %), seasonal availability (50.00 %) and less rent (20.00 %).

With respect to AHFPC, cent per cent of the farmers availed the benefit of farm machinery, the reason for availing the benefits of farm machinery were cost reduction (45.00 %), seasonal availability (71.67 %) and less rent (60.00 %). 60.00 per cent of them availed the benefits of various resource conservation tools. The reason for availing the benefits of various resource conservation tools were cost reduction (60.00 %), seasonal availability (1.67 %) and less rent (20.00 %). Whereas, 66.67 per cent of them availed the benefits of various water conservation tools. The reason for availing the benefits of various water conservation tools were cost reduction (33.33 %), seasonal availability (56.67 %) and less rent (30.00 %).

With respect to pooled samples, 77.50 per cent of the farmers availed the benefit of farm machinery. The reason for availing the farm machinery were cost reduction (30.83 %), seasonal availability (58.33 %) and less rent (44.17 %). 49.17 per cent of them availed the benefits of various resource conservation tools.

**Table 4.4.3: Custom hiring Center (CHC) facility availed by farmer producer organization members**

Sl. No.	CHC facility	Benefits availed		Reasons for availing benefits					
				Cost reduction		Seasonal availability		Less rent	
		No.	%	No.	%	No.	%	No.	%
<b>I</b>	<b>VHFPC (n<sub>1</sub>=60)</b>								
1.	Farm machinery	33	55.00	10	16.67	27	45	17	28.33
2.	Resource conservation tools	23	38.33	9	15.00	17	28.33	7	11.67
3.	Water conservation tools	34	56.67	12	20.00	30	50	12	20.00
<b>II</b>	<b>AHFPC (n<sub>2</sub>=60)</b>								
1.	Farm machinery	60	100.00	27	45.00	43	71.67	36	60.00
2.	Resource conservation tools	36	60.00	36	60.00	1	1.67	12	20.00
3.	Water conservation tools	40	66.67	20	33.33	34	56.67	18	30.00
<b>III</b>	<b>Pooled sample (N=120)</b>								
1.	Farm machinery	93	77.5	37	30.83	70	58.33	53	44.17
2.	Resource conservation tools	59	49.17	45	37.5	18	15.00	7	5.83
3.	Water conservation tools	74	61.67	32	26.67	64	53.33	30	25.00

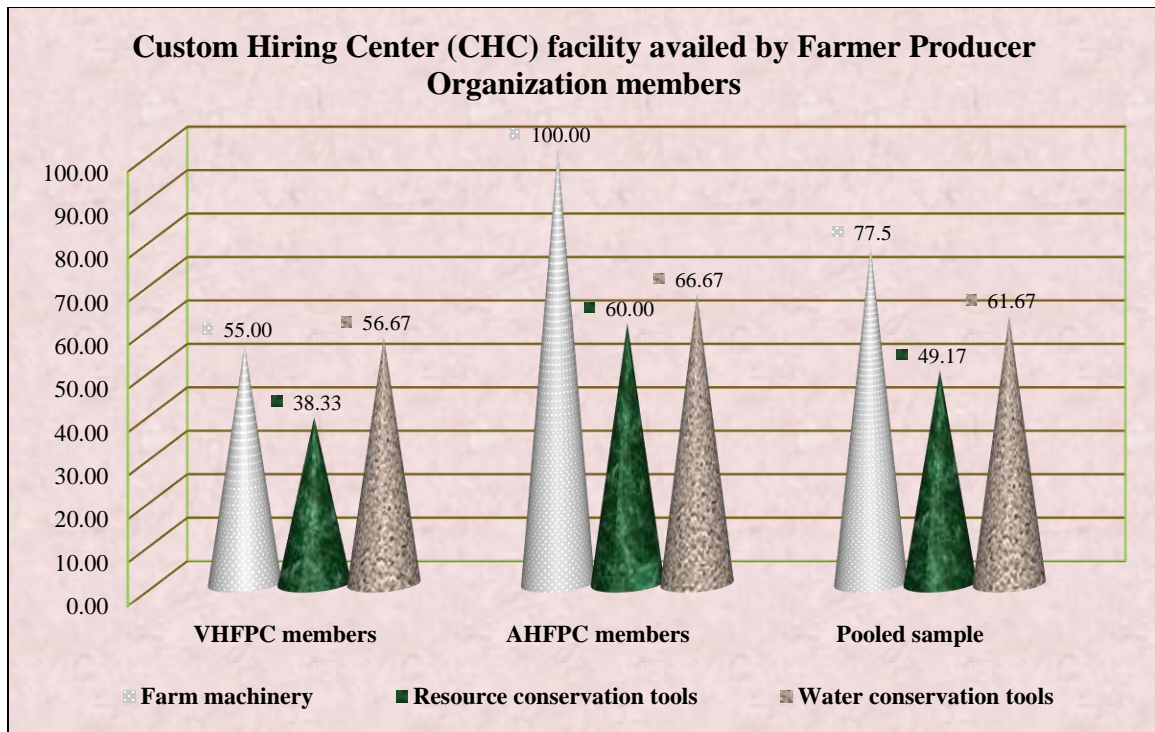
The reason for availing the benefits of various resource conservation tools were cost reduction (37.50 %), seasonal availability (15.00 %) and less rent (5.83 %). Further 61.67 per cent of the respondent members availed the benefits of various water conservation tools. The reason for availing the benefits of various water conservation tools were cost reduction (26.67 %), seasonal availability (53.33 %) and less rent (25.00 %).

The CHC facilities provided by the FPO provides access to costly farm machinery for small and marginal farmers, facilitates timeliness in farm operations and efficient use of inputs. Encouraging the establishment of the custom hiring centers by the FPOs which offer machinery at affordable rates has improved the productivity and reduced the drudgery of the farm labour. Overall, it will help to reduce the production cost which in turn adds on to the profit. The results are in line with the study conducted by Swati *et al.*, (2019).

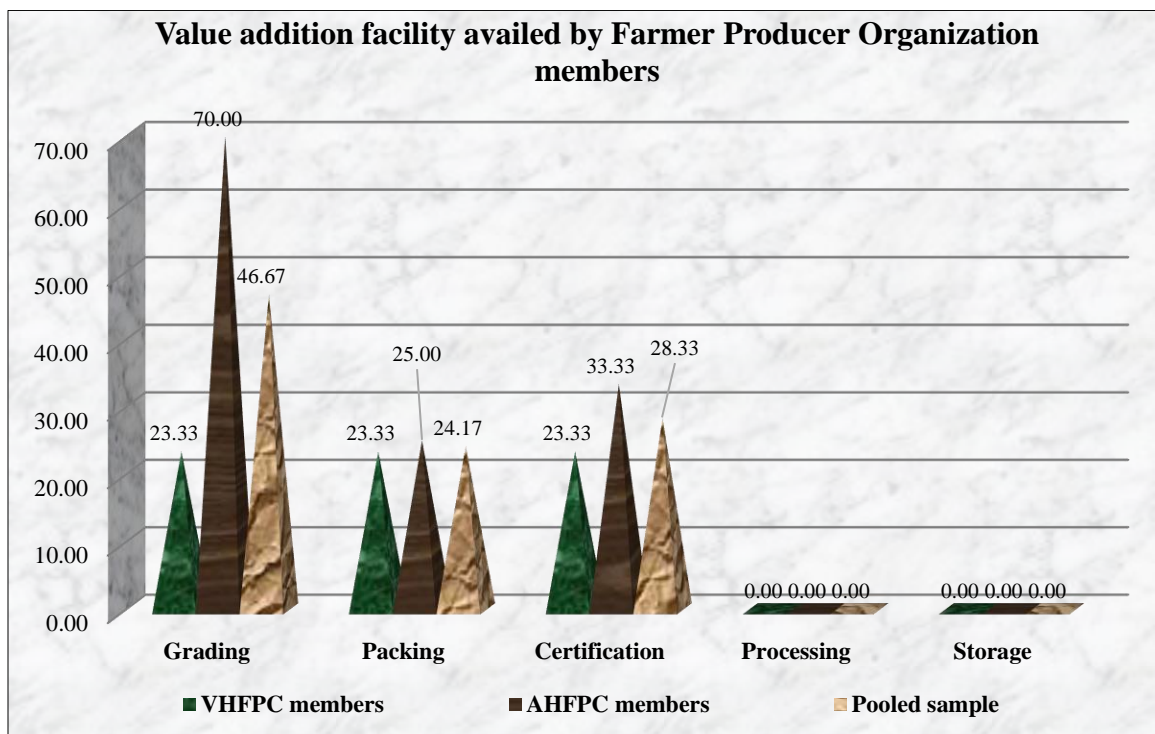
#### **4.4.4. Value addition facility availed by farmer producer organization members**

The data in the table 4.4.4 and figure 11 indicates the value addition facility availed from the FPOs. In case of VHFPC, equal per cent (23.33 %) of the farmers availed the benefit of grading, packing and certification, the reason for availing the benefits of grading were better price (20.00 %), less post-harvest losses (3.33 %), better self-life (6.67 %) and easy access (8.33 %). The reason for availing the benefits of packing were better price (11.67 %), less post-harvest losses (21.67 %), better self-life (10.00 %) and easy access (1.67 %). The reason for availing the benefits of certification of the produce were better price (23.33 %), and easy access (3.33 %). The benefits like processing and storage facilities were not availed by the farmers. The reason for not availing these facilities were that the FPOs have no storage and processing facilities for the produce.

With respect to AHFPC, 70.00 per cent of the farmers availed the benefit of grading, the reason for availing the benefits of grading were better price (58.33 %), less post-harvest losses (53.33 %), better self-life (8.33 %) and easy access (33.33 %). 25.00 per cent of them availed the benefits of packing of the produce.



**Fig. 9: Custom hiring Center (CHC) facility availed by Farmer Producer Organization members**



**Fig. 10: Value addition facility availed by Farmer Producer Organization members**

**Table 4.4.4: Value addition facility availed by farmer producer organization members**

Sl. No.	Value addition	Benefits availed		Reasons for availing benefits							
				Better price		Less post-harvest losses		Better self-life		Easy access	
		No.	%	No.	%	No.	%	No.	%	No.	%
<b>I</b>	<b>VHFPC (n<sub>1</sub>=60)</b>										
1.	Grading	14	23.33	12	20.00	2	3.33	4	6.67	5	8.33
2.	Packing	14	23.33	7	11.67	13	21.67	6	10.00	1	1.67
3.	Certification	14	23.33	14	23.33	0	0.00	0	0.00	2	3.33
4.	Processing	0	0.00	-	-	-	-	-	-	-	-
5.	Storage	0	0.00	-	-	-	-	-	-	-	-
<b>II</b>	<b>AHFPC (n<sub>2</sub>=60)</b>										
1.	Grading	42	70.00	35	58.33	32	53.33	5	8.33	20	33.33
2.	Packing	15	25.00	9	15.00	10	16.67	2	3.33	8	13.33
3.	Certification	20	33.33	20	33.33	0	0.00	0	0.00	9	15.00
4.	Processing	0	0.00	-	-	-	-	-	-	-	-
5.	Storage	0	0.00	-	-	-	-	-	-	-	-
<b>III</b>	<b>Pooled samples (N=120)</b>										
1.	Grading	56	46.67	47	39.17	34	28.33	9	7.5	25	20.83
2.	Packing	29	24.17	16	13.33	23	19.17	8	6.67	9	7.50
3.	Certification	34	28.33	34	28.33	0	0.00	0	0.00	11	9.17
4.	Processing	0	0.00	-	-	-	-	-	-	-	-
5.	Storage	0	0.00	-	-	-	-	-	-	-	-

The reason for availing the benefits of packing were better price (15.00 %), less post-harvest losses (16.67 %), better self-life (3.33 %) and easy access (13.33 %). Whereas, 33.33 per cent of them availed the benefits of certification of the produce. The reason for availing the benefits of certification of the produce were better price (33.33 %), and easy access (15.00 %). The benefits like processing and storage facilities were not availed by the farmers.

With respect to pooled samples, 46.67 per cent of the farmers availed the benefit of grading, the reason for availing the benefits of grading were better price (39.17 %), less post-harvest losses (28.33 %), better self-life (7.50 %) and easy access (20.83 %). 24.17 per cent of them availed the benefits of packing of the produce. The reason for availing the benefits of packing were better price (13.33 %), less post-harvest losses (19.17 %), better self-life (6.67 %) and easy access (7.50 %). Whereas, 28.33 per cent of them availed the benefits of certification of the produce. The reason for availing the benefits of certification of the produce were better price (28.33 %), and easy access (9.17 %). The benefits like processing and storage facilities were not availed by the farmers.

The members of the FPOs have the facility of the value addition like grading, packing and certification which fetch a higher price for the farmers produce. Processing and storage facilities will be added in the near future which will highly benefit the farmer for fetching higher return for the produce. This also helps the produce for better value realization. The results are in line with the study conducted by Swati *et al.*, (2019).

#### **4.4.5. Marketing facility availed by farmer producer organization members**

The data in the table 4.4.5 gives the marketing facility availed by the farmers. About 88.33 per cent of the farmers from VHFPC and 93.33 per cent of the farmers from AHFPC indicated that they were getting the benefits of the market information.

With respect to VHFPC, the source of market information was mainly APMC (26.67 %), followed by FPO (25.00%), private agency (20.00 %), media (18.33 %) and progressive farmers (10.00 %).

**Table 4.4.5: Marketing facility availed by farmer producer organization members**

Sl. No.	Marketing	Category	VHFPC (n1=60)		AHFPC (n2=60)		Pooled samples (N=120)	
			No.	%	No.	%	No.	%
1	Benefits of market information	Yes	53	88.33	56	93.33	109	90.83
		No	7	11.67	4	6.67	11	9.17
2	Source of Market information	Progressive farmer	6	10.00	21	35.00	27	22.50
		Private agency/ input dealers	12	20.00	6	10.00	18	15.00
		Media	11	18.33	5	8.33	16	13.33
		APMC	16	26.67	7	11.67	23	19.17
		FPO	15	25.00	21	35.00	36	30.00
3	Frequency of receiving the information	Daily	47	78.33	42	70.00	89	74.17
		Weekly	13	21.67	18	30.00	31	25.83
4	Place of marketing the produce	Weekly market	7	11.67	39	65.00	46	38.33
		Regulated market	20	33.33	45	75.00	65	54.17
		Farm gate sale	43	71.67	42	70.00	85	70.83
		Through FPO	9	15.00	12	20.00	21	17.5
		Direct marketing from FPO	43	71.67	28	46.67	71	59.17
5	Marketing assistance from FPO	Yes	41	68.33	48	80.00	89	74.17
		No	19	31.67	12	20.00	31	25.83

About 78.33 per cent of the farmers indicated that they received market information daily while the remaining (21.67 %) farmers mentioned that they received market information on weekly basis. It can be seen that about 71.67 per cent of the farmers sold the produce at the farm gate, while 15.00 per cent of the farmers sold through the FPO. About 68.33 per cent of the farmers were considering the marketing assistance from the FPO and 71.67 per cent of them marketed their produce by direct marketing facilitated through FPO.

With respect to AHFPC, the source of market information was mainly FPO (35.00 %), followed by progressive farmers (35.00%), APMC (11.67 %), private agency (10.00 %) and media (8.33 %). About 70.00 per cent of the farmers indicated that they received market information daily while the remaining (30.00 %) farmers mentioned that they received market information on weekly basis. It can be seen that about 70.00 per cent of the farmers sold the produce at the farm gate, while 20.00 per cent of the farmers sold through the FPO. About 80.00 per cent of the farmers were considering the marketing assistance from the FPO and 46.67 per cent of them marketed their produce by direct marketing facilitated through FPO.

With respect to pooled sample, the source of market information was mainly FPO (30.00 %), followed by progressive farmers (22.50%), APMC (19.17 %), private agency (15.00 %) and media (13.33 %). About 74.17 per cent of the farmers indicated that they received market information daily while the remaining (25.83 %) farmers mentioned that they received market information on weekly basis. It can be seen that about 70.83 per cent of the farmers sold the produce at the farm gate, while 17.50 per cent of the farmers sold through the FPO. About 74.17 per cent of the farmers were considering the marketing assistance from the FPO and 59.17 per cent of them marketed their produce by direct marketing facilitated through FPO.

The FPO members were trained on the various aspects of marketing. The direct marketing without involvement of the middlemen is promoted through marketing melas. These FPOs have also promoted value added products which have expanded markets. The members have also been trained on marketing intelligence, bargaining, processing,

grading and transportation. The marketing problems of small and marginal farmers with limited quantity for sale continued to persist which can be resolved through FPO. Besides, transportation and handling of marketable produce the FPOs helped in reducing the middlemen in the marketing channel through direct marketing. The results are similar to the study conducted by Gopala (2015).

#### **4.5. Impact of the Farmer Producer Organisations on yield, annual income and social status of its members and non-members.**

##### **4.5.1. Impact of FPO on yield, annual income and social status of banana growers**

The results in the table 4.5.1 gives the impact of FPO on yield, annual income and social status of the banana growers. The mean score of the yield among the members were found to be 141.83 qtl/acre and the mean score of the yield among the non-members (not within the organization) was found to be 126.63 qtl/ acre. There was a significant difference in the yield of banana across the members and non-members indicating the impact of FPO. The “t” Value was 1.711 and significant at 5%. The impact of the FPO on yield can be reflected in the income as well. The annual income of the members (Rs. 241514) were significantly higher than the non-members (Rs. 202278). The mean score of the social status among the members was 30.40 and among the non-members it was found to be 29.84. The price of banana obtained by the members was Rs. 2125.00 per quintal whereas the non-members obtained Rs. 1985.00 per quintal. The participation in the FPO had no impact on the social status. The results are in line with the study conducted by Arunkumar (2005), Srikanth (2007), Vinay Kumar (2008), Gopala (2015) and Shanabhoga *et al.*, (2017d).

**Table 4.5.1: Impact of FPO on yield, annual income and social status of banana growers**

Sl. No.	Impact	Mean score		‘t’ value
		Members (n <sub>1</sub> =60)	Non-members (n <sub>2</sub> =30)	
1.	Yield (qtl/acre)	141.83	126.63	1.711*
2.	Annual income (Rs.)	241514	202278	1.819*
3.	Social status (score)	30.40	29.84	0.872 <sup>NS</sup>

NS = Non-Significant; \*Significant at 5 % level; \*\*Significant at 1 % level

#### 4.5.2. Impact of FPO on yield, annual income and social status of tomato growers.

The impact of FPO on tomato growers were similar to that of banana growers. The yield was seen to differ significantly across members (84.30 qtl/acre) and non-members (71.25 qtl/acre) with a “t” value of 2.625 indicating the positive impact of FPO. Similar impact was seen on income as well with the “t” value of 3.779 which is found to be significant at one per cent level of probability. The income of the members were Rs. 148628 while it was Rs. 104068 for the non-members. The mean score of the social status among the members was 31.02 and among the non-members it was found to be 30.97. The participation in the FPO had no impact on the social status. The price of tomato obtained by the members of FPO was Rs. 2189.50 per quintal and the non-members obtained Rs. 1943.33 per quintal.

**Table 4.5.2: Impact of FPO on yield, annual income and social status of tomato growers**

Sl. No.	Impact	Mean score		‘t’ value
		Members (n <sub>1</sub> =60)	Non-members (n <sub>2</sub> =30)	
1.	Yield (qt/acre)	84.30	71.25	2.625**
2.	Annual income (Rs.)	148628	104068	3.779**
3.	Social status (score)	31.02	30.97	0.912 <sup>NS</sup>

NS = Non-Significant; \*Significant at 5 % level; \*\*Significant at 1 % level

The FPOs have changed agricultural scenario of the area. The important changes that FPOs brought in the area are; crop diversification, introduction of new technology, reduction in the marketing cost through pooled marketing, reduction in production cost through bulk purchasing, promotion of the income generating activities and many more. Apart from the factors discussed above, the other important reason that has caused the increase in the income of the farmers is promotion of direct marketing by minimization of middlemen intervention in the marketing chain. The elimination of middle men has helped in enhancement of producer share in the consumer rupee. The association has promoted direct marketing of banana and tomato. Because of all these factors, there is considerable increase in the productivity of the crops and cost minimization leading to

increased income among the members. The social status refers to the improvement in rank or position of the members in the society due to their participation in the activities of FPOs. The membership in FPOs helped the members to gain knowledge, skills and increased agriculture production and income. The knowledge and skills obtained through FPOs by members was suitably recognized by fellow members and others. Some of the recognitions created by FPOs are, consideration of members as a resource person in the village, consultation of members for agriculture information and adoption of new technology, consultation of members by others before taking decisions related to agriculture, consideration of members by officials of developmental departments in implementation of new programmes and inevitable presence of members in the group decision process. The similar results were also reported by other researchers such as Arunkumar (2005), Srikanth (2007) Josily Samuel *et al.* (2011) and Gopala (2015).

#### **4.6. Factors contributing to success and sustainability of the Farmer Producer Organisations**

##### **4.6.1. Comparison of different technical and organizational factors contributing to success of farmer producer organizations**

The comparison of different technical and organizational factors contributing to the success of FPOs is represented in Table 4.6.1.

It can be seen that there exists significant difference across Varuna and AHFPC in bringing out the publication and literature as evident from the “t” value of 7.868, which is found to be significant at one per cent level, there also exists significant difference in the skilled members between the FPOs with the significant difference with the “t” value 6.216 which means that the members are not equally skilled in the two FPOs. A significant difference across the FPOs in tie up with agricultural universities to facilitate access to improved technology and expert advice (t value:7.107), extension support (t value: 2.857), regular auditing (t value: 2.926), providing of timely inputs (t value: 7.198), and in adoption of improved technology and infrastructure (t value: 4.303). The significant difference (t value: 4.667) was seen at the overall level as well. The results are

in line with the study conducted by Subhashree Sahu (2014) and Deeptee Dewangan (2018).

**Table 4.6.1: Comparison of different technical and organizational factors contributing to success of farmer producer organizations**

Sl. No.	Particulars	Mean value		't' value
		VHFPC (n <sub>1</sub> =60)	AHFPC (n <sub>2</sub> =60)	
1	Brings out farm publication and literature for its members	2.03	3.60	7.868**
2	Skilled members	2.63	3.85	6.216**
3	Tie- up with the agricultural universities to facilitate access to improved technology and expert advice	2.58	4.12	7.107**
4	Provide extension support	3.37	3.98	2.857*
5	Regular audit	3.80	4.37	2.926*
6	Provides timely inputs	2.83	4.12	7.198**
7	Adoption of improved technology and modern infrastructure	3.08	4.00	4.303**
<b>Overall</b>		<b>2.90</b>	<b>4.00</b>	<b>4.667**</b>

NS = Non-Significant; \*Significant at 5 % level; \*\*Significant at 1 % level

#### **4.6.2. Comparison of different marketing factors contributing to success of Farmer Producer Organizations**

The comparison of the marketing factors leading to the success of the FPOs is represented in Table 4.6.2. There existed significant difference among the factors across Varuna and AHFPC with t value being significant at 5 per cent and one per cent level. The factors with significant difference were Well-developed processing facilities (t value: 3.728), Well-equipped transport facilities (t value: 6.733), Well-built market intelligence system to provide timely and reliable market information (t value: 1.722), Grading and packaging of the produce (t value: 1.684), Enterprise diversification (t value: 3.914), Elimination of middlemen (t value: 4.921), Improved storage structures (t value: 5.974),

and Certification of the produce (t value: 14.207). The significant difference was seen at the overall level as well (t value:2.187). The results are in line with the study conducted by Subhashree Sahu (2014) and Deeptee Dewangan (2018).

**Table 4.6.2: Comparison of different marketing factors contributing to success of farmer producer organizations**

Sl. No.	Particulars	Mean value		't' value
		VHFPC (n <sub>1</sub> =60)	AHFPC (n <sub>2</sub> =60)	
1	Well-developed processing facilities	1.68	2.37	3.728**
2	Well-equipped transport facilities	2.60	3.88	6.733**
3	Well-built market intelligence system to provide timely and reliable market information	3.70	4.02	1.722*
4	Grading and packaging of the produce	2.47	2.78	1.684*
5	Enterprise diversification	2.52	3.37	3.914**
6	Quick payment to farmers	3.23	3.37	0.515 <sup>NS</sup>
7	Elimination of middlemen	2.72	3.62	4.921**
8	Improved storage structures	1.40	2.25	5.974**
9	Certification of the produce	2.60	4.58	14.207**
10	Availability of suitable market for the produce	3.72	3.95	1.129 <sup>NS</sup>
<b>Overall</b>		<b>2.66</b>	<b>3.40</b>	<b>2.187*</b>

NS = Non-Significant; \*Significant at 5 % level; \*\*Significant at 1 % level

#### **4.6.3. Comparison of different economic factors contributing to success of farmer producer organizations**

The comparison of the economic factors leading to the success of the FPOs is represented in Table 4.6.3. With respect to the different economic factors contributing to the success of the FPO, it was observed that there did not exist any difference across the FPOs. The statements considered for the comparison were, Access to credit facilities, Government support, and Private / NGO funding. Thus, we can consider that there has

been very less difference in the economic factors leading to the success of both FPO. The results are in line with the study conducted by Subhashree Sahu (2014) and Deeptee Dewangan (2018).

**Table 4.6.3: Comparison of different economic factors contributing to success of farmer producer organizations**

Sl. No.	Statements	Mean value		't' value
		VHFPC (n <sub>1</sub> =60)	AHFPC (n <sub>2</sub> =60)	
1	Access to credit facilities	2.08	2.25	0.79 <sup>NS</sup>
2	Government support	2.52	2.65	0.53 <sup>NS</sup>
3	Private / NGO funding	2.27	2.57	1.35 <sup>NS</sup>
Overall		2.29	2.49	1.143 <sup>NS</sup>

NS = Non-Significant; \*Significant at 5 % level; \*\*Significant at 1 % level

#### 4.6.4. Organizational profile to measure the sustainability of the farmer producer organizations

The organizational profile of the FPO is represented in Table 4.6.4. It can be seen that the number of members, villages covered, and activities had increased across both the FPO from 2017 to 2019. The number of outlets has been remained same in case of VHFPC and it has increased in AHFPC.

**Table 4.6.4: Organizational profile to measure the sustainability of the farmer producer organizations**

Sl. No.	Category	VHFPC (n <sub>1</sub> =60)			AHFPC (n <sub>2</sub> =60)		
		2017	2018	2019	2017	2018	2019
1	Members	890	960	1000	764	800	1000
2	Villages covered	20	22	24	29	30	34
3	Outlets	1	1	1	1	2	2
4	Activities	3	4	6	6	7	10

The number of members has been increased from 890 in 2017 to 1000 in 2019 in Varuna, with villages covered being increased from 20 in 2017 to 24 in 2019, one outlet, and 3 activities from 2017 to 6 activities 2019. However, with regard to AHFPC, the number of members has increased from 764 in 2017 to 1000 in 2019. The villages covered increased from 29 in 2017 to 34 in 2019, while the numbers of outlets were increased from one in 2017 to 2 in 2019. The activities increased from 6 in 2017 to 10 in 2020. The results are in line with the study conducted by Subhashree Sahu (2014) and Deeptee Dewangan (2018).

#### **4.6.5. Economic efficiency to measure the sustainability of the farmer producer organizations**

The economic efficiency of the FPO is represented in Table 4.6.5. It can be seen that the number of days of employment generated, portion of profit and annual turnover has increased across both the FPO from 2017 to 2019. Number of days of employment generated varied across the FPOs and years as well. In case of VHFPC, the number days of employment was 600 in 2017, while it was 1200 in 2018 and 2700 to 2019 which shows a steep increase in number of days of employment generation. The FPO received a fund of Rs. 2500000 in 2017 and remained same in 2018 and 2019.

**Table 4.6.5: Economic efficiency to measure the sustainability of the farmer producer organizations**

Sl. No.	Category	VHFPC (n <sub>1</sub> =60)			AHFPC (n <sub>2</sub> =60)		
		2017	2018	2019	2017	2018	2019
1	Number of days of employment generated	600	1200	2700	1200	1800	2000
2	Funds (Rs.)	2500000	2500000	2500000	2500000	2500000	2500000
3	Portion of profit (%)	10	12	15	10	15	20
4	Annual turnover	1000000	1200000	1500000	6000000	7000000	10000000

The annual turnover in VHFPC was Rs. 1000000 in 2017, Rs. 1200000 in 2018 and Rs. 1500000 in 2019. In case of AHFPC, the number days of employment generated in 2017 was 1200 and 2018 was 1800, while it was 2000 in 2019. The FPO has also received fund of Rs. 2500000 from 2017 to 2019. The annual turnover was Rs. 6000000 in 2017, Rs. 7000000 in 2018 and Rs. 10000000 in 2019. The results are in line with the study conducted by Subhashree Sahu (2014) and Deeptee Dewangan (2018).

#### 4.6.6. Social equity to measure the sustainability of the farmer producer organizations

With regard to social equity of the FPO depicted in table 4.6.6, 75.00 per cent of the members in VHFPC agreed on Equitable access to organizational services , while it was 65.00 per cent in AHFPC. About 53.33 per cent of the VHFPC members agreed on Equitable access to organizational assets and it was 78.33 per cent in AHFPC. Involvement of poor and marginal farmers in the organization was agreed upon by all the members of both the FPOs. Ethical and transparent dealings were agreed upon by about 66.67 per cent and 90.00 per cent of the members in VHFPC and AHFPC respectively. The results are in line with the study conducted by Subhashree Sahu (2014) and Deeptee Dewangan (2018).

**Table 4.6.6: Social equity to measure the sustainability of the farmer producer organizations**

Sl. No.	Statements	Response	VHFPC (n <sub>1</sub> =60)		AHFPC (n <sub>2</sub> =60)	
			No.	%	No.	%
1.	Equitable access to organizational services	Agree	45	75.00	39	65.00
		Disagree	15	25.00	21	35.00
2.	Equitable access to organizational assets	Agree	32	53.33	47	78.33
		Disagree	28	46.67	13	21.67
3.	Involvement of poor and marginal farmers in the organization	Agree	60	100.00	60	100.00
		Disagree	0	0.00	0	0.00
4.	Ethical and transparent dealings	Agree	40	66.67	54	90.00
		Disagree	20	33.33	6	10.00

#### 4.6.7. Environmental accountability to measure the sustainability of the farmer producer organizations

The details on environmental accountability is represented in Table 4.6.7. 40.00 per cent the farmers of VHFPC and 50.00 per cent of the farmers from AHFPC agreed that the products produced in conditions and processes that confer to the international ISO standards, 40.00 per cent and 60.00 per cent from VHFPC and AHFPC respectively responded that the products certified by a nationally recognized agency, none of the products were organically grown by framers under VHFPC and 30.00 per cent of the produce procured are organically grown under AHFPC. 70.00 per cent of the farmers from VHFPC agreed that the produce was graded whereas, all the farmers of AHFPC agreed that the produce was graded. The results are in line with the study conducted by Subhashree Sahu (2014) and Deeptee Dewangan (2018).

**Table 4.6.7: Environmental accountability to measure the sustainability of the farmer producer organizations**

Sl. No.	Statements	Response	VHFPC (n <sub>1</sub> =10)		AHFPC (n <sub>2</sub> =10)	
			No.	%	No.	%
1.	Are the products produced in conditions and processes that confer to the international ISO standards?	Yes	4	40.00	5	50.00
		No	6	60.00	5	50.00
2.	Are the products certified by a nationally recognized agency?	Yes	4	40.00	6	60.00
		No	6	60.00	4	40.00
3.	Are the majority of the produce procured are organically grown?	Yes	0	0.00	3	30.00
		No	10	100.00	7	70.00
4	Are the produce graded?	Yes	7	70.00	10	100.00
		No	3	30.00	0	0.00

The study showed that the number of members, villages covered, outlets are found to be constant and activities were continuously increasing under VHFPC and in case of AHFPC the number of members and activities were continuously increasing and

villages covered and outlets are found to be constant. The number of days of employment generated and annual turnover was also increasing over the years. Organizations portrayed high degree of social equity and environmental accountability. To keep the organizations sustainable for a long time, the activities being implemented by it should be viable, should confer social equity among all the beneficiaries and should be compatible with the system without generating any harmful effects. Thus, it can be inferred that the organizations are sustainable and continuously growing.

The VHFPC and AHFPC have performed well in respect of organizational profile, economic efficiency and social equity among the sustainability factors, However the performance of both the FPOs was poor in respect of environmental accountability of the sustainability factor.

#### **4.7. Association between the profile characteristics of members of Farmer Producer Organisations with their attitude level, crop yield, annual income and social status**

##### **4.7.1. Association between profile characteristics of FPO members and their attitude towards FPOs**

The chi-square analysis was carried out to know the association between attitude and profile characteristics of FPO members (Table 4.7.1 and Figure 12). Nine variables namely, education, achievement motivation, decision making ability, management orientation, economic motivation, risk orientation, innovative proneness, mass media exposure and training received were found to be significantly associated at five per cent level with the attitude of members of FPOs. The remaining three variables such as participation in activities of FPO, extension contact and extension participation were found significantly associated at one per cent level with the attitude of members towards FPOs. The variables such as age, family size, land holding, farming experience, cosmopolitaness, scientific orientation and social participation were found to have no significant association with the attitude of members towards FPOs.

**Table 4.7.1: Association between profile characteristics of FPO members and their attitude towards FPOs**

(n = 120)

Sl. No.	Profile characteristics	Chi-square value
X <sub>1</sub>	Age	2.689 <sup>NS</sup>
X <sub>2</sub>	Education	10.029 *
X <sub>3</sub>	Family size	1.281 <sup>NS</sup>
X <sub>4</sub>	Farming experience	3.334 <sup>NS</sup>
X <sub>5</sub>	Land holding	2.567 <sup>NS</sup>
X <sub>6</sub>	Achievement motivation	12.921*
X <sub>7</sub>	Cosmopolitaness	7.019 <sup>NS</sup>
X <sub>8</sub>	Decision making ability	12.818*
X <sub>9</sub>	Scientific orientation	7.192 <sup>NS</sup>
X <sub>10</sub>	Management orientation	10.928*
X <sub>11</sub>	Economic motivation	9.967*
X <sub>12</sub>	Risk orientation	9.580*
X <sub>13</sub>	Innovative proneness	11.928*
X <sub>14</sub>	Social participation	5.681 <sup>NS</sup>
X <sub>15</sub>	Mass media exposure	11.691*
X <sub>16</sub>	Participation in activities of FPO	13.028**
X <sub>17</sub>	Training received	11.920*
X <sub>18</sub>	Extension contact	14.998**
X <sub>19</sub>	Extension participation	15.021**

NS = Non-Significant; \*Significant at 5 % level; \*\*Significant at 1 % level

The possible reason for the results obtained was that schooling facilities and learning facilities which in turn presumed to instill a favourable attitude of members towards FPOs. Education provides an opportunity for the people to derive advantages of becoming members of FPOs. Achievement motivation forces the individual towards reaching the goals which he/she has set to for himself and helps to acquire the knowledge and develop favourable attitude. The probable reasons for management orientation for having significant association with the attitude of members could be due to inculcation of management abilities in the FPO members through activities like training, visits and lecture by professionals. The management aspects of the crop production have helped the individual for better involvement in the management of crop production, processing, value addition and marketing activities social activities. Based on the results it is known that the respondents had medium level of Achievement motivation and respondents had high risk orientation, high decision making ability and medium economic orientation which means that the respondents had the urge to achieve maximum profit since they had more risk taking ability and proper decision making ability in various crop production activities by adopting suitable agricultural technologies. Hence all the three variables might be significantly associated with overall attitude. Innovativeness had significant association with the attitude of members towards FPOs. The members are innovative in farming and participating in the activities of FPOs. The new technologies advocated by the farm scientists and extension personnel of Krishi Vignana Kendra were adopted for getting increased yield and income. There exist significant association between mass media participation and attitude of the members towards FPOs. Higher level of mass media participation would facilitate the members to develop habits of gathering information about the improved crop production activities and formation and advantages of becoming members to FPOs. Participation in training programmes was found to be significantly associated with the attitude of members towards FPOs. The participation in training programmes enhances the knowledge, skill and attitude of the members. Due to exposure to different training programmes the attitude of members is directly influenced by the trainings. The extension contact of the members was found to be significantly associated with their attitude towards the FPOs. The FPO members had regular contact with the agriculture officers, KVK scientists and farm scientists of UAS, Bangalore

through FPOs. Due to their regular contact with the extension professionals the members have developed favourable attitude towards the FPOs. Extension participation of the members was found to be significantly associated with the attitude of the members towards FPOs. The participation in extension activities such as field visits, study tours, demonstrations, exhibitions and field experiments organized through FPOs might had helped them to have favourable attitude towards FPOs. Similar findings were also reported by Sarah Kamala (2004), Moobi and Oladele (2012), Ramakanth *et al.* (2012), Gopala (2015) and Shanabhoga (2019).

#### **4.7.2. Association between crop yield of the FPO members and their profile characteristics**

The chi-square analysis was employed to analyze the association between crop yield of the FPO members and their profile characteristics (Table 4.7.2 and figure 13). Ten variables namely education, achievement motivation, decision making ability, scientific orientation, management orientation, economic motivation, risk orientation, mass media exposure, training received and extension contact were found to be significantly associated at five per cent level with the yield of the FPO members. The remaining three variables such as innovative proneness, participation in activities of FPO and extension participation were found significantly associated at one per cent level with the crop yield of the FPO members. The variables such as age, family size, land holding, farming experience, cosmopolitaness, and social participation were found to have no significant association with the crop yield of the FPO members.

The reasons for the above stated results are that education has significant relation with the increase in yield of that crop because Formal schooling has been valued as a means of increasing knowledge about farm technology This education acts as a facilitator to learn new farming technologies. Achievement motivation, decision making ability, scientific orientation, management orientation, economic motivation, risk orientation, are found to be significant with the yield which means that the respondents had the urge to achieve maximum productivity since they had more risk taking ability and proper decision making ability in various crop production activities by adapting suitable agricultural technologies.

**Table 4.7.2: Association between crop yield of the FPO members and their profile characteristics.**

(n = 120)

Sl. No.	Profile characteristics	Chi-square value
X <sub>1</sub>	Age	0.168 <sup>NS</sup>
X <sub>2</sub>	Education	10.612*
X <sub>3</sub>	Family size	3.116 <sup>NS</sup>
X <sub>4</sub>	Farming experience	5.129 <sup>NS</sup>
X <sub>5</sub>	Land holding	4.138 <sup>NS</sup>
X <sub>6</sub>	Achievement motivation	10.012*
X <sub>7</sub>	Cosmopolitaness	5.813 <sup>NS</sup>
X <sub>8</sub>	Decision making ability	11.669*
X <sub>9</sub>	Scientific orientation	11.888*
X <sub>10</sub>	Management orientation	10.928*
X <sub>11</sub>	Economic motivation	11.268*
X <sub>12</sub>	Risk orientation	10.921*
X <sub>13</sub>	Innovative proneness	13.968**
X <sub>14</sub>	Social participation	8.128 <sup>NS</sup>
X <sub>15</sub>	Mass media exposure	9.689*
X <sub>16</sub>	Participation in activities of FPO	14.681**
X <sub>17</sub>	Training received	13.012*
X <sub>18</sub>	Extension contact	10.002*
X <sub>19</sub>	Extension participation	13.913**

NS = Non-Significant; \*Significant at 5 % level; \*\*Significant at 1 % level

The extent of exposure to mass media like radio, television, newspaper, farm magazines etc, has helped the FPO members to acquire knowledge about improved agriculture practices has influenced the members towards agriculture and to take up activities to increase the yield of the crop. FPO members will have more opportunities and potentialities to try and adopt large number of technological innovations resulting in higher productivity by attending various training provided through the FPO. Extension contact would help the members to expose them to farm technologies promoted by the extension workers. Frequent contact with the extension workers has motivated the FPO members to participate in agriculture and allied activities.

#### **4.7.3. Association between annual income of the FPO members and their profile characteristics**

The chi-square analysis was carried out to understand the association between annual income of the FPO members and their profile characteristics (Table 4.7.3 and Figure 14). Twelve variables namely education, achievement motivation, decision making ability, scientific orientation, management orientation, economic motivation, risk orientation, innovative proneness, mass media exposure, training received, extension contact and extension participation were found to be significantly associated at five per cent level with the annual income of the FPO members. The remaining one variable such as participation in activities of FPO was found significantly associated at one per cent level with the annual income of the FPO members. The variables such as age, family size, land holding, farming experience, cosmopolitaness, and social participation were found to have no significant association with the annual income of the FPO members.

The explanations for independent variables having significant association with annual income of the FPO members are that the improvement in education level of the individual crafts him to look for different opportunities to enhance the income of the household. FPO has provided plenty of opportunities to its members to enhance their income. Hence, education was found to have significant association with the education level of the members. Achievement motivation was found to be significantly associated with the annual income of the members.

**Table 4.7.3: Association between annual income of the FPO members and their profile characteristics**

(n = 120)

Sl. No.	Profile characteristics	Chi-square value
X <sub>1</sub>	Age	0.986 <sup>NS</sup>
X <sub>2</sub>	Education	9.699*
X <sub>3</sub>	Family size	3.367 <sup>NS</sup>
X <sub>4</sub>	Farming experience	1.196 <sup>NS</sup>
X <sub>5</sub>	Land holding	3.968 <sup>NS</sup>
X <sub>6</sub>	Achievement motivation	12.001*
X <sub>7</sub>	Cosmopolitaness	6.789 <sup>NS</sup>
X <sub>8</sub>	Decision making ability	11.671*
X <sub>9</sub>	Scientific orientation	11.029*
X <sub>10</sub>	Management orientation	10.199*
X <sub>11</sub>	Economic motivation	9.968*
X <sub>12</sub>	Risk orientation	9.586*
X <sub>13</sub>	Innovative proneness	10.002*
X <sub>14</sub>	Social participation	6.928 <sup>NS</sup>
X <sub>15</sub>	Mass media exposure	11.968*
X <sub>16</sub>	Participation in activities of FPO	14.868**
X <sub>17</sub>	Training received	12.692*
X <sub>18</sub>	Extension contact	11.666*
X <sub>19</sub>	Extension participation	12.678*

NS = Non-Significant; \*Significant at 5 % level; \*\*Significant at 1 % level

Achievement motivation includes the economic empowerment which means when individual is motivated to excel, he tends to improve his income. Decision making ability helps the members to take up right activity in agriculture with right resource and at the right time so that it helps to enhance the income. scientific orientation, management orientation, economic orientation of the FPO members was found to be significantly associated with their annual income. Probable reason might be better management of farms results in increased crop yields and reduced cost of cultivation leading to enhanced annual income. Farm management includes, production orientation, training orientation and marketing orientation which has direct effect on the annual income of the members. The variable risk orientation and innovativeness was found to have significant association with the annual income of the members. The ability of the individual to take risk and to be in front to take up the challenge makes an individual to perform better. Those who are innovative they take up the different challenging enterprises to enhance their income. Hence, those members who are innovative tend to have higher income. Training exposure to the members training programmes has increased knowledge and skill on crop production and other income generating opportunities leading increased income and reduced overhead charges. Hence, it can be inferred that as the participation in training programmes increases the annual income also increases. Extension contact of the members was found to have highly significant association with the annual income of the members. The possible reason for this could be the information provided by extension personnel regarding opportunities of generating income and the members participate well to increase the same. Extension participation was found to be having highly significant association with the annual income of the members. The exposure to different extension activities such as demonstration, field visits, discussion, meetings, field days and study tour usually helps the members to gain the knowledge on improved crop production and other activities for obtaining higher revenue. Hence, it can be inferred that the higher the extension participation more will be the annual income. The results obtained are similar to the findings of Borude (1992), Snehalatha and Reddy (1998), Vinay Kumar (2008) and Gopala (2015).

#### **4.7.4. Association between social status of the FPO members and their profile characteristics**

The chi-square test revealed that the twelve variables namely education, achievement motivation, cosmopolitaness, decision making ability, scientific orientation, management orientation, economic motivation, risk orientation, innovative proneness, mass media exposure, training received and extension contact were found to be significantly associated at five per cent level with the social status of the FPO members. The remaining two variables such as participation in activities of FPO and extension participation were found significantly associated at one per cent level with the social status of the FPO members. The variables such as age, family size, land holding, farming experience and social participation were found to have no significant association with the social status of the FPO members (Table 4.7.4 and figure 15).

Education was found to be significantly associated with the social status of the members. Education widens the vision of individual and minds of the individuals and orient them outside the world and provides new opportunity of life for increasing the social status of the members. Achievement motivation was found to be significantly associated with the social status of the members. The reason might be the individual urge to achieve excellence in his profession will obviously improves his social status. Management orientation was found to be significantly associated with the social status of the members. Management orientation in the present study consists of planning, production and marketing activities. FPOs are imparting knowledge on all these activities. The members are utilizing and following these activities as consequent there is increase in the social status of the FPO members. Innovativeness was found to be significantly associated with the social status of the members. Innovativeness enables the individual search for different alternatives for increasing in the farm related activities. Increased income enhances the socio-economic status of the individuals. Hence, it can be inferred that innovativeness of the individuals enhances the individual's social status in the society.

**Table 4.7.4: Association between social status of the FPO members and their profile characteristics.**

(n = 120)

Sl. No.	Profile characteristics	Chi-square value
X <sub>1</sub>	Age	1.961 <sup>NS</sup>
X <sub>2</sub>	Education	9.968*
X <sub>3</sub>	Family size	2.699 <sup>NS</sup>
X <sub>4</sub>	Farming experience	3.921 <sup>NS</sup>
X <sub>5</sub>	Land holding	4.882 <sup>NS</sup>
X <sub>6</sub>	Achievement motivation	10.928*
X <sub>7</sub>	Cosmopolitaness	10.612*
X <sub>8</sub>	Decision making ability	9.901*
X <sub>9</sub>	Scientific orientation	10.002*
X <sub>10</sub>	Management orientation	9.900*
X <sub>11</sub>	Economic motivation	11.666*
X <sub>12</sub>	Risk orientation	12.800*
X <sub>13</sub>	Innovative proneness	11.111*
X <sub>14</sub>	Social participation	3.681 <sup>NS</sup>
X <sub>15</sub>	Mass media exposure	11.202*
X <sub>16</sub>	Participation in activities of FPO	13.992**
X <sub>17</sub>	Training received	11.268*
X <sub>18</sub>	Extension contact	10.818*
X <sub>19</sub>	Extension participation	14.816**

NS = Non-Significant; \*Significant at 5 % level; \*\*Significant at 1 % level

Cosmopolitanism was found to be significantly associated with the social status of the members. The reason could be cosmopolitanism enhances the individuals contact with the outside world for obtaining knowledge on different production technologies and marketing information. The increased knowledge has led to the adoption of the same resulting in higher income and social status. Higher level of mass media participation would facilitate the FPO members to develop habit of gathering more information about farm related activities. Such members will be motivated to adopt the same leads to increased income and social status. Mass media was found to have significant association with the social status of the members. Higher level of mass media participation would facilitate the FPO members to develop habits of gathering the more information about farm related activities. Such members will be motivated to adopt the same leads to increased income and social status.

Participation in training programmes was found to be significantly associated with the social status of the members. The reason might be that when an individual is exposed to training programmes. There will be increase in knowledge related to farm activities. Training provides refreezing of old behaviors and refreezing the new behaviors for application leading to their success in managing the farm related activities as well as realizing the increased income leads to increased social status. Extension contact was found to be significantly associated with the social status of the members. Frequent contact helps the FPO members to acquire knowledge on improved farm activities. The FPO members with high levels of extension contact will consequently adopt the same leading to higher income and social status. Hence, it can be inferred that social status increase with extension contact. The similar findings were also reported by Vinay Kumar (2008) and Gopala (2015).

#### **4.7.5. Association between impact and their profile characteristics of the members of farmer producer organizations.**

The chi-square analysis was carried out to know the association between overall impact of the FPO members and their profile characteristics (Table 4.7.5 and figure 16).

**Table 4.7.5: Association between overall impact of FPO and their profile characteristics of the members of farmer producer organizations.**

(n = 120)

Sl. No.	Profile characteristics	Chi-square value
X <sub>1</sub>	Age	0.899 <sup>NS</sup>
X <sub>2</sub>	Education	9.998*
X <sub>3</sub>	Family size	3.011 <sup>NS</sup>
X <sub>4</sub>	Farming experience	3.962 <sup>NS</sup>
X <sub>5</sub>	Land holding	3.699 <sup>NS</sup>
X <sub>6</sub>	Achievement motivation	10.011*
X <sub>7</sub>	Cosmopolinteness	7.266 <sup>NS</sup>
X <sub>8</sub>	Decision making ability	10.626*
X <sub>9</sub>	Scientific orientation	3.213 <sup>NS</sup>
X <sub>10</sub>	Management orientation	9.908*
X <sub>11</sub>	Economic motivation	11.201*
X <sub>12</sub>	Risk orientation	10.992*
X <sub>13</sub>	Innovative proneness	11.928*
X <sub>14</sub>	Social participation	4.928 <sup>NS</sup>
X <sub>15</sub>	Mass media exposure	9.629*
X <sub>16</sub>	Participation in activities of FPO	14.012**
X <sub>17</sub>	Training received	11.929*
X <sub>18</sub>	Extension contact	11.022*
X <sub>19</sub>	Extension participation	13.101**

NS = Non-Significant; \*Significant at 5 % level; \*\*Significant at 1 % level

Ten variables namely education, achievement motivation, decision making ability, management orientation, economic motivation, risk orientation, innovative proneness, mass media exposure, training received and extension contact were found to be significantly associated at five per cent level with the impact on the FPO members. The remaining two variables such as participation in activities of FPO and extension participation was found significantly associated at one per cent level with the impact on the FPO members. The variables such as age, family size, land holding, farming experience, cosmopolitaness, scientific orientation and social participation were found to have no significant association with the impact on the FPO members

The similar findings were also reported by Vinay Kumar (2008) and Gopala (2015).

#### **4.8 Extent of contribution between the profile characteristics of members of Farmer Producer organizations with their attitude level, yield, annual income and social status**

The Multiple regression analysis was undertaken to determine the extent of contribution of profile characteristics of members on the attitude of members towards FPOs and the results are presented in Table 4.8.1 and figure 17.

##### **4.8.1 Extent of contribution of profile characteristics of FPO members on their attitude towards FPOs**

The results reveal that 61.72 per cent of the variation in the attitude of members towards FPOs could be explained by all the 19 personal, psychological and communication characteristics of members included in the study.  $R^2$  value of 0.6172 revealed the significance at one per cent level of regression equation in the prediction of results.

Education, achievement motivation, decision making ability, economic motivation, risk orientation, innovative proneness, mass media exposure, participation in FPO activities, training received, extension contact and extension participation were significantly influencing the attitude of the members towards the FPO at 5 per cent level

**Table 4.8.1: Extent of contribution of profile characteristics of FPO members on their attitude towards FPOs**

(n = 120)

Sl. No.	Profile characteristics	Regression co-efficient	SE of regression co-efficient	't' value
X <sub>1</sub>	Age	0.351	0.028	0.080 <sup>NS</sup>
X <sub>2</sub>	Education	0.061	0.152	12.501*
X <sub>3</sub>	Family size	0.059	0.081	1.386 <sup>NS</sup>
X <sub>4</sub>	Farming experience	0.357	0.402	0.888 <sup>NS</sup>
X <sub>5</sub>	Land holding	0.078	0.091	1.487 <sup>NS</sup>
X <sub>6</sub>	Achievement motivation	0.288	0.642	2.231*
X <sub>7</sub>	Cosmopolinteness	0.071	0.090	1.281 <sup>NS</sup>
X <sub>8</sub>	Decision making ability	0.399	0.802	2.011*
X <sub>9</sub>	Scientific orientation	0.178	0.215	1.210 <sup>NS</sup>
X <sub>10</sub>	Management orientation	0.199	0.193	0.968 <sup>NS</sup>
X <sub>11</sub>	Economic motivation	0.359	0.883	2.461*
X <sub>12</sub>	Risk orientation	0.169	0.337	1.999*
X <sub>13</sub>	Innovative proneness	0.260	0.603	2.322*
X <sub>14</sub>	Social participation	0.232	0.106	0.459 <sup>NS</sup>
X <sub>15</sub>	Mass media exposure	0.257	0.580	2.268*
X <sub>16</sub>	Participation in activities of FPO	0.081	0.254	3.148**
X <sub>17</sub>	Training received	0.151	0.151	2.412*
X <sub>18</sub>	Extension contact	0.112	0.236	2.111*
X <sub>19</sub>	Extension participation	0.089	0.186	2.098*

NS = Non-Significant; \*Significant at 5 % level; \*\*Significant at 1 % level ; R<sup>2</sup> = 0.6172

whereas, participation in activities of FPOs was found to be significant at one per cent level. The above eleven personal and psychological and communication characteristics of FPO members have significantly contributed in developing favourable attitude towards FPOs. Similar findings were also reported by Vinay Kumar (2008), Gopala (2015) and Shanaboga (2019).

#### **4.8.2. Extent of contribution of profile characteristics of FPO members on their crop yield.**

The profile characteristics influencing the FPO members on crop yield is depicted in Table 4.8.2 and figure 18. The results reveal that 69.90 per cent of the variation in the crop yield of members towards FPOs could be explained by all the 19 psychological and communication characteristics of members included in the study.  $R^2$  value of 0.699 revealed the significance at one per cent level of regression equation in the prediction of results.

It may be further observed from the Table 4.8.2 that variables such as education, management orientation, decision making ability, economic motivation, risk orientation, innovative proneness, mass media exposure, participation in FPO activities, training received, extension contact and extension participation have significantly increased the crop yield of the FPO members. Similar findings were also reported by Vinay Kumar (2008) and Gopala (2015).

#### **4.8.3. Extent of contribution of profile characteristics of FPO members on their annual income.**

The profile characteristics influencing the FPO members on annual income is depicted in Table 4.8.3 and figure 19. The results reveal that 69.21 per cent of the variation in the annual income of members towards FPOs could be explained by all the 19 psychological and communication characteristics of members included in the study.  $R^2$  value of 0.6921 revealed the significance at one per cent level of regression equation in the prediction of results.

**Table 4.8.2: Extent of contribution of profile characteristics of FPO members on their crop yield.**

(n = 120)

Sl. No.	Profile characteristics	Regression co-efficient	SE of regression co-efficient	't' value
X <sub>1</sub>	Age	0.368	0.482	1.312 <sup>NS</sup>
X <sub>2</sub>	Education	0.070	0.170	2.444*
X <sub>3</sub>	Family size	0.058	0.082	1.422 <sup>NS</sup>
X <sub>4</sub>	Farming experience	0.211	0.194	0.922 <sup>NS</sup>
X <sub>5</sub>	Land holding	0.199	0.176	0.888 <sup>NS</sup>
X <sub>6</sub>	Achievement motivation	0.092	0.135	1.468 <sup>NS</sup>
X <sub>7</sub>	Cosmopolinteness	0.152	0.192	1.268 <sup>NS</sup>
X <sub>8</sub>	Decision making ability	0.092	0.213	2.319*
X <sub>9</sub>	Scientific orientation	0.092	0.143	1.568 <sup>NS</sup>
X <sub>10</sub>	Management orientation	0.049	0.116	2.368*
X <sub>11</sub>	Economic motivation	0.182	0.467	2.568*
X <sub>12</sub>	Risk orientation	0.313	0.622	1.999*
X <sub>13</sub>	Innovative proneness	0.071	0.157	2.222*
X <sub>14</sub>	Social participation	0.199	0.273	1.368 <sup>NS</sup>
X <sub>15</sub>	Mass media exposure	0.232	0.506	2.182*
X <sub>16</sub>	Participation in activities of FPO	0.091	0.188	2.068*
X <sub>17</sub>	Training received	0.213	0.453	2.128*
X <sub>18</sub>	Extension contact	0.038	0.095	2.501*
X <sub>19</sub>	Extension participation	0.099	0.247	2.499*

NS = Non-Significant; \*Significant at 5 % level; \*\* Significant at 1 % level; R<sup>2</sup> = 0.699

**Table 4.8.3: Extent of contribution of profile characteristics of FPO members on their annual income.**

(n = 120)

Sl. No.	Profile characteristics	Regression co-efficient	SE of regression co-efficient	't' value
X <sub>1</sub>	Age	0.306	0.370	1.212 <sup>NS</sup>
X <sub>2</sub>	Education	0.368	0.898	2.442*
X <sub>3</sub>	Family size	0.301	0.291	0.969 <sup>NS</sup>
X <sub>4</sub>	Farming experience	0.036	0.048	1.360 <sup>NS</sup>
X <sub>5</sub>	Land holding	0.048	0.042	0.890 <sup>NS</sup>
X <sub>6</sub>	Achievement motivation	0.035	0.046	1.362 <sup>NS</sup>
X <sub>7</sub>	Cosmopolinteness	0.310	0.586	1.891 <sup>NS</sup>
X <sub>8</sub>	Decision making ability	0.195	0.460	2.363*
X <sub>9</sub>	Scientific orientation	0.146	0.145	0.998 <sup>NS</sup>
X <sub>10</sub>	Management orientation	0.166	0.401	2.419*
X <sub>11</sub>	Economic motivation	0.039	0.101	2.566*
X <sub>12</sub>	Risk orientation	0.122	0.306	2.510*
X <sub>13</sub>	Innovative proneness	0.156	0.346	2.222*
X <sub>14</sub>	Social participation	0.211	0.208	0.989 <sup>NS</sup>
X <sub>15</sub>	Mass media exposure	0.092	0.214	2.331*
X <sub>16</sub>	Participation in activities of FPO	0.130	0.518	3.999**
X <sub>17</sub>	Training received	0.042	0.092	2.192*
X <sub>18</sub>	Extension contact	0.081	0.162	2.001*
X <sub>19</sub>	Extension participation	0.072	0.213	2.968*

NS = Non-Significant; \*Significant at 5 % level; \*\*Significant at 1 % level ; R<sup>2</sup> = 0.6921

It may be further observed from the Table 4.8.3 that variables such as education, decision making ability, management orientation, economic motivation, risk orientation, innovative proneness, mass media exposure, training received, extension contact and extension participation were significant at 5 per cent level. Whereas, participation in activities of FPOs was found to be significant at one per cent level with the annual income of FPO members

Eleven variables which are significant were found to have synergetic effect on one another contributing to increased income among FPO members. More or less similar findings were reported by Vinay Kumar (2008) and Gopala (2015).

#### **4.8.4. Extent of contribution of profile characteristics of FPO members on their social status**

The profile characteristics influencing the FPO members on social status is depicted in Table 4.8.4 and figure 20. The results reveal that 68.80 per cent of the variation in the social status of members towards FPOs could be explained by all the 19 psychological and communication characteristics of members included in the study. R<sup>2</sup>value of 0.688 revealed the significance at one per cent level of regression equation in the prediction of results.

It may be further observed from the Table 4.8.4 that variables such as education, achievement motivation, management orientation, economic motivation, risk orientation, innovative proneness, mass media exposure, training received, extension contact and extension participation were significant at 5 per cent level whereas, participation in activities of FPOs was found to be significant at one per cent level. All the above variables are significantly contributing to improving the social status of FPO members. Similar findings were also reported by Vinay Kumar (2008) and Gopala (2015).

#### **4.8.5. Extent of contribution of profile characteristics of FPO members on their impact**

The profile characteristics influencing the FPO members on impact is depicted in Table 4.8.5 and figure 21.

**Table 4.8.4: Extent of contribution of profile characteristics of FPO members on their social status**

(n = 120)

Sl. No.	Profile characteristics	Regression co-efficient	SE of regression co-efficient	't' value
X <sub>1</sub>	Age	0.062	0.061	0.992 <sup>NS</sup>
X <sub>2</sub>	Education	0.092	0.190	2.068*
X <sub>3</sub>	Family size	0.123	0.241	1.962 <sup>NS</sup>
X <sub>4</sub>	Farming experience	0.268	0.264	0.988 <sup>NS</sup>
X <sub>5</sub>	Land holding	0.310	0.059	0.192 <sup>NS</sup>
X <sub>6</sub>	Achievement motivation	0.125	0.262	2.100*
X <sub>7</sub>	Cosmopolinteness	0.081	0.102	1.268 <sup>NS</sup>
X <sub>8</sub>	Decision making ability	0.090	0.086	0.962 <sup>NS</sup>
X <sub>9</sub>	Scientific orientation	0.188	0.238	1.268 <sup>NS</sup>
X <sub>10</sub>	Management orientation	0.092	0.208	2.268*
X <sub>11</sub>	Economic motivation	0.088	0.175	1.99*
X <sub>12</sub>	Risk orientation	0.111	0.262	2.361*
X <sub>13</sub>	Innovative proneness	0.192	0.473	2.468*
X <sub>14</sub>	Social participation	0.098	0.164	1.680 <sup>NS</sup>
X <sub>15</sub>	Mass media exposure	0.128	0.328	2.569*
X <sub>16</sub>	Participation in activities of FPO	0.178	0.657	3.696**
X <sub>17</sub>	Training received	0.129	0.318	2.468*
X <sub>18</sub>	Extension contact	0.199	0.477	2.400*
X <sub>19</sub>	Extension participation	0.099	0.237	2.398*

NS = Non-Significant; \* Significant at 5 % level; \*\*Significant at 1 % level ; R<sup>2</sup> = 0.688

**Table 4.8.5: Extent of contribution of profile characteristics of FPO members on their impact**

(n = 120)

Sl. No.	Profile characteristics	Regression co-efficient	SE of regression co-efficient	't' value
X <sub>1</sub>	Age	0.088	0.119	1.360 <sup>NS</sup>
X <sub>2</sub>	Education	0.071	0.178	2.512*
X <sub>3</sub>	Family size	0.212	0.193	0.912 <sup>NS</sup>
X <sub>4</sub>	Farming experience	0.193	0.152	0.789 <sup>NS</sup>
X <sub>5</sub>	Land holding	0.210	0.186	0.888 <sup>NS</sup>
X <sub>6</sub>	Achievement motivation	0.092	0.183	1.99*
X <sub>7</sub>	Cosmopolinteness	0.213	0.213	0.998 <sup>NS</sup>
X <sub>8</sub>	Decision making ability	0.192	0.454	2.366*
X <sub>9</sub>	Scientific orientation	0.231	0.284	1.28 <sup>NS</sup>
X <sub>10</sub>	Management orientation	0.092	0.212	2.310*
X <sub>11</sub>	Economic motivation	0.088	0.203	2.310*
X <sub>12</sub>	Risk orientation	0.131	0.086	1.512 <sup>NS</sup>
X <sub>13</sub>	Innovative proneness	0.236	0.592	2.512*
X <sub>14</sub>	Social participation	0.300	0.288	0.961 <sup>NS</sup>
X <sub>15</sub>	Mass media exposure	0.312	0.783	2.510*
X <sub>16</sub>	Participation in activities of FPO	0.088	0.351	3.99**
X <sub>17</sub>	Training received	0.128	0.256	2.001*
X <sub>18</sub>	Extension contact	0.092	0.221	2.412*
X <sub>19</sub>	Extension participation	0.132	0.279	2.111*

NS = Non-Significant; \*Significant at 5 % level; \*\*Significant at 1 % level; R<sup>2</sup> = 0.692

The results reveal that 69.20 per cent of the variation in the impact of members towards FPOs could be explained by all the 19 psychological and communication characteristics of members included in the study. R<sup>2</sup> value of 0.692 revealed the significance at one per cent level of regression equation in the prediction of results.

It may be further observed from the Table 4.8.5 that variables such as education, achievement motivation, decision making ability, management orientation, economic motivation, innovative proneness, mass media exposure, training received, extension contact and extension participation were found significant at 5 per cent level whereas, participation in activities of FPOs was found to be highly significant at one per cent level. All the above eleven variables are contributing significantly in increasing the impact of FPO on its members. Similar findings were also reported by Vinay Kumar (2008) and Gopala (2015).

#### **4.9. Case studies of the selected Farmer Producer organisations**

The basic profile of VHFPC is presented in Table 4.9.1. The VHFPC was set up in Varuna village of Mysore taluk. The VHFPC was registered and initiated as a company in 2017 which is endowed by Small Framers Agri-business Consortium (SFAC). This FPO extends its operation in 24 villages in and around Varuna village. The FPO works on vegetables and fruits but mainly focuses on bananas. The authorized share capital of the FPO is Rs. 25 Lakhs with the net earnings of Rs. 60 lakhs per annum. However, the members of this FPO were able to subscribe to the share capital to the extent of Rs. 10 lakhs. This is mainly due to the fact that there are 1000 members who were able to subscribe up to Rs. 10 lakhs at the rate of Rs. 1000 each. There are 10 Board of Directors to manage the committee and they conduct 7 meets a year to stay updated, discuss the ideas, to solve the producer's problems and ultimately reach the goals. VHFPC is well organized and maintains records to make sure the all the activities are carried out accordingly. Nearly 76.00 per cent of members participated in the activities of VHFPC including attending general body meeting.

**Table 4.9.1: Varuna Horticulture Farmer Producer Company Ltd (VHFPC)**

1.	Name of the FPO:	Varuna Horticulture Farmer producer company Ltd
2.	Name of the funding Agency	Small Framers Agri-business Consortium (SFAC)
3.	Date of establishment:	2017
4.	Share capital:	Rs. 25 Lakhs
5.	Net profit:	Rs.60 Lakhs
6.	Number of villages covered:	24
7.	Number of members:	1000
8.	Number of Board of Directors (BODs):	10
9.	Commodities dealing with	Vegetables and fruits (Banana )
10.	Membership fee	Rs. 1000
11.	Is it registered?	Yes
12.	Number of meetings conducted in a year	7
13.	Average attendance of members	76%
14.	Maintenance of records	Yes
15.	Do you have any linkages with other development departments?	Yes (Private dealers)
<b>16</b>	<b>Linkages with other organization</b>	
1	Branded seed companies	Syngenta, Indus, standard seeds and IIHR varieties
2	Fertilizer manufacturing company/ organization	Spic, Mangala, FACT, IFFCO, IPL and Growmore
3	Pesticide manufacturing company	Bayer, UPL, Due point
4	Animal feed brands	Ganesh gold, Shanthi feeds, Krishna feeds
5	Agril implements and others	Surya tarpels
<b>17</b>	<b>Extension linkages</b>	
1	Production technology/ Demonstrations/ training programs	RSKs, KVKs, COE-FPO, NABARD, line dept. and pesticide companies
2	Market information	Visit to APMC, accessing market information through phone calls or through websites like Krishi Marata Vahini, Agmarknet
<b>18</b>	<b>Output linkages</b>	
1	Output buyer	Farm foods, local traders and export to Kerala market
	<b>Availability of infrastructure facilities</b>	
1	Storage unit/ Godown	NO
2	Custom hiring center	Yes
3	Processing unit	NO
<b>19</b>	<b>Technical support</b>	
1	Awareness campaign	Yes
2	Training	Yes
3	Exposure visit	Yes
4	Demonstrations	Yes
20	Marketing of the produce	APMC, local traders, interstate trade, direct selling to consumer
21	Sources of market information	Traders, personal visits to markets, NGOs, web portals, APMC,

VHFPC help the producer by associating with many private dealers to provide them fine production and to have better returns. They associate with Syngenta, Indus and IIHR for standard seeds and varieties to provide better quality seeds, work with Spic, Mangala, FACT, IFFCO, IPL and Grow more to give better fertilizer brands to the producers, quality pesticides were also provided by linking with Bayer, UPL, Due point for a better pest management and higher returns along with Surya tarpels for the modernized agricultural implements. VHFPC also gives importance for animal husbandry and provides adulterant free pristine feed. To upgrade the knowledge and the technical skills among the producers VHFPC strives to transfer the improved production technology by demonstration, training programs, awareness campaign and also taken them on an exposure visit by collaborating with RSKs, KVKs, COE-FPO, NABARD, line dept. and pesticide companies. Visit to APMC by VHFPCs, accessing market information through phone calls or through websites like Krishi Marata Vahini, Agmarknet they help producer in giving market information. This FPO have a custom hiring center which provides access to costly farm machineries for small and marginal farmers to reduce the production cost with in turn adds on to their profit and also help in marketing of the produce in APMC, local traders, inter-state trade and also direct selling to the consumer but VHFPC lacks storage and processing facilities which would add on to the benefit of the producers.

VHFPC have the potential to give better bargaining power to it members and lead to more transparent agri-markets.

The basic profile of AHFPC is presented in Table 4.9.2. AHFPC promoted by Small Framers Agri-business Consortium (SFAC) was registered in the year 2017. It is established in Hebbalu village K.R. Nagara taluk of Mysore district and works well in the 35 surrounding villages. AHFPC holds an authorized stock of RS. 25 lakhs and as a net profit of Rs. 80 lakhs per annum. This organization is flooded with 1000 member with 10 management committee to look after for the smooth running of the organization. Each member contributes Rs. 1000 to the share capital as the subscription charges.

**Table 4.9.2. Arkeshwara Horticulture Farmer Producer Company Ltd (AHFPC)**

1.	Name of the FPO:	Arkeshwara Horticulture Farmer producer company Ltd
2	Name of the funding Agency	Small Framers Agri-business Consortium (SFAC)
3	Date of establishment:	2017
4	Share capital:	Rs. 25 Lakhs
5	Net profit:	Rs.80 Lakhs
7	Number of villages covered:	35
8	Number of members:	1000
9	Number of Board of Directors (BODs):	10
10	Commodities dealing with	Vegetables and fruits (tomato)
11	Membership fee	Rs. 1000
12	Is it registered?	Yes
13	Number of meetings conducted in a year	10
14	Attendance of members	88%
15	Maintenance of records	Yes
16	Do you have any linkages with other development departments?	Yes (Private dealers)
17	<b>Linkages with other organization</b>	
1	Branded seed companies	Syngenta, Indus, standard seeds and IIHR varieties
2	Fertilizer manufacturing company/ organization	Spic, Mangala, FACT, IFFCO, IPL and Growmore
3	Pesticide manufacturing company	Bayer, UPL, Due point
4	Animal feed brands	Ganesh gold, Shanthi feeds, Krishna feeds
5	Agril implements and others	Surya tarpels
18	<b>Extension linkages</b>	
1	Production technology/ Demonstrations/ training programs	RSKs, KVKs, COE-FPO, NABARD, line dept. and pesticide companies
2	Market information	Visit to APMC, accessing market information through phone calls or through websites like Krishi Marata Vahini, Agmarknet
19	<b>Output linkages</b>	
1	Output buyer	Farm foods, local traders and export to Kerala market
20	<b>Availability of infrastructure facilities</b>	
1	Storage unit/ Godown	Yes
2	Custom hiring center	Yes
3	Processing unit	NO
21	<b>Technical support</b>	
1	Awareness campaign	Yes
2	Training	Yes
3	Exposure visit	Yes
4	Demonstrations	Yes
22	Marketing of the produce	APMC, local traders, interstate trade, direct selling to consumer
23	Sources of market information	Traders, personal visits to markets, NGOs, web portals, APMC,

The management committee conducted ten meetings in a year. Documentation is done to have an accurate record on the work carried out and the active participation of the members are very essential. Here they make sure that the members have more than 88 per cent of attendance in the meetings conducted.

AHFPC supports the member producers in the cultivation of fruits and vegetables in the area of operation. However, majority of members are mainly concentrating on cultivation of tomato, as a result the AHFPC takes more interest in the production and marketing of tomato the AHFPC maintain cordial relation with the private dealers in order to provide all the facilities to the producers. AHFPC procured standard seeds with high yielding variety from Syngenta, Indus. Better fertilizer brands are provided to the producers by AHFPC through Spic, Mangala, FACT, IFFCO, IPL and Grow more, quality pesticides are also provided by linking with Bayer, UPL, Due point. AHFPC also provide quality feed for livestock. To improve the knowledge and the technical skills among the producers AHFPC carry out demonstration, training programs, awareness campaign and also taken the members for an exposure visit by collaborating with RSKs, KVKs, COE-FPO, NABARD, line dept. and pesticide companies. Visit to APMC by AHFPCs, accessing market information through phone calls or through websites like Krishi Marata Vahini, Agmarknet they help producer in giving market information for the producers. This FPO have a custom hiring center and also help in marketing of the produce in APMC, local traders, inter-state trade and also direct selling to the consumer but AHFPC lacks processing facilities which would add on to the benefit of the producers but they have well established storage units.

#### **4.10. Constraints of Farmer Producer Organisations members and officials**

##### **4.10.1. Constraints of farmer producer organization members**

The constraints faced by members of Farmer Producer Organizations are depicted in table 4.10.1. The constraints were divided into organizational constraints, socio political constraints, economic constraints, and other constraints.

**Table 4.10.1: Constraints of farmer producer organization members**

Sl. No.	Constraints*	VHFPC (n <sub>1</sub> =60)		Rank	AHFPC (n <sub>2</sub> =60)		Rank	Pooled Sample (N=120)		Rank
		No.	%		No.	%		No.	%	
<b>I Organizational constraints</b>										
1	Non- inclusion of local leaders in FPO	8	13.33	VI	5	8.33	VI	13	10.83	VI
2	Non- availability of literature on FPO activities	37	61.67	V	7	11.67	V	44	36.67	V
3	Lack of co-ordination for different group activities	43	71.67	III	30	50.00	I	73	60.83	I
4	Ineffective linkages	51	85.00	I	14	23.33	IV	65	54.17	II
5	Inefficient monitoring	42	70.00	IV	16	26.67	II	58	48.33	IV
6	Predominance of part time farmers	47	78.33	II	16	26.67	III	63	52.50	III
<b>II Socio- political constraints</b>										
1	Political affiliation of members	54	90.00	I	12	20.00	II	66	55.00	II
2	Sub- group formed execution	51	85.00	II	10	16.67	III	61	50.83	III
3	Non- representation of all section in the area	49	81.67	III	34	56.67	I	83	69.17	I
<b>III Economic constraints</b>										
1	Low price for produces	10	16.67	III	13	21.67	III	23	19.17	III
2	Non availability of timely credits	14	23.33	II	17	28.33	II	31	25.83	II
3	In adequate profit of individual members	45	75.00	I	19	31.67	I	64	53.33	I
<b>IV Other constraints</b>										
1	Labour demand at peak section	43	71.67	II	38	63.33	II	81	67.50	II
2	Labour disputes	39	65.00	III	43	71.67	I	82	68.33	I
3	Provision of the facilities only for the leaders	49	81.67	I	17	28.33	III	66	55.00	III

\*Multiple response

Among the organizational constraints, Lack of co-ordination for different group activities scored first with 60.83 per cent followed by ineffective linkages (54.17%), Predominance of part time farmers (52.50 %), Inefficient monitoring (48.33 %), Non-availability of literature on FPO activities (36.67 %), and Non- inclusion of local leaders in FPO (10.83 %). The ranking of priorities differed between the VHFPC and AHFPC. The members of VHFPC reported the organizational constraints in the following sequence with Ineffective linkages (85.00 %) being a main constraint followed by Predominance of part time farmers (78.33 %), Lack of co-ordination for different group activities (71.67%), Inefficient monitoring (70.00%), Non- availability of literature on FPO activities (61.67%), and Non- inclusion of local leaders in FPO (13.33%). While in the case of AHFPC, the constraints were in the following order. Lack of co-ordination for different group activities (50.00%), Inefficient monitoring (26.67%), Predominance of part time farmers (26.67%), Ineffective linkages (23.33%), Non- availability of literature on FPO activities (11.67%), Non- inclusion of local leaders in FPO (8.33%).

Among the socio political constraints, Non- representation of all section in the area (69.17 %) was the most important constraint, followed by Political affiliation of members (55.00%) and Sub- group formed execution (50.83%). The constraints were reported in the same sequence by AHFPC while in case of VHFPC, Political affiliation of members (90.00%) was the most important constraint.

Among the economic constraints, In adequate profit of individual members (53.33%) was the main constraint followed by Non availability of timely credits (25.83 %), and Low price for produces (19.17 %). The other constraints were Labour disputes (68.33%), Labour demand at peak section (67.50), and Provision of the facilities only for the leaders (55.00%).

The results obtained are in line with the findings reported by Snehathatha (1994), Kiranmayee (1996), Sailaja (2002), Prakash *et al.* (2004), Joseph and Easwaran (2006) and Sunita Sharma (2012).

#### **4.10.2 Constraints of farmer producer organization officials**

The data in the table 4.10.2 depicted the constraints perceived by the officials of the FPO. The constraints perceived by the officials of the FPO are classified as Technical, Marketing constraints and Financial constraints. On the whole, among technical constraints, Lack of its own processing units was the main constraint as perceived by 100 per cent of the sample officials, followed by Lack an office building of its own (95.00%) and Renewal of license (80.00%). The constraints were reported in the same sequence by AHFPC while in case of VHFPC, Lack of its own processing units and Lack an office building of its own was the main constraint as perceived by 100 per cent of the sample farmers, followed by Renewal of license (80.00%).

In case of marketing constraints, distant market and lack of facilities for transportation and Difficulty to meet export standards was the main constraints as perceived by 90.00 per cent of the officials, followed by Lack of adequate number of godowns and store houses (85.00%). Whereas in VHFPC, Lack of adequate number of godowns, store houses were the main constraint perceived by cent per cent of the officials, followed by Distant market and lack of facilities for transportation (90.00%) and Difficulty to meet export standards (80.00%). While in case of AHFPC, cent per cent of them mentioned Difficulty to meet export standards as the major constraints, followed by Distant market and lack of facilities for transportation (90.00%) and Lack of adequate number of godowns, store houses (70.00%).

Financial constraints followed the sequence of No price policy by government and no crop insurance (80.00%), Less contributions by members as majority are poor (65.00%), and Lack of enough capital (55.00%). The constraints were reported in the same sequence by AHFPC while in case of VHFPC, Less contributions by members as majority are poor were the major constraints as perceived by cent per cent of the FPO officials, followed by lack of enough capital (90.00%) and no price policy by government and no crop insurance (80.00%). The results are in line with the study conducted by Subhashree Sahu (2014) and Deeptee Dewangan (2018).

**Table 4.10.2: Constraints of farmer producer organization officials**

Sl. No.	Constraints*	VHFPC (n <sub>1</sub> =10)		Rank	AHFPC (n <sub>2</sub> =10)		Rank	Pooled sample (N=20)		Rank
		No.	%		No.	%		No.	%	
<b>I Technical constraints</b>										
1	Renewal of license	8	80.00	II	8	80.00	III	16	80.00	III
2	Lack of its own processing units	10	100.00	I	10	100.00	I	20	100.00	I
3	Lack an office building of its own	10	100.00	I	9	90.00	II	19	95.00	II
<b>II Marketing constraints</b>										
1	Distant market and lack of facilities for transportation	9	90.00	II	9	90.00	II	18	90.00	I
2	Lack of adequate number of godowns, store houses	10	100.00	I	7	70.00	III	17	85.00	II
3	Difficulty to meet export standards	8	80.00	III	10	100.00	I	18	90.00	I
<b>III Financial constraints</b>										
1	Less contributions by members as majority are poor	10	100.0	I	3	30.0	II	13	65.0	II
2	Lack of enough capital	9	90.0	II	2	20.0	III	11	55.0	III
3	No price policy by government and no crop insurance	8	80.0	III	8	80.0	I	16	80.0	I

\*Multiple response

### **4.10.3. Farm level constraints perceived by Farmer Producer Organization members**

#### **4.10.3.1. Farm level constraints perceived by banana growers**

Farm level constraints perceived by banana growers is depicted in table 4.10.3. The constraints were classified as technical constraints, labour and economic constraints and marketing constraints. In case of the technical constraints perceived by the members, Lack of proper infrastructure (implements, irrigation facilities, power, and electricity) was the major constraint with 76.67 per cent of the response followed by Lack of well-developed storage facilities and lack of awareness about grading and packing(70.00 %) was the second constraint faced by the banana growers, followed by Lack of well-developed processing facilities (63.33%) and Computer illiteracy which makes them unable to derive benefits of the ICT tools available (63.33%) was the third constraint followed by Untimely, costly, and poor-quality inputs (60.00%), Difficulties in following the recommended practices, high incidence of diseases and pests, crop failure (48.33%).

Among the Labour and economic constraints members reported lack of technical skill of labourers in harvesting, processing and lack of sufficient finance(73.33%) as the major constraint followed by lack of price policy by the government (70.00%), high cost of labour (60.00%), unawareness of credit facilities (56.67%), no crop insurance facilities (53.33%) and unavailability of labour during harvesting (46.67).

Of the marketing constraints, Exploitation by middlemen (90.00%) was the major constraints followed by perishable nature of products (70.00 %), lack of latest market information and lower price for the produce and distress sale (66.67%), price fluctuation (63.33%), Distant market and high cost of transportation (43.33%) and Delayed payment (28.33%). The results are in line with the study conducted by Subhashree Sahu (2014) and Deeptee Dewangan (2018).

**Table 4.10.3: Farm level constraints perceived by Farmer Producer Organization members**

Sl. No.	Constraints*	Banana growers (n <sub>1</sub> =60)		Rank	Tomato growers (n <sub>2</sub> =60)		Rank
		No.	%		No.	%	
<b>I</b>	<b>Technical constraints</b>						
1	Untimely, costly, and poor-quality inputs	18	60.00	IV	44	73.33	II
2	Lack of proper infrastructure (implements, irrigation facilities, power, and electricity)	23	76.67	I	40	66.67	V
3	Lack of well-developed storage facilities	21	70.00	II	44	73.33	II
4	Lack of well-developed processing facilities	19	63.33	III	43	71.67	III
5	Difficulties in following the recommended practices, high incidence of diseases and pests, crop failure	29	48.33	V	43	71.67	III
6	Computer illiteracy which makes them unable to derive benefits of the ICT tools available	19	63.33	III	48	80.00	I
7	Lack of awareness about grading and packaging	21	70.00	II	42	70.00	IV
<b>II</b>	<b>Labour and economic constraints</b>						
1	Unavailability of labour during harvesting	14	46.67	VI	44	73.33	III
2	Lack of technical skill of labourers in harvesting, processing	22	73.33	I	41	68.33	V
3	High cost of labour	18	60.00	III	34	56.67	VII
4	Lack of sufficient finance	22	73.33	I	45	75.00	II
5	Unawareness of credit facilities	17	56.67	IV	52	86.67	I
6	No crop insurance facilities	16	53.33	V	43	71.67	IV
7	Lack of price policy by the government	21	70.00	II	36	60.00	VI
<b>III</b>	<b>Marketing constraints</b>						
1	Price fluctuation every year	19	63.33	IV	46	76.67	II
2	Lack of latest market information	20	66.67	III	20	33.33	VII
3	Lower price for produce and distress sale	20	66.67	III	42	70.00	III
4	Distant market and high cost of transportation	13	43.33	V	23	38.33	V
5	Exploitation by middlemen	27	90.00	I	40	66.67	IV
6	Perishable nature of products	21	70.00	II	50	83.33	I
7	Delayed payment	17	28.33	VI	21	35.00	VI

\*Multiple response

#### **4.10.3.2. Farm level constraints perceived by banana growers**

Farm level constraints perceived by tomato growers is also depicted in table 4.10.3. Among the technical constraints, Computer illiteracy which makes them unable to derive benefits of the ICT tools available (80.00 %) was the major constraint followed by Lack of well-developed storage facilities (73.33%) was the second constraint faced by the tomato growers, followed by Lack of well-developed processing facilities and difficulties in following the recommended practices, high incidence of diseases and pests, crop failure (71.67 %) was the third constraint followed by lack of awareness about grading and packing (70.00 %) and lack of proper infrastructure (66.67%).

Among the Labour and economic constraints members reported unawareness of credit facilities (86.67%) as the major constraints followed by lack of sufficient finance (75.00 %), unavailability of labour during harvesting (73.33%), no crop insurance facilities (71.67%), lack of technical skill of labourers in harvesting, processing (68.33%), lack of price policy by the government (60.00%) and high cost of labour (56.67%).

Of the marketing constraints, the members reported Perishable nature of products (83.33 %), as the main constraint followed by Price fluctuation every year (76.67%), Lower price for produce and distress sale (70.00%), Exploitation by middlemen (66.67 %), distant market and high cost of transportation (38.33 %), delayed payment (35.00%), and Lack of latest market information (33.33 %). The results are in line with the study conducted by Subhashree Sahu (2014) and Deeptee Dewangan (2018).

#### **4.11. Suggestions for effective functioning of Farmer Producer organisations as perceived by members and officials**

##### **4.11.1 Suggestions for effective functioning of Farmer Producer organisations as perceived by members.**

The results in the table 4.11.1 depicts the suggestions by the members of farmer producer organization for effective functioning of FPOs.

**Table 4.11.1: Suggestions for effective functioning of Farmer Producer organisations as perceived by members.**

Sl. No.	Suggestions	VHFPC (n <sub>1</sub> =60)		Rank	AHFPC (n <sub>2</sub> =60)		Rank
		No	%		No	%	
1.	Storage facilities should be provided to every FPOs.	45	75.00	I	38	63.33	IV
2.	Proper guideline is needed towards packaging, grading, branding, processing, and marketing, especially for value added products	33	55.55	IV	56	93.33	I
3.	More emphasis should be given toward capacity building to FPOs on regular basis.	44	73.33	II	52	86.66	II
4.	For getting better knowledge about Farmer Producer Organisations (FPOs), update timely the sources of farm publications like magazines, news, books, journals etc.	28	46.66	V	32	53.33	V
5.	Mobile app intended to provide a platform for buyers and sellers could be developed for better market access	36	60.00	III	41	68.33	III

In VHFPC, the members suggested that Storage facilities should be provided to every FPOs (75.00%) as the major suggestion followed by More emphasis should be given toward capacity building to FPOs on regular basis (73.33%), mobile app intended to provide a platform for buyers and sellers could be developed for better market access (60.00%), proper guideline is needed towards packaging, grading, branding, processing, and marketing, especially for value added products (55.55%) and For getting better knowledge about Farmer Producer Organisations (FPOs), update timely the sources of farm publications like magazines, news, books, journals etc (46.66%), where in AHFPC, Proper guideline is needed towards packaging, grading, branding, processing, and marketing, especially for value added products (93.33%) was the major suggestion, followed by More emphasis should be given toward capacity building to FPOs on regular

basis (86.66%), Mobile app intended to provide a platform for buyers and sellers could be developed for better market access (68.33%), Storage facilities should be provided to every FPOs (63.33%) and For getting better knowledge about Farmer Producer Organisations (FPOs), update timely the sources of farm publications like magazines, news, books, journals etc. (53.33%).

#### **4.11.2. Suggestions for effective functioning of Farmer Producer organisations as perceived by officials.**

Table 4.11.2 depicts the suggestions by the officials of farmer producer organization for effective functioning of FPOs. In VHFPC, the officials suggested that Proper development of infrastructure of Farmer Producer Organisations (90.00%) as the major suggestion followed by Govt. support in the form of grants during the early stage of the Farmer Producer Organisations (FPOs) should be made available (80.00%), FPOs should be linked with Krishi Vigyan Kendra (KVKs) (70.00%), proper awareness of credit facilities must be provided to each farmer and For increase in interest of farmers, institutional support must be provided (60.00%), Proper guidelines related to technology like computer, internet, mobile etc must be provided to each member in Farmer Producer Organisations (30.00%) and Proper guidelines should be given to raise the technical skills of labours (20.00%) where in AHFPC Proper development of infrastructure of Farmer Producer Organisations (90.00%) was the major suggestion followed by, Proper guidelines related to technology like computer, internet, mobile etc must be provided to each member in Farmer Producer Organisations and Proper awareness of credit facilities must be provided to each farmer (80.00%), FPOs should be linked with Krishi Vigyan Kendra (KVKs) (70.00%), For increase in interest of farmers, institutional support must be provided (60.00%), Govt. support in the form of grants during the early stage of the Farmer Producer Organisations (FPOs) should be made available (50.00%) and Proper guidelines should be given to raise the technical skills of labours (40.00%).

**Table 4.11.2: Suggestions for effective functioning of Farmer Producer Organisations as perceived by officials.**

Sl. No.	Suggestions	VHFPC (n <sub>1</sub> =10)		Rank	AHFPC (n <sub>2</sub> =10)		Rank
		No	%		No	%	
1.	Govt. support in the form of grants during the early stage of the Farmer Producer Organisations (FPOs) should be made available	8	80.00	II	5	50.00	VI
2.	Proper development of infrastructure of Farmer Producer Organisations (FPOs).	9	90.00	I	9	90.00	I
3.	FPOs should be linked with Krishi Vigyan Kendra (KVKs).	7	70.00	III	7	70.00	IV
4.	Proper guidelines related to technology like computer, internet, mobile etc must be provided to each member in Farmer Producer Organisations (FPOs).	3	30.00	VI	8	80.00	II
5.	Proper awareness of credit facilities must be provided to each farmer.	6	60.00	IV	8	80.00	II
6.	Proper guidelines should be given to raise the technical skills of labours	2	20.00	VII	4	40.00	VII
7.	For increase in interest of farmers, institutional support must be provided	6	60.00	IV	6	60.00	V



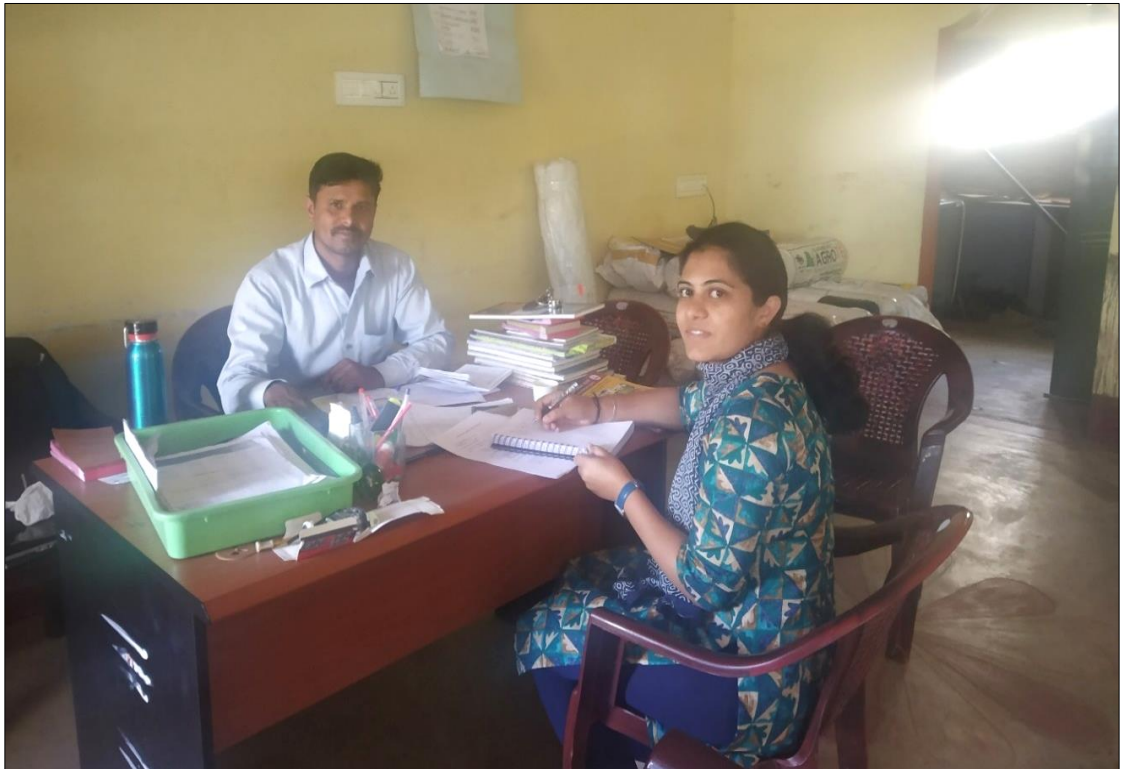
**Plate 1: Data collection by the researcher**



**Plate 2: Interaction with the farmers**



**Plate 3: Data collection by the researcher**



**Plate 4: Interaction with the CEO of the FPO**

## V SUMMARY

Traditional agriculture will not be able to sustain farmer's interest. In this context, if agriculture has to survive, we have to explore ways and means to make it more profitable (increase income obtained per unit of time & land), and more employment opportunities in agriculture need to be created. In this modern era of cut-throat competition, agriculture will be only successful if it will move from culture (a way of life) to a dynamic entity of agribusiness.

India is witnessing a tremendous shift of importance from increasing productivity (production per unit area) to increasing profitability (farmer share in consumer rupee). But, the question is how to achieve this? The answer to this problem lies in mobilization of farmers for group and collective efforts which will subsequently aid in higher economic gains or higher profitability for individual farmer. Though there have been a number of models of group approaches in forms of farmer cooperatives, farmer interest groups, farmer producer companies, commodity based organizations, etc. till date but many of them lack sustainability and efficient participation of members in different stages of organizational development, as a result of which the results become short-lived and insignificant. Mainly studies have been carried out on large scale organizations involving large well-to-do farmers, excluding the budding organizations from the context, which are operational at small scale level including the small and marginal farmers. Very few studies were conducted to highlight the critical factors which contribute to the success and failure of the farmers' organizations. There are few studies that evaluate the income effect of being member of farmers' organizations in India in general, and not tied to a particular organization. There is little empirical evidence for the income generating effect of farmers' organizations in India. It is also important to isolate the constraints which hinder the effective and efficient performance of the farmers' organizations, in order to combat them and thus, yield fruitful socio-economic benefits. The present research study entitled "An Impact Analysis of the Farmer Producer Organisations (FPOs) in Mysuru district" was undertaken, highlighting two organizations Varuna Horticulture Farmer Producer Company Limited (VHFPC) and Arkeshwara

Horticulture Farmer Producer Company Limited (AHFPC), which are epitomes of unique models of group approaches.

### **Objectives:**

1. To develop and standardize a scale to analyse the attitude of members towards Farmer Producer Organisations
2. To analyse the impact of the Farmer Producer Organisations on yield, annual income and social status of its members and non-members.
3. To identify the factors contributing to success and sustainability of the Farmer Producer Organisations.
4. To study the association between the profile characteristics of members of Farmer Producer Organisations with their attitude level.
5. To document the case studies of the selected Farmer Producer Organisations
6. To identify the constraints and seek suggestions for effective functioning of Farmer Producer Organisations

### **Methodology**

The study was carried out in Mysuru district of Karnataka State. The total sample size of 200 respondents was pooled from the selected two FPOs in Mysuru district. Sixty members each from VHFPC and AHFPC were selected for the study in Mysuru district of Karnataka state. Thirty non-members (not within the organization) of FPOs from each of the two crops (i.e., banana and tomato) were selected for the study for comparing yield, annual income and social status between members and non-members of FPOs. Ten officials (seven BODs, one CEO and two staffs) were selected from each of the two FPOs. Ex-post-facto research design was used for the present study. The collected data was analyzed using mean, frequency, standard deviation, Chi-square test, student “t” test and multiple regression analysis.

## Major findings of the study

1. With respect to the personal characteristic of VHFPC members, it was found that majority half (70.00 %) of them belonged to middle age group , had high school education (35.00 %) and belonged to medium sized family (45.00 %) further they had low farming experience (38.33 %),and belonged to big farmers (60.00 %) category.
2. With respect to the personal characteristic of AHFPC members it was found that over half (56.67 %) of them belonged to young age group , had high school education (33.33 %), belonged to medium sized family (65.00 %), had low farming experience (45.00 %),and belonged to small farmers (46.67 %).
3. The psychological and communication characteristics of the VHFPC members indicate that 38.33 per cent of them had medium level of achievement motivation, high cosmoplotiness (35.00%), medium decision making ability (38.33%), scientific orientation (53.33%), high management orientation (46.67%), medium economic motivation (38.33%), high risk orientation (40.00%), medium innovative proneness (38.33%), medium social participation (48.33%), medium mass media exposure (43.33%), medium participation in activities of FPO (43.34%), training received (46.67%), high level of extension contact (60.00%) with medium extension participation (43.33%).
4. The psychological and communication characteristics of the AHFPC members revealed that 40.00 per cent of them had medium level of achievement motivation, high cosmoplotiness (35.00%), decision making ability (58.33%), medium scientific orientation (51.66 %), high management orientation (45.00 %), medium economic motivation (40.00 %), high risk orientation (55.00%), medium innovative proneness (36.67 %), medium social participation (43.33%), mass media exposure (38.34 %), participation in activities of FPO (40.00 %), high training received (41.67%), medium extension contact (53.33 %) and low extension participation (36.67 %).
5. The overall attitude of FPO members towards organizations revealed that 40.00 per cent of the members had favourable attitude towards the FPOs, followed by 31.67 per cent of them with more favourable attitude and 28.33 per cent of them had less

favorable attitude in case of VHFPC members. Whereas in case of AHFPC members, 38.33 per cent of them favorable attitude and the remaining 33.34 and 28.33 per cent of the FPO members exhibits more favorable attitude and less favourable attitude towards the FPOs respectively.

6. The participation of members in the formation stage of FPOs revealed that in VHFPC about 55.00 per cent of the members had partial participation and in case of AHFPC 53.33 per cent of them had fully participated. With respect to the participation of members in the production orientation activities stage of FPOs, in VHFPC about 56.67 per cent of the members had partially participated. Whereas, in AHFPC 51.67 per cent of them had partially participated. Similarly, in case of participation of members in the training orientation stage of FPOs, in VHFPC about 65.00 per cent of the members had not participated. Whereas, in AHFPC about 40.00 per cent of the them had fully participated, further with respect to the participation of members in the marketing orientation stage of FPOs, in VHFPC about 61.67 per cent of the FPO members had partial participation. Whereas, in AHFPC 61.67 per cent of the FPO members had partially participated.
7. With respect to the participation in training, it was higher among the farmers of AHFPC (61.67 %) as against VHFPC (35.00%). On the whole, fifty-eight farmers (48.33 %) had participated in the training. Further under the benefits received from the training under VHFPC, one third (28.33%) of them had fully benefited and in case of AHFPC 55.00 per cent of the farmers were fully benefitted from training.
8. In case of VHFPC, majority (90.00%) of the members saw the need of training was high for marketing/ net-working/ linkages etc, In AHFPC, 96.67 per cent of the members considered Production (IPM/INM/IWM/Cropping pattern etc.) as the most needed area of training.
9. With respect to the awareness and participation of members in the governance of farmers producer organizations. On an average, 60.00 per cent of the farmers have been members of the FPO for more than two years. Further related to the source of information regarding the FPO, 43.33 per cent of the farmers learnt it from the progressive farmers. It was seen that about 33.33 per cent of the farmers became the

- member of the FPO for subsidy. Majority of the farmers of VHFPC, (88.33%) and AHFPC (91.67 %) indicated that they were aware about the FPO meetings conducted in the village while 46.67 per cent of the farmers from VHFPC, and 65.00 per cent of the farmers from AHFPCs participated in the meetings.
10. The backward linkage benefits availed by the FPO members depicted that in case of VHFPC, majority (65.00 %) of the farmers obtained seeds from the FPO. With respect to AHFPC, majority (81.67 %) of the farmers obtained seeds from the FPO. With respect to the financial support availed by the FPO members, in case of VHFPC, 31.67 per cent of them availed the benefits of MSP for the produce. With respect to AHFPC, majority (83.33 %) of them availed the benefits of credit availability. With respect to the various custom hiring centre (CHC) facility availed from the FPOs. In case of VHFPC, 55.00 per cent of the farmers availed the benefit of farm machinery, in case of AHFPC, cent per cent of the farmers availed the benefit of farm machinery.
  11. The value addition facility availed from the FPOs revealed that in case of VHFPC, equal per cent (23.33 %) of the farmers availed the benefit of grading, packing and certification, the benefits like processing and storage facilities were not availed by the farmers. With respect to AHFPC, 70.00 per cent of the farmers availed the benefit of grading, 25.00 per cent of them availed the benefits of packing of the produce. Whereas, 33.33 per cent of them availed the benefits of certification of the produce. The benefits like processing and storage facilities were not availed by the farmers.
  12. The marketing facility availed by the farmers showed that about 88.33 per cent of the farmers from VHFPC and 93.33 per cent of the farmers from AHFPC indicated that they were getting the benefits of the market information. With respect to VHFPC, the source of market information was mainly APMC (26.67 %) however in case of AHFPC it was found to mainly from FPO (35.00%). It can be seen that in VHFPC about 71.67 per cent of the farmers sold the produce at the farm gate similarly about 70.00 per cent of the farmers sold the produce at the farm gate in case of AHFPC.
  13. The impact of FPO on yield, annual income and social status of the banana growers indicated that the mean score of the yield among the members were found to be 140.83 qtl/acre and the mean score of the yield among the non- members (not within

the organization) was found to be 126.63 qtl/ acre. The impact of the FPO on yield can be reflected in the income as well. The annual income of the members (Rs. 241514.00) were significantly higher than the non-members (Rs. 202278.00). The mean score of the social status among the members was 30.40 and the among the non-members it was found to be 29.84. The participation in the FPO had no impact on the social status.

14. The impact of FPO on tomato growers were similar to that of banana growers. The yield was seen to differ significantly across members (84.30 qtl/acre) and non-members (71.25 qtl/acre) with a “t” value of 2.625 indicating the positive impact of FPO. Similar impact was seen on income as well with the “t” value of 3.779 which is found to be significant at one per cent level of probability. The income of the members were Rs. 148628.00 while it was Rs. 104068.00 for the non-members. The mean score of the social status among the members was 31.02 and the among the non-members it was found to be 30.97. The participation in the FPO had no impact on the social status.
15. The comparison of different technical and organizational factors contributing to the success of FPOs revealed that there exists significant difference at the overall level between VHFPC and AHFPC with the “t” value of 4.667. similarly, with respect to the comparison of the marketing factors leading to the success of the FPOs there existed significant difference among the factors across VHFPC and AHFPC with t value (2.187) being significant at 5 per cent and one per cent level. However, with the different economic factors contributing to the success of the FPO, it was observed that there did not exist any difference across the FPOs.
16. The organizational statistics of the FPOs shows that the number of members, villages covered, and activities has increased across both the FPO from 2017 to 2019. The number of outlets has been remained same in case of VHFPC and it has increased in AHFPC. Similarly, with respect to the economic efficiency of the FPOs, It can be seen that the number of days of employment generated, portion of profit and annual turnover has increased across both the FPO from 2017 to 2019.

17. The social equity of the FPO resulted that 75.00 per cent of the members in VHFPC agreed on Equitable access to organizational services, while it was 65.00 per cent in Arkeshwara. About 53.33 per cent of the VHFPC members agreed on Equitable access to organizational assets and it was 78.33 per cent in AHFPC. Involvement of poor and marginal farmers in the organization was agreed upon by all the members of both the FPOs. Ethical and transparent dealings was agreed upon by about 66.67 per cent and 90.00 per cent of the members in VHFPC and AHFPC respectively.
18. The details on environmental accountability represented that. 40.00 per cent the farmers of VHFPC and 50.00 per cent of the farmers from AHFPC agreed that the products produced in conditions and processes that confer to the international ISO standards, 40.00 per cent and 60.00 per cent from VHFPC and AHFPC respectively responded that the products certified by a nationally recognized agency, none of the products were organically grown by farmers under VHFPC and 30.00 per cent of the produce procured are organically grown under AHFPC. 70.00 per cent of the farmers from VHFPC agreed that the produce was graded whereas, all the farmers of AHFPC agreed that the produce was graded. The VHFPC and AHFPC have performed well in respect of organizational profile, economic efficiency and social equity among the sustainability factors, However the performance of both the FPOs was poor in respect of environmental accountability of the sustainability factor.
19. The association between attitude and profile characteristics of FPO members depicted that variables namely education, achievement motivation, decision making ability, management orientation, economic motivation, risk orientation, innovative proneness, mass media exposure and training received were found to be significantly associated at five per cent level with the attitude of members of FPOs. The remaining three variables such as participation in activities of FPO, extension contact and extension participation were found significantly associated at one per cent level with the attitude of members towards FPOs.
20. The association between yield of the FPO members and their profile characteristics shows that variables namely education, achievement motivation, decision making ability, scientific orientation, management orientation, economic motivation, risk

orientation, mass media exposure, training received and extension contact were found to be significantly associated at five per cent level with the yield of the FPO members. The remaining variables such as innovative proneness, participation in activities of FPO and extension participation were found significantly associated at one per cent level with the yield of the FPO members.

21. The association between annual income of the FPO members and their profile characteristics shows that twelve variables namely education, achievement motivation, decision making ability, scientific orientation, management orientation, economic motivation, risk orientation, innovative proneness, mass media exposure, training received, extension contact and extension participation were found to be significantly associated at five per cent level with the annual income of the FPO members. The remaining one variable such as participation in activities of FPO was found significantly associated at one per cent level with the annual income of the FPO members.
22. The association between social status of the FPO members and their profile characteristics reveals that twelve variables namely education, achievement motivation, cosmopolitaness, decision making ability, scientific orientation, management orientation, economic motivation, risk orientation, innovative proneness, mass media exposure, training received and extension contact were found to be significantly associated at five per cent level with the social status of the FPO members. The remaining two variables such as participation in activities of FPO and extension participation was found significantly associated at one per cent level with the social status of the FPO members.
23. The association between overall impact of the FPO members and their profile characteristics revealed that ten variables namely education, achievement motivation, decision making ability, management orientation, economic motivation, risk orientation, innovative proneness, mass media exposure, training received and extension contact were found to be significantly associated at five per cent level with the impact on the FPO members. The remaining two variables such as participation in

activities of FPO and extension participation was found significantly associated at one per cent level with the impact on the FPO members.

24. The extent of contribution of profile characteristics of members on the attitude of members towards FPOs reveals that 61.72 per cent of the variation in the attitude of members towards FPOs could be explained by all the 19 psychological and communication characteristics of members included in the study.  $R^2$  value of 0.6172 revealed the significance at 1 per cent and 5 per cent level regression equation in the prediction of results. education, achievement motivation, decision making ability, economic motivation, risk orientation, innovative proneness, mass media exposure, training received, extension contact, extension participation were significantly influencing the attitude of the members towards the FPO at 5 per cent level whereas, participation in activities of FPOs was found to be significant at one per cent level.
25. The extent of contribution of profile characteristics of FPO members on the crop yield, the results reveal that 69.90 per cent of the variation in the yield of members towards FPOs could be explained by all the 19 psychological and communication characteristics of members included in the study.  $R^2$  value of 0.699 revealed the significance at 1 per cent and 5 per cent level regression equation in the prediction of results. The variables such as education, achievement motivation, decision making ability, economic motivation, risk orientation, innovative proneness, mass media exposure, training received, extension contact, extension participation were significantly influencing the crop yield of the members at 5 per cent level whereas, participation in activities of FPOs was found to be significant at one per cent level.
26. The extent of contribution of profile characteristics of FPO members on their annual income, the results reveal that 69.21 per cent of the variation in the annual income of members towards FPOs could be explained by all the 19 psychological and communication characteristics of members included in the study.  $R^2$  value of 0.6921 revealed the significance at 1 per cent and 5 per cent level regression equation in the prediction of results. The variables such as education, decision making ability, management orientation, economic motivation, risk orientation, innovative proneness, mass media exposure, training received, extension contact, extension participation

were significantly influencing the annual income of the members at 5 per cent level whereas, participation in activities of FPOs was found to be significant at one per cent level.

27. The extent of contribution of profile characteristics of FPO members on their social status, the results reveal that 68.80 per cent of the variation in the social status of members towards FPOs could be explained by all the 19 psychological and communication characteristics of members included in the study.  $R^2$  value of 0.688 revealed the significance at one per cent level of regression equation in the prediction of results. The variables such as Education, achievement motivation, management orientation, Economic motivation, Risk orientation, Innovative proneness, Mass media exposure, Training received, Extension contact, Extension participation were significantly influencing the social status of the members at 5 per cent level whereas, participation in activities of FPOs was found to be significant at one per cent level.

28. The extent of contribution of profile characteristics of FPO members on their impact, the results reveal that 69.20 per cent of the variation in the impact of members towards FPOs could be explained by all the 19 psychological and communication characteristics of members included in the study.  $R^2$  value of 0.692 revealed the significance at one per cent level of regression equation in the prediction of results. It may be further observed from the Table 4.8.5 that variables such as education, achievement motivation, decision making ability, management orientation, economic motivation, innovative proneness, mass media exposure, training received, extension contact, extension participation were significantly influencing the impact of members towards the FPO at 5 per cent level whereas, participation in activities of FPOs was found to be significant at one per cent level.

29. With respect to the constraints of members of farmers producer organizations, the members of VHFPC reported the organizational constraints, ineffective linkages (85.00 %) being a main constraint While in the case of AHFPC, lack of co-ordination for different group activities (50.00%) was the major constraint. The socio-political constraints were reported in case of VHFPC, political affiliation of members (90.00%) was the most important constraint while in the case of AHFPC, non-

- representation of all section in the area (56.67%) was the major constraint. Among the economic constraints, in adequate profit of individual members (53.33%) was the main constraint the other constraints were labour disputes (68.33%), labour demand at peak section (67.50%), and provision of the facilities only for the leaders (55.00%).
30. With respect to the constraints perceived by the officials of the FPO. In case of technical constraints, lack of its own processing units and lack an office building of its own was the main constraint as perceived by 100 per cent of the sample farmers. In case of marketing constraints, in VHFPC, lack of adequate number of godowns, store houses were the main constraint perceived by cent per cent of the officials, while in case of AHFPC, cent per cent of them mentioned difficulty to meet export standards as the major constraints.
  31. With respect to the farm level constraints perceived by banana growers, Among the technical constraints, lack of proper infrastructure (implements, irrigation facilities, power, and electricity) was the major constraint with 76.67 per cent of the response. Among the Labour and economic constraints members reported lack of technical skill of labourers in harvesting, processing and lack of sufficient finance and lack of sufficient finance (73.33%) as the major constraint. Of the marketing constraints, members reported that exploitation by middlemen (90.00%) as the main constraint.
  32. With respect to farm level constraints perceived by tomato growers, Among the technical constraints, computer illiteracy which makes them unable to derive benefits of the ICT tools available (80.00 %) was the major constraint. Among the labour and economic constraints members reported unawareness ofc credit facilities (86.67%) as the major constraints. Of the marketing constraints, the members reported perishable nature of products (83.33 %), as the main constraint.
  33. With respect to the suggestions by the members of farmer producer organization for effective functioning of FPOs. In VHFPC the members suggested that storage facilities should be provided to every FPOs (75.00%) as the major suggestion followed by More emphasis should be given toward capacity building to FPOs on regular basis (73.33%), where in AHFPC, proper guideline is needed towards packaging, grading, branding, processing, and marketing, especially for value added

products (93.33%) was the major suggestion, followed by more emphasis should be given toward capacity building to FPOs on regular basis (86.66%).

34. With respect to the Suggestions by the officials of farmer producer organization for effective functioning of FPOs. In VHFPC the officials suggested that Proper development of infrastructure of Farmer Producer Organisations (90.00%) as the major suggestion followed by Government support in the form of grants during the early stage of the Farmer Producer Organisations (FPOs) should be made available (80.00%), where in AHFPC Proper development of infrastructure of Farmer Producer Organisations (90.00%) was the major suggestion followed by, proper guidelines related to technology like computer, internet, mobile etc must be provided to each member in Farmer Producer Organisations and Proper awareness of credit facilities must be provided to each farmer (80.00%).

### **Implications**

1. The study revealed that majority of the members have joined the FPOs in the study area with the expectation of better services in terms of credit facilities, availability of inputs at very reasonable prices, and marketing of commodities grown by them to realize better prices. However, in reality, FPOs are not very effective in meeting the needs of members. Hence there is a need to strengthen FPO through better provision of services that are central to the members.
2. The study brings to light the misalignment between the CEO, the Board of Directors (BODs) and a large number of members which are an unhealthy trend. This is mainly due to the differing perceptions of the stakeholders of FPOs. Hence there is a need to devise an operating system that creates synergy between the BODs, CEO, and the members particularly by fulfilling the expectations of members.
3. The study has brought to the fact that the BODs and CEOs have very few skills in managing the organization very efficiently and effectively. Besides, the training program attended by the BODs has not made any significant impact on the performance of the organization. The important skills in terms of advising the farmers at the time of sowing, cultivation, harvesting, and marketing are rather absent among

- the BODs and CEOs. Hence the training programs need to focus more on improving the business skills, entrepreneurial skills, communication skills, etc., of the BODs and CEO.
4. The members of FPOs in the study area also exhibit a lack of knowledge and skills in the production and marketing of Banana and Tomato. Hence there is a need to undertake need-based training programs to members through Krishi Vigyana Kendra (KVKs) or Department of Horticulture to increase production and productivity of crops.
  5. The study also revealed that FPOs are not able to undertake value addition activities for the benefit of the members. As a result, the FPOs are just competing with the traders in providing the basic services to members which resulted in a marginal impact on members particularly in respect to realizing better prices for their produce. This also resulted in the marginal participation of members in the activities of FPOs. Hence there is a need to focus on value addition activity by FPOs to enhance the competitiveness of them for the betterment of the members and also improving the image of the organization.
  6. The study also highlighted that the promotion of FPOs based on the company model has not met the desired effect from the point of promoting organizations like SFDA, NABARD, and Government. Besides member participation in the activities of FPOs and also in attending the general body meetings is also not satisfactory. Hence there is a need to re-look at the FPO model and to redesign appropriately to make them more efficient and effective organizations.
  7. The important skills in terms of advising the farmers at the time of planting, cultivation, harvesting and marketing are rather absent, even among the farmers these skills are rather not satisfactory. Hence the training needs to be provided in taking care of these requirements by concerned agencies like KVK and Department of Horticulture.

### **Suggestions for the future research**

An attempt has been made through the present investigation to study the attitude of members towards FPOs, and impact on annual income, crop yield and social status of the members. However,

1. The study was limited to only one district, limited to two FPOs and it is also limited to two crops. Therefore, it is suggested that further studies may be taken up in other districts of the state, where similar efforts are made to organize the farmers into groups.
2. Only limited numbers of respondents were selected for the study. Therefore, it is suggested to further studies may be conducted considering a larger number of farmer producer organizations members which will help to make more valid generalizations.
3. In the present study the attitude, and the impact of FPOs on annual income, crop yield and social status was considered. Therefore, it is suggested to consider other variables like performance, perception, sustainability for the future studies which could be of immense significance in making future extension programmes of organizing the farmers into meaningful groups leading to retain the farmers particularly the youth in farming for sustainable agricultural development and ensure food security.

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**UNIVERSITY OF AGRICULTURAL SCIENCES  
DEPARTMENT OF AGRICULTURAL EXTENSION,  
GKVK, BANGALORE-65**

**Interview schedule for data collection**

**“An Impact Analysis of the Farmer Producer Organizations (FPOs) in  
Mysuru district”**

**INTERVIEW SCHEDULE FOR MEMBERS OF FPO**

Respondent No:

**Part A**

**General information**

- 1 Name of the farmer :
- 2 Name of the village :
- 3 Name of the FPO :
- 4 Name of the FIG :
- 5 Name of the taluk :
- 6 Name of the district :

**PART – B**

**1. Age of the respondent (completed years):** \_\_\_\_\_

**2. Education:**

- a) Illiterate b) Functional literate c) Primary school d) Middle school e) High school
- f) ITI or JOC g) Diploma h) PUC i) Graduate j) Post graduate k) Others (specify)

**3. A) Family size**

Sl. No.	Sex	Number
A	Male	
B	Female	
C	Children	
	<b>Total</b>	

#### 4. Farming Experience

i. Since how many years you are practicing agriculture ..... Years

#### 5. Land holding (Acres)

Sl. No.	Type of land	Acre
A	Irrigated	
B	Dry	
D	Land leased out	
	<b>Total</b>	

#### 6. Extension contact

(Please indicate your response for the following items)

Sl. No.	Personnel	Frequency of contact		
		Regularly	Occasionally	Never
1	Asst. Agriculture officer			
2	Agricultural Officer			
3	Asst. Director of Agriculture			
4	UAS scientists			
5	Horticulture Assistants			
6	Asst. Horticultural officer			
7	Asst. Director of Horticulture			
8	KVK (subject matter specialists)			
9	Input agency representatives			
10	Technical advisors of FPO			
11	Other agencies			

#### 7. Extension participation

Indicate your participation in various extension activities

Sl. No.	Activities	Participation		
		Regular	Occasional	Never
1	Group meeting			
2	Farmer Training Programme			

3	Demonstrations			
4	Campaigns			
5	Krishimela			
6	Exhibition			
7	Study tours			

### 8. Cosmopolitaness

Please indicate your option to the following statements.

Sl No.	Statements	Response				
		SA	A	UD	DA	SDA
1	There is no need to collect additional information from outside the village for successful agricultural practices					
2	<b>A farmer should try to get information on agricultural new practices from outside of his village by using mass media facilities</b>					
3	A farmer learns many things from the happenings and experiences of his village only					
4	<b>Keeping contact with outside progressive farmer is useful for managing agriculture</b>					
5	Visiting the subject matter specialist outside the village is waste of time					
6	<b>Agriculture exhibition conducted outside the village helps to gather recent information</b>					

SA–Strongly Agree, A–Agree, UD–Undecided, DA–Disagree, SDA–Strongly Disagree

### 9. Mass Media Exposure

(How often do you participate in different mass media?)

Sl. No.	Sources	Extent of participation		
		Regularly	Occasionally	Never
1	Reading news paper			
2	Listening to Radio			
3	Reading Farm magazines			
4	Viewing agriculture programmes in TV			

### 10. Achievement motivation

Sl No.	Statements	Response				
		SA	A	UD	DA	SDA
1	<b>Work should come first even if one cannot get proper rest in order to achieve goal</b>					
2	It is better to be content with whatever little one has than to be always struggling for more					
3	<b>No matter what I have done I always want to do more</b>					
4	<b>I would like to try hard at something really difficult even if it proves that I cannot do it</b>					
5	The way things are now discouraging one to work hard					
6	One should succeed in one's occupation even if one has to neglect his family					

### 11. Economic motivation

Please indicate your option to the following statements.

Sl No.	Statements	Response				
		SA	A	UD	DA	SDA
1.	<b>A beneficiary farmer should work towards larger yields and economic profits.</b>					
2.	<b>The most successful farmer is the one who makes the most profit.</b>					
3.	<b>A beneficiary farmer should try any new farming idea which may earn him more money.</b>					
4.	<b>A beneficiary farmer should grow cash crops to increase monetary profits in comparison to growing of food crops for home consumption.</b>					
5.	<b>It is difficult for the farmer's children to make a good start unless he provides them with economic assistance.</b>					
6.	A farmer must earn his living but the most important thing in life cannot be defined in economic terms.					

## 12. Risk orientation

Indicate whether you agree or disagree with these statements

Sl. No.	Statements	Agree	Disagree
1	<b>Farmer should grow large number of crops to avoid greater risk involved in growing one or two crops</b>		
2	<b>A farmer should take more risk in making a big profit than to be content with smaller but less risky profit</b>		
3	<b>A farmer who is willing to take greater risk than average farmer usually does better financially</b>		
4	<b>It is good for farmer to take risk when he knows, his chance to success are fairly high</b>		
5	It is better for farmer not to try new farming methods unless most others used them with success		
6	<b>Trying an entirely new method involves risk but it is worth</b>		

## 13. Innovative proneness

Please indicate your option to the following statements

Sl. No.	ITEMS	SA	A	DA
1	<b>I search for different sources of information on new farm technology in the quickest possible time.</b>			
2	<b>I am eager to try or adopt new farm technology that I have heard.</b>			
3	I do not want to be first to adopt new farm technology in my community			
4	<b>I feel that, adoption of latest farm technologies lead to better living conditions.</b>			
5	<b>I do not wait to see the results of my neighbours before I try out new technologies</b>			
6	I do not believe that the modern ways of farming are best			
7	<b>I am optimistic in adopting the innovations even in the event of failure</b>			
8	I think it is the waste of time to keep on trying new practices			
9	<b>I adopt innovations to augment my profits in competition with my fellow members</b>			

10	I try to catch new technologies because it may help me to keep up my status in society as a progressive individual			
11	I hesitate to take advice from others in my farming			
12	<b>If anybody knows better than me any new technology. I respect them</b>			
13	I think that, any new technology is impracticable			

#### 14. Decision making ability

Sl. No.	Statements	Response		
		A	UD	DA
1.	<b>It is necessary to see other people's advice before take decisions</b>			
2.	<b>One cannot avoid much of his worries and troubles if he seeks the advice of his friends and neighbours</b>			
3.	<b>One who believes in others advice does his work much better</b>			
4.	To do any work with the advice of others is a sign of weakness			

#### 15. Social participation

Sl. No	Organization	Member		Office bearer		Extent of participation		
		yes	No	Yes	No	Regularly	Occasionally	Never
1	Gram Panchayat							
2	Taluk Panchayat							
3	Zilla Panchayat							
4	Co-operative society							
5	SHG							
6	Milk Producer cooperative society							
7	Mahila Mandal							
8	Youth club							
8	Others (specify)							

## 16. Management Orientation

Please indicate your option to the following statement

Sl. No.	Statements	Response pattern	
		Yes	No
<b>A. PLANNING ORIENTATION</b>			
1	<b>One should think of diversification of crops and not depend on only one crop</b>		
2	It is not necessary to make prior decision about the variety of crops to be cultivated in the land		
3	<b>The number of seedlings, amount of fertilizer and plant protection chemicals needed for raising a crop should be assessed before cultivation</b>		
4	It is not necessary to think ahead about the cost involved in raising a crop		
5	One need not consult an agricultural/horticultural expert for crop planning		
6	<b>It is possible to increase the yield through farm production plan</b>		
<b>B. PRODUCTION ORIENTATION</b>			
1	<b>Timely sowing of crop assures good yield</b>		
2	One should use as much as fertilizer he wishes		
3	<b>Determining fertilizer dose by soil testing saves money</b>		
4	<b>A variety of crops should be grown as recommended by specialists</b>		
5	<b>For timely weed control, one should even use suitable weedicides</b>		
6	<b>With low water rate, one should conserve and use as much as rain water is available</b>		
<b>C. MARKETING ORIENTATION</b>			
1	Market news is not important for farmers to know as to when to send the produce to market		
2	<b>Farmer should know different forms of produce and its prices in the market</b>		
3	<b>Grading fetches good price to the farmers</b>		
4	One should purchase inputs from the shop where his relative purchases		
5	<b>One should grow those varieties which have more market demand</b>		
6	One should sell his produce to the nearest market irrespective of price		

### 17. Scientific orientation

Sl No.	Statements	Response				
		SA	A	UD	DA	SDA
	<b>Scientific motivation</b>					
1.	<b>New methods of farming give better results to beneficiaries than the old methods.</b>					
2.	Traditional method of farming gives better crop yield than the scientific farming					
3.	<b>Even beneficiaries with lot of experience should use new method of farming.</b>					
4.	<b>Though it takes time for beneficiaries to learn new method in farming it's worth the efforts.</b>					
5.	<b>A good farmer experiments with new ideas in farming.</b>					
6.	<b>Traditional methods of farming have to be changed.</b>					

SA–Strongly Agree, A–Agree, UD–Undecided, DA–Disagree, SDA–Strongly Disagree

### 18. Training Received

- a. Have you attended the training programmes during the last five years? YES/NO
- b. If YES, give details

Sl. No.	Name of the training/exposure programme attended	Purpose attended	Duration of the training	Did the training benefit you? (Give the score as below)			If the training was not beneficial, what is the scope for improvement
				Fully benefitted = 2	Partially benefitted = 1	Not benefitted =0	
1							
2							
3							

**c. What are the different trainings you require from the FPO/Department/COE**

Sl. No.	Area of Training	Need of training (Yes/No)	Level of Importance	
			Important =1	Very important= 2
1	FIG formation, norms and benefits			
2	Awareness about FPO/structure/services/			
3	FPO Governance and Management			
4	Production (IPM/INM/IWM/Cropping pattern etc.)			
5	Marketing/Net-working/linkages etc.			
6	Post-harvest & value addition			
7	Different schemes of different line departments			
8	Any other (specify)			

**19. Participation in the activities of FPO**

Sl. No.	Activities	Response		
		Fully Participated	Partially participated	Not participated
1.	Formations of FPO			
2.	Production orientation activities of FPO			
3.	Training orientation activities of FPO			
4.	Market orientation activities of FPO			

## PART -B

### 1. Statement for measuring the attitude of members towards Farmer Producer Organizations (FPOs).

Sl. No.	Attitude statements	SA	A	UD	DA	SDA
1.	FPOs help in increasing confidence among farmers					
2.	FPOs provide needful information on improved agricultural practices					
3.	FPOs is not a long- term solution to the problems of price inflation					
4.	FPOs is a boon for farmers					
5.	FPOs mismanages the local resources					
6.	Much is talked about FPOs but little work is done					
7.	Organizing farmers into groups is waste of money					
8.	FPOs have created more problems for members than solving					
9.	Attending FPOs work is time consuming for the members					
10.	Activities of FPOs are not as per members needs					
11.	FPOs is a prospective system to empower farmers					
12.	FPOs are not potential enough to bring about agricultural development					
13.	FPOs is farmers friendly approach to sale farm products					
14.	FPOs induces cosmopolitnness of its members					
15.	FPOs inculcate the decision-making ability among their members					
16.	FPOs work on the principle of democracy					
17.	FPOs provide need-based consultancy services to the members					
18.	FPOs is not rigid as co-operatives					
19.	Administration / management of FPOs involve too much of autocracy					
20.	FPOs increase overhead charges					
21.	Benefits from government / other institutions could be availed by FPOs members					
22.	Peer pressure affects the functioning of Farmers Producer Organization					

## II. Impact of FPOs on Yield, income and social status

### A. Income:

Sl. No.	Source of Income	Crop	Gross income	Total cost of expenditure
1	Agriculture (specific crop)			

### B. Yield: (Indicate the yield/acre of this year)

#### 1. Yield /Acre

Sl. No.	Crop	Quantity (in qtl)	Rate (Rs/ctl)	Value (Rs)
1.				
	Total			

### C. Social Status

Indicate your response to the following statements

Sl. No.	Activities	Response			
		A	F	O	N
1	Fellow farmers will consider you as a resource person in the village				
2	Fellow farmers will ask for your opinion whenever they face the problem in agriculture				
3	Fellow farmers will consider your presence inevitable in the group discussion				
4	Fellow farmers will ask you for new information				
5	Fellow farmers will seek guidance from you before adopting any technology				
6	Fellow farmers will involve you in any of the important farming decision				
7	Fellow farmers will consider you as one of the most experienced farmers in the village				
8	Fellow farmers will consider you for stimulation for any group or social work				
9	Fellow farmers will consider you as leader whenever farmers groups are formed				
10	Officials will recognize you as progressive farmer				
11	Officials will involve you in their developmental programmes				
12	Do you maintain credit worthiness from the bankers?				

(A-Always, F-Frequently, O-Occasionally and N-Never)

### **III. Structure and Governance of FPO**

<p>A. Are you a member of FPO? a. Yes b. No</p>
<p>B. From how many years you are member of FPO? a. 3 months b. 6 months c. One-year d. 2 years e. More than 2 years</p>
<p>C. How did you know about FPO? a. Friends b. Neighbors c. village leader d. progressive farmer e. FPO staff f. Others (specify)</p>
<p>D. What is the reason for becoming the member of the FPO? a. For subsidy b. For information related to market and technology c. For forward and backward linkage facilities d. Forcefully e. Others (specify)</p>
<p>E. Are you aware about awareness and FPO formation meetings conducted in your village? a. Yes b. No</p>
<p>F. If yes, did you participate in the meeting? a. Yes b. No</p>
<p>G. Frequency of FIG meeting... a. Monthly b. Bi-monthly c. Quarterly d. not conducting meetings.</p>
<p>H. Are you aware about the rules of the FPO? a. Yes b. No</p>
<p>I. Have you received share certificate after becoming member of FPO? a. Yes b. No</p>
<p>J. Are you aware about the Board of Directors of the FPO? a. Yes b. No</p>
<p>K. Are you aware about your CEO of the FPO? a. Yes b. No</p>
<p>L. In the last one year, have you participated in the AGM of the FPO. a. Yes b. No  b) If yes, how many days before you received the AGM notice..... c) Mode of notice.....</p>

#### IV. Benefits availed from FPO till date

##### 1. Backward linkages

Sl No.	Inputs	Benefits availed (tick)	Reasons for availing benefits (tick the response)				
			Cost reduction	Quality material	Timely availability	Easy access	Others (specify)
a)	Seeds						
b)	Planting materials						
c)	Fertilizers						
d)	Pesticides						

##### 2. Financial support

Sl. No.	Financial support	Benefits availed (tick)	Reasons for availing benefits (tick the response)				
			Low rate of interest	Timely availability	Easy access	Minimum procedures	Others (specify)
a)	Support for loan facility						
b)	Credit availability						
c)	Minimum support price for the produce						
d)	Others						

##### 3. Custom hiring facility

Are you aware of the Custom hiring facility? Yes/ No .....

If Yes,

Sl No.	CHC facility	Benefits availed (tick)	Reasons for availing benefits (tick the response)			
			Cost reduction	Seasonal availability	Less rent	Others (specify)
a)	Farm machinery					
b)	Resource conservation tools					
c)	Water conservation tools					
d)	Others					

**4. Value addition**

Sl No.	Value addition services	Benefits availed (tick)	Reasons for availing benefits (tick the response)				
			Better price	Less post-harvest losses	Better self-life	Easy access	Others (specify)
a)	Grading						
b)	Packing						
c)	Certification						
d)	Processing						
e)	Storage						
f)	Brand building						
g)	Others						

**5. Marketing**

1. Are you availing the benefit of market information? Yes/ No .....
2. If yes, source of the market information .....
3. Frequency of receiving the market information .....
4. Where do you market your produce? a. Village market b. middlemen c. regulated market d. sell at farm gate e. FPO
5. Have you got marketing assistance from FPO to market your produce? Yes/ No.....
6. Have you availed the service of direct marketing from FPO? Yes/ No.....

**V. What are the different services you are expecting from FPO**

Sl. No.	Type of service	Type of benefit
1		
2		
3		
4		

## PART- C

### Factors contributing to success of organization (members)

<b>Technical and organizational variable</b>			
SI No.	Statements	Response	
		Agree	Disagree
1	It brings out farm publication and literature for its members		
2	It has Skilled members		
3	It has Tie- up with the agricultural universities to facilitate access to improved technology and expert advice		
4	It Provide extension support (training program, demonstration, meeting, exposure visit)		
5	Regular audit		
6	It provides timely inputs		
7	It helps in adoption of improved technology and modern infrastructure		
<b>Marketing variables</b>			
1	It has well-developed processing facilities		
2	It has well-equipped transport facilities		
3	It has well-built market intelligence system to provide timely and reliable market information		
4	It helps in grading and packaging of the produce		
5	Availability of suitable market for the produce		
6	Quick payment to farmers		
7	Elimination of middlemen		
8	It has well-built storage structures		
9	Certification of the produce		
10	Availability of suitable market for the produce		
<b>Economic variables</b>			
1	Access to credit facilities (bank loan, repayment period)		
2	Government support		
3	Private / NGO funding		

## Factors contributing to Sustainability of organization (members)

### 1.Social equity

Sl. No.	Statements	Response	
		Agree	Disagree
1.	Equitable access to organizational services		
2.	Equitable access to organizational assets		
2.	Involvement of poor and marginal farmers in the organization		
3.	Ethical and transparent dealings		

## PART-D

### Constraints perceived by the members

Sl. No.	Statements	Response	
		Agree	Disagree
<b>I</b>	<b>Organizational constraints</b>		
1.	Non- inclusion of local leaders in FPO		
2.	Non- availability of literature on FPO activities		
3.	Lack of co-ordination for different group activities		
4.	Ineffective linkages		
5.	Inefficient monitoring		
6.	Predominance of part time farmers		
<b>II</b>	<b>Socio- political constraints</b>		
1.	Political affiliation of members		
2.	Sub- group formed execution		
3.	Non- representation of all section in the area		
<b>III</b>	<b>Economic constraints</b>		
1.	Low price for produces		
2.	Non availability of timely credits		
3.	In adequate profit of individual members		
<b>IV</b>	<b>Other constraints</b>		
1.	Labour demand at peak section		
2.	Labour disputes		
3.	Provision of the facilities only for the leaders		
	Others (specify)		

**Farm level constraints perceived by members**

Sl. No.	Statements	Response	
		Yes	No
<b>I</b>	<b>Technical constraints</b>		
1.	Untimely, costly and poor-quality inputs		
2.	Lack of proper infrastructure (implements, irrigation facilities, power and electricity)		
3.	Lack of well-developed storage facilities		
4.	Lack of well-developed processing facilities		
5.	Difficulties in following the recommended practices, high incidence of diseases and pests, crop failure		
6.	Computer illiteracy which makes them unable to derive benefits of the ICT tools available		
7.	Lack of awareness about grading and packaging		
<b>II</b>	<b>Labour and economic constraints</b>		
1.	Unavailability of labour during harvesting		
2.	Lack of technical skill of labourers in harvesting, processing		
3.	High cost of labour		
4.	Lack of sufficient finance		
5.	Unawareness of credit facilities		
6.	No crop insurance facilities		
7.	Lack of price policy by the government		
<b>III</b>	<b>Marketing constraints</b>		
1.	Price fluctuation every year		
2.	Lack of latest market information		
3.	Lower price for produce and distress sale		
4.	Distant market and high cost of transportation		
5.	Exploitation by middle men		
6.	Perishable nature of products		
7.	Delayed payment		

**Suggestions by the members of FPO for effective functioning of FPO**

Sl. No.	Suggestions

**INTERVIEW SCHEDULE FOR NON-MEMBERS**

Respondent No:

**Part A**

**1. General information**

- 1 Name of the farmer :
- 2 Name of the village :
- 3 Name of the taluk :
- 4 Name of the district :

**PART-B**

**I. Impact on Yield, income and social status**

**A. Income:**

Sl. No.	Source of Income	Crop	Gross income	Total cost of expenditure
1	Agriculture (specific crop)			

**B. Yield:** (Indicate the employment generated from different activities)

**2. Yield /Acre**

Sl. No.	Crop	Quantity (in qtl)	Rate (Rs/ctl)	Value (Rs)
1.				
	Total			

### C. Social Status

Indicate your response to the following statements

Sl. No.	Activities	Response			
		A	F	O	N
1	Fellow farmers will consider you as a resource person in the village				
2	Fellow farmers will ask for your opinion whenever they face the problem in agriculture				
3	Fellow farmers will consider your presence inevitable in the group discussion				
4	Fellow farmers will ask you for new information				
5	Fellow farmers will seek guidance from you before adopting any technology				
6	Fellow farmers will involve you in any of the important farming decision				
7	Fellow farmers will consider you as one of the most experienced farmers in the village				
8	Fellow farmers will consider you for stimulation for any group or social work				
9	Fellow farmers will consider you as leader whenever farmers groups are formed				
10	Officials will recognize you as progressive farmer				
11	Officials will involve you in their developmental programmes				
12	Do you maintain credit worthiness from the bankers?				

**(A-Always, F-Frequently, O-Occasionally and N-Never)**

## PART-C

### Farm level constraints perceived by non-members

Sl. No.	Statements	Response	
		Yes	No
<b>I</b>	<b>Technical constraints</b>		
1.	Untimely, costly and poor-quality inputs		
2.	Lack of proper infrastructure (implements, irrigation facilities, power and electricity)		
3.	Lack of well-developed storage facilities		
4.	Lack of well-developed processing facilities		
5.	Difficulties in following the recommended practices, high incidence of diseases and pests, crop failure		
6.	Computer illiteracy which makes them unable to derive benefits of the ICT tools available		
7.	Lack of awareness about grading and packaging		
<b>II</b>	<b>Labour and economic constraints</b>		
1.	Unavailability of labour during harvesting		
2.	Lack of technical skill of labourers in harvesting, processing		
3.	High cost of labour		
4.	Lack of sufficient finance		
5.	Unawareness of credit facilities		
6.	No crop insurance facilities		
7.	Lack of price policy by the government		
<b>III</b>	<b>Marketing constraints</b>		
1.	Price fluctuation every year		
2.	Lack of latest market information		
3.	Lower price for produce and distress sale		
4.	Distant market and high cost of transportation		
5.	Exploitation by middle men		
6.	Perishable nature of products		
7.	Delayed payment		

## INTERVIEW SCHEDULE FOR OFFICIALS

1. **Name of the respondent:**

2. **Designation:**

3. **Years of service:**

4. **Measurement of sustainability**

a. **Organizational statistics of the FPO**

Sl. No.	Category	Subsequent years		
		2017	2018	2019
1	Members			
2	Villages covered			
3	Outlets			
4	Activities			

b. **Economic efficiency of the FPO**

Sl. No.	Category	Subsequent years		
		2017	2018	2019
1	Employment generated (no. of days)			
2	Funds (Rs.)			
3	Portion of profit from business invested (%)			
4	Annual turnover (Rs. Per year)			

c. **Environmental accountability of the FPOs**

Sl. No.	Statements	Response	
		YES	No.
1.	Are the products produced in conditions and processes that confer to the international ISO standards?		
2.	Are the products certified by a nationally recognized agency?		
3.	Are the majority of the produce procured are organically grown?		

**Constraints as perceived by officials FPO**

Sl. No.	Statements	Response	
		Yes	No
<b>I</b>	<b>Technical constraints</b>		
1.	Renewal of license		
2.	Lack of its own processing units		
3.	Lack an office building of its own		
<b>II</b>	<b>Marketing constraints</b>		
1.	Distant market and lack of facilities for transportation		
2.	Lack of adequate number of godowns, store houses		
3.	Difficulty to meet export standards		
<b>III</b>	<b>Financial constraints</b>		
1.	Less contributions by members as majority are poor		
2.	Lack of enough capital		
3.	No price policy by government and no crop insurance		

**Suggestions by the officials of FPO for effective functioning of FPO**

Sl. No.	Suggestions	Rank



## Research Article

### PROFILE CHARACTERISTICS OF MEMBERS OF FARMER PRODUCER ORGANIZATIONS (FPOs)

S. DECHAMMA<sup>\*1</sup>, B. KRISHNAMURTHY<sup>2</sup>, B.M. SHASHIDHAR<sup>3</sup> AND R. VASANTHA KUMARI<sup>4</sup>

<sup>1</sup>Department of Agricultural Extension, University of Agricultural Sciences, Bengaluru, 560065, Karnataka, India

<sup>2</sup>Professor and Head, Department of Agricultural Extension, University of Agricultural Sciences, Bengaluru, 560065, Karnataka, India

<sup>3</sup>Former Professor, Department of Agricultural Marketing, Co-operation and Business Management, University of Agricultural Sciences, Bengaluru, 560065, India

<sup>4</sup>Professor, Department of Horticulture, University of Agricultural Sciences, Bengaluru, 560065, Karnataka, India

\*Corresponding Author: Email - shivanidechu@gmail.com

Received: December 01, 2020; Revised: December 12, 2020; Accepted: December 13, 2020; Published: December 15, 2020

**Abstract:** The study was conducted in purposively selected Mysuru district of Karnataka state because largest number of crop specific FPOs (10 FPOs) are operating in the district out of 182 FPOs in Karnataka state. The two organisations Varuna Horticulture Farmer Producer Company Limited (VHFPC) and Arkeshwara Horticulture Farmer Producer Company Limited (AHFPC) were purposively selected. The respondents for the study were the members in the organisations. The list of organisational members was taken from each organisation growing Banana and Tomato crop thus 60 respondents were selected by simple random sampling technique. Thus, a total of 120 member farmers were selected for the study. Ex-post-facto research design was used for the present study. The collected data was analyzed using mean, frequency, standard deviation. With respect to the personal characteristic of VHFPC members, it was found that majority half (70.00 %) of them belonged to middle age group, had high school education (35.00 %) and belonged to medium sized family (45.00 %) further they had low farming experience (38.33 %), and belonged to big farmers (60.00 %) category. With respect to the personal characteristic of AHFPC members it was found that over half (56.67 %) of them belonged to young age group, had high school education (33.33 %), belonged to medium sized family (65.00 %), had low farming experience (45.00 %), and belonged to small farmers (46.67 %).

**Keywords:** Farmer Producer Organizations, Personal, Psychological variables, Communication variable

**Citation:** S. Dechamma, et al., (2020) Profile Characteristics of Members of Farmer Producer Organizations (FPOs). International Journal of Agriculture Sciences, ISSN: 0975-3710 & E-ISSN: 0975-9107, Volume 12, Issue 23, pp.- 10422-10429.

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**Academic Editor / Reviewer:** Shanabhoga M B

#### Introduction

Department of Agriculture and Co-operation under Ministry of Agriculture and Farmers Welfare, Govt. of India has identified 'FPOs' registered under the special provisions of the Companies Act, 1956 as the most appropriate institutional form around which the mobilization of farmers is to be made for building their capacity to collectively leverage their production and marketing strength. It creates sustainable linkages between FPOs and input suppliers, technology providers, extension and research agencies and marketing and processing firms both in public and private sectors [1].

Several institutional models of farmers have been tried in India to integrate farmers with the value chain, FPOs are found to be one such recent and effective model. Y.K. Alagh committee has recommended FPOs as a primary level organization to serve the interest of farming community; These FPOs are flexible incorporating the characteristics features of companies and also co-operative societies. As per the guidelines prepared by NABARD, FPOs in India can be promoted or registered in the country under Companies Act 1953 or even as a co-operative society under the concerned state co-operative societies act or the liberal co-operatives act enacted by few states in the country.

Besides, the area of operation of FPO is more than a state. It can be registered under multistate co-operative act 2002. Further as per the NABARD guidelines an FPO can also be registered under Indian trust act 1882. Hence sufficient provision has been made to promote and register FPOs under the provision of any act in the country. The following are the important features of FPOs.

FPO is a registered body and a legal entity.

FPOs are formed by a group of producers for either farm or non-farm activities.

Producers are shareholders in the organization.

FPOs deals with business activities related to the primary produce/product.

FPOs work for the benefit of the member producers.

A part of the profit is shared among the producers.

Rest of the surplus is added to its owned funds for business expansion.

#### Material and Methods

The study was conducted in purposively selected Mysuru district of Karnataka state because largest number of crop specific FPOs (10 FPOs) are operating in the district out of 182 FPOs in Karnataka state. In the district Mysuru and K.R.Nagara taluks were selected purposively in order to bring a contrast between two areas showcasing the extremes, one representing the area most favourable for fruits i.e. Mysuru and the other, portraying the area with most favourable conditions for vegetables i.e. K.R.Nagara. The two organisations Varuna Horticulture Farmer Producer Company Limited (VHFPC) and Arkeshwara Horticulture Farmer Producer Company Limited (AHFPC) were purposively selected to assess the impact of farmer organisations as they adequately represent successful and assessable case studies of farmer organisations. In addition, both of them involve small and marginal farmers. The organisations are located in the Mysuru and K.R.Nagara taluk of Mysuru district. Thus, these two taluks were purposively selected.

#### Selection of the respondents

In Mysuru taluk, Varuna village was selected purposively because the office of VHFPC was located in Varuna. Similarly, out of K.R.Nagara taluk in district of Mysuru, Hebbalu village was selected purposively because of the positioning of its main office in Hebbalu of the AHFPC.

### Selection of farmers

The respondents for the study were the members in the organisations. The list of organisational members was taken from each organisation growing Banana and Tomato crop thus 60 respondents were selected by simple random sampling technique. Thus, a total of 120 member farmers were selected for the study.

### Research design

Research design is the most important and crucial aspect of research methodology. Keeping in the view the nature of the study, ex-post facto research design was adopted for the study. This was considered as appropriate because the phenomenon has already occurred. *Ex-post facto* research design is a systematic empirical enquiry in which the researcher does not have direct control over independent variables, because their manifestation has already occurred or because they are inherently not manipulable and inferences about relationship among variables are made without direct intervention, from concomitant influence of independent variables on dependent variables [2].

### Result and discussion

#### Profile characteristics of farmer producer organizations members

The personal psychological and communication characteristics of members of two FPOs and the pooled sample were studied and quantified. The variables included for the study are age, education, family size, farming experience, land holding, achievement motivation, cosmopolitanness, decision making ability, scientific orientation, management orientation, economic motivation, risk orientation, innovative proneness, social participation, mass media exposure, participation in the activities of FPO, training received, extension contact and extension participation. The results are systematically presented in [Table-1] under separate headings.

#### Age

Age of the respondents shows maturity and thinking ability. It is visualized from the results presented in [Table-1] that majority (70.00 %) of the VHFPC members were belonging to middle age group, followed by young (20.00 %) and old age group (10.00 %). With respect to AHFPC members more than half (56.67 %) of the tomato growers were of young aged, followed by middle (40.00 %) and old age (3.33 %) category. The Pooled data revealed that over half (55.00 %) of the respondents belonged to middle age group followed by young (38.33 %) and old age (6.67 %) group. Usually, the middle-aged farmers are more enthusiastic and have great amount of responsibility as well as they are efficient compared to old and young farmers. Further, the respondents between 31 to 50-year age group have more physical vigor and more responsibility towards family than the young farmers. The results are in line with the findings of the study conducted by Gopala (2015) [3] and Shivani *et al.*, (2016) [4].

#### Education

Education of the individual determines their knowledge level and the mental status of the individual. Results pertaining to the education level of VHFPC members depicted that less than half (35.00 %) of them had high school education and nearly one fourth (18.33 %) of the VHFPC members had PUC level education, followed by JOC/ITI/Diploma level (16.67%) education. In case of AHFPC members, 33.33 percent of them were having high school level education. Whereas, 25.00 and 18.33 percent of them were having PUC level and JOC/ITI/Diploma level of education, respectively.

The pooled data of education status of the farmers revealed that a little more than one third (34.17 %) of the respondents were having upto middle school level of education followed by JOC/ITI/Diploma level (21.67 %) education.

Education helps to have fair amount of knowledge about the functioning of FPOs and its consequences. The result shows that awareness about FPOs will have greater impact in understanding level of the farmers. Even though the formal education of the respondents is low, their farming experience is medium which is necessary to know about impact of FPOs on yield and income and to adopt respective technologies to improve the same. The results are in line with the findings of the study conducted by Vinay Kumar (2008) [5] and Gopala (2015) [6].

### Family size

The [Table-1] shows that little less than half (45.00 %) each of the VHFPC members were having medium and big sized family, followed by small (10.00 %) family. Similarly, more than half (65.00 %) of the AHFPC members were having medium sized family, followed by small (20.00 %) and big (15.00 %) family. The pooled data more than half of the respondents had medium sized (55.00 %) family, followed by big (30.00 %) and small sized (15.00 %) family.

In the present-day context the individuals are well aware of the importance of small and medium sized families. The role of government and NGOs in bringing awareness on farm technologies and also the efforts of the mass media might have contributed for the above trend. The disintegration of joint families due to social and financial reasons might have also contributed for the emergence of small and medium sized families. Besides the medium size families, which were having five to seven members may influence the collective decision-making ability of farmers. The results of the present study are in line with the findings of the study conducted Pat Bogue (2013) [7].

### Farming experience

The data in [Table-1] depicts that, 38.33 percent of the VHFPC members were having low level of farming experience, followed by medium (35.00 %) and high (26.67 %) level of farming experience. It can also be visualized from the table that 45.00 percent of the tomato growers were having low level of farming experience, followed by medium level (36.67 %) and high level (18.33 %) of farming experience.

Nearly half (47.50 %) of the respondents were having medium level farming experience, followed by low (30.00 %) and high (22.50 %) level of farming experience in case of pooled sample. The farming experience is one of the important components, which helps the farmers to take decisions on suitable strategies related to crop cultivation. The banana and tomato crop require improved knowledge and skills for its cultivation otherwise the farmers may lose huge investment made on cultivation. The farming experience of the farmers will certainly influence their ability to accept and adopt the technologies with respect to cultivation. The medium level of farming experience also contributes for taking rational decisions. Hence, nearly half of the respondents are found in medium level of farming experience. The results of the present study are in line with the findings of Vinay Kumar (2008) and Shanabhoga *et al.*, (2017) [8].

### Land Holding

The [Table-1] revealed that more than half (60.00 %) of the VHFPC members were big farmers, followed by small (21.67 %) and marginal (18.33%) farmers. The results also reveal that nearly half (46.67 %) of the tomato growers were having small land holdings, followed by big (33.33 %) and marginal farmers (20.00 %). The pooled data depicted that, nearly half (46.66 %) of the respondents are big farmers, followed by small (34.17 %) and marginal (19.17 %) farmers.

It is needless to explain that the study area has more plain land and, in such lands, large holding are common unlike in hilly and coastal zones. The fragmentation of land due to family and social issues has also contributed to a greater number of smallholdings. The results are in line with the results of the study conducted by Gopala (2010).

### Achievement motivation

The data presented in [Table-1] revealed that, more than one third (38.83 %) of the VHFPC members were having medium level of achievement motivation and 35.00 percent of growers were having high level followed by low level (26.67 %) of achievement motivation. In case of AHFPC members, 40.00 percent of the farmers were having medium level of achievement motivation followed by 31.67 percent of them having low level and 28.33 percent were having high level of achievement motivation. The pooled data of the VHFPC members and tomato growers depicts that more than one third (39.17 %) of the respondents were having medium level of achievement motivation, followed by high (31.66 %) and low (29.17 %) level of achievement motivation. It is evident that majority of the VHFPC members are having sufficient land and easy access to inputs which helps to diversify the crops and to excel in crop production to get better returns.

Table-1 Personal characteristics of Farmer producer Organizations members

SN	Characteristics	Particulars	Mean	SD	Category	No	%
1	Personal characteristics						
1	Age	VHFPC members (n <sub>1</sub> =60)	-	-	Young (upto 35 years)	12	20.00
					Middle (36 to 50 years)	42	70.00
					Old (above 50 years)	6	10.00
		AHFPC members (n <sub>2</sub> =60)			Young (upto 35 years)	34	56.67
					Middle (36 to 50 years)	24	40.00
					Old (above 50 years)	2	3.33
		Pooled sample (N=60)			Young (upto 35 years)	46	38.33
					Middle (36 to 50 years)	66	55.00
					Old (above 50 years)	8	6.67
2	Education	VHFPC members (n <sub>1</sub> =60)	-	-	Illiterate	6	10.00
					Upto middle school	5	8.33
					High school	21	35.00
					JOC/ITI/Diploma	10	16.67
					PUC	11	18.33
					Graduate	7	11.67
		AHFPC members (n <sub>2</sub> =60)			Illiterate	4	6.67
					Upto middle school	4	6.67
					High school	20	33.33
					JOC/ITI/Diploma	11	18.33
					PUC	15	25.00
					Graduate	6	10.00
		Pooled sample (N=60)			Illiterate	9	7.50
					Upto middle school	41	34.17
					High school	21	17.50
JOC/ITI/Diploma	26		21.67				
PUC	13		10.83				
Graduate	10		8.33				
3	Family size	VHFPC members (n <sub>1</sub> =60)	-	-	Small (2-4members)	6	10.00
					Medium (5-7members)	27	45.00
					Big (8 and above)	27	45.00
		AHFPC members (n <sub>2</sub> =60)			Small (2-4members)	12	20.00
					Medium (5-7members)	39	65.00
					Big (8 and above)	9	15.00
		Pooled sample (N=60)			Small (2-4members)	18	15.00
					Medium (5-7members)	66	55.00
					Big (8 and above)	36	30.00
4	Farming experience	VHFPC members (n <sub>1</sub> =60)	21.2	9.191	Low (<16.605)	23	38.33
					Medium (16.605-25.795)	21	35.00
					High (>25.765)	16	26.67
		AHFPC members (n <sub>2</sub> =60)			Low (<11.110)	27	45.00
					Medium (11.110-18.657)	22	36.67
					High (>18.657)	11	18.33
		Pooled sample (N=60)			Low (<13.565)	36	30.00
					Medium (13.565-22.519)	57	47.50
					High (>22.519)	27	22.50
5	Land holding	VHFPC members (n <sub>1</sub> =60)	-	-	Marginal (<2.5acres)	11	18.33
					Small (2.5-5 acres)	13	21.67
					Big (>5 acres)	36	60.00
		AHFPC members (n <sub>2</sub> =60)			Marginal (<2.5acres)	12	20.00
					Small (2.5-5 acres)	28	46.67
					Big (>5 acres)	20	33.33
		Pooled sample (N=60)			Marginal (<2.5acres)	23	19.17
					Small (2.5-5 acres)	41	34.17
					Big (>5 acres)	56	46.66

The main risk factors for tomato production are yield, price and cost risks. Hence the motivational level among AHFPC members is low. However, achievement motivation helps an individual to decide and complete the tasks in a certain direction, which in turn helps in achieving the desired results. Hence, majority of the respondents belonged to medium to high level achievement motivation category. Similar results were observed by Shivani *et al.*, (2017) [9] and Shanabhoga *et al.*, (2019) [10].

**Cosmopolitanness**

It could be observed from the [Table-1] that, 35.00 percent of the VHFPC members were having high level of cosmopolitanness, followed by 33.33 percent had low level and 31.67 percent had medium level of cosmopolitanness. It can also be seen from the table 4.1 that 35.00 percent of the AHFPC members were having

high level of cosmopolitanness, followed by medium (33.33 %) and low (31.67 %) level of cosmopolitanness. The pooled data revealed that 35.00 percent of the respondents were having high level of cosmopolitanness, followed by medium (33.33 %) and low (31.67 %) level of cosmopolitanness.

A larger number of farmers had high level of cosmopolitanness because majority of the VHFPC members and AHFPC members had frequent contact with other members and officials of FPO as well as other individuals outside their social system. Farmers are also very keen and enthusiastic to know about the advances in agricultural field and other improved technologies from the fellow farmers. This would provide an opportunity for interpersonal communication within the members of the FPO to discuss about the new schemes and improved production practices. The results are line with the findings reported by Gopala (2015).

Profile Characteristics of Members of Farmer Producer Organizations (FPOs)

Table-1 Personal characteristics of Farmer producer Organizations members

SN	Characteristics	Particulars	Mean	SD	Category	No	%					
Psychological and Communication characteristics												
6	Achievement motivation	VHFPC members (n <sub>1</sub> =60)	17.1	2.892	Low (<15.654)	16	26.67					
					Medium (15.654-18.546)	23	38.33					
					High (>18.546)	21	35.00					
					AHFPC members (n <sub>2</sub> =60)	16.733	3.025	Low (<15.221)	19	31.67		
								Medium (15.221-18.246)	24	40.00		
								High (>18.246)	17	28.33		
		Pooled sample (N=60)	16.917	2.952				Low (<15.441)	35	29.17		
								Medium (15.441-18.393)	47	39.17		
								High (>18.393)	38	31.66		
					7	Cosmopolitanness	VHFPC members (n <sub>1</sub> =60)	17.55	2.258	Low (<16.421)	20	33.33
										Medium (16.421-18.679)	19	31.67
										High (>18.679)	21	35.00
AHFPC members (n <sub>2</sub> =60)	17.317	2.311	Low (<16.161)	19						31.67		
			Medium (16.161-18.472)	20						33.33		
			High (>18.472)	21						35.00		
			Pooled sample (N=60)	17.475			2.242	Low (<16.354)	38	31.67		
								Medium (16.354-18.596)	40	33.33		
								High (>18.596)	42	35.00		
8	Decision making ability	VHFPC members (n <sub>1</sub> =60)						6.933	0.899	Low (<6.484)	19	31.67
										Medium (6.484-7.383)	23	38.33
										High (>7.383)	18	30.00
			AHFPC members (n <sub>2</sub> =60)	7.317	1.049	Low (<6.792)	9			15.00		
						Medium (6.792-7.841)	16			26.67		
						High (>7.841)	35			58.33		
		Pooled sample (N=60)				7.125	0.992	Low (<6.629)	28	23.33		
								Medium (6.629-7.621)	39	32.50		
								High (>7.621)	53	44.17		
			9	Scientific orientation	VHFPC members (n <sub>1</sub> =60)			16.9	1.633	Low (<16.083)	12	20.00
										Medium (16.083-17.717)	32	53.33
										High (>17.717)	16	26.67
AHFPC members (n <sub>2</sub> =60)	15.1	2.319				Low (<13.940)	13			21.67		
						Medium (13.940-16.260)	31			51.66		
						High (>16.260)	16			26.67		
					Pooled sample (N=60)	16	2.192	Low (<14.904)	22	18.33		
								Medium (14.904-17.096)	76	63.33		
								High (>17.096)	22	18.34		
10	Management orientation	VHFPC members (n <sub>1</sub> =60)						15.783	2.164	Low (<14.702)	17	28.33
										Medium (14.702-16.865)	15	25.00
										High (>16.865)	28	46.67
			AHFPC members (n <sub>2</sub> =60)	15.883	1.805	Low (<14.981)	15			25.00		
						Medium (14.981-16.786)	18			30.00		
						High (>16.786)	27			45.00		
		Pooled sample (N=60)				15.833	1.985	Low (<14.841)	32	26.67		
								Medium (14.841-16.826)	33	27.50		
								High (>16.826)	55	45.83		
			11	Economic motivation	VHFPC members (n <sub>1</sub> =60)			19.45	1.799	Low (<18.551)	21	35.00
										Medium (18.551-20.349)	23	38.33
										High (>20.349)	16	26.67
AHFPC members (n <sub>2</sub> =60)	19.083	1.835				Low (<18.166)	23			38.33		
						Medium (18.166-20.001)	24			40.00		
						High (>20.001)	13			21.67		
					Pooled sample (N=60)	19.267	1.818	Low (<18.357)	44	36.67		
								Medium (18.357-20.176)	47	39.16		
								High (>20.176)	29	24.17		

\*VHFPC- Varuna Horticulture Farmer Producer Company Limited; AHFPC-Arkeswara Horticulture Farmer Producer Company Limited

**Decision making ability**

[Table-1] revealed that, 38.33 percent of the VHFPC members showed medium level of decision-making ability, followed by low (31.67 %) and high (30.00 %) level of decision-making ability. In case of AHFPC members, more than half (58.33 %) were having high level of decision-making ability, followed by medium (26.67 %) and low (15.00 %) level of decision-making ability. Pooled data revealed that, 44.17 percent of the respondents were having high-level decision-making ability, followed by medium (32.50 %) and low (23.33 %) level of decision-making ability. The ability of the farmer to make decision among the choices is the major psychological character which influences the cultivation of the crops and practices the better production technologies. Since, both VHFPC members and AHFPC members are the members of FPOs it will be easy for them to decide the timely operations required in all the stages of crop production with proper guidance by the FPO officials. The study is in line with the results of the study conducted by Shanabhoga *et al.*, (2017) [11].

**Scientific orientation**

It could be seen from the [Table-1] that, little more than half of the VHFPC members (53.33 %) and tomato (51.66 %) growers exhibited medium level of scientific orientation. An equal number of VHFPC members and AHFPC members (26.67%) each belonged to high level of scientific orientation category. Whereas 20.00 percent of the VHFPC members and 21.67 percent of the AHFPC members are belonged to low level scientific orientation category. The pooled data revealed that, majority (63.33 %) of the respondents belonged to medium level of scientific orientation, followed by high (18.34 %) and low (18.33 %) level of scientific orientation category. The interventions of the FPOs to create awareness on the improved crop production technologies are not reaching to the VHFPC members and AHFPC members to the fullest. Though the respondents are having high degree of acceptance towards adapting scientific technologies, situational factors like income, climate, soil etc., hinders them to accept and adopt the new scientific production techniques. Similar findings were reported by Gopala (2015) and Shivani *et al.*, (2017) [12].

Table-1 Personal characteristics of Farmer producer Organizations members

SN	Characteristics	Particulars	Mean	SD	Category	No	%
II		Psychological and Communication characteristics					
12	Risk orientation	VHFPC members (n <sub>1</sub> =60)	9.1	1.946	Low (<8.127)	23	38.33
					Medium (8.127-10.073)	13	21.67
					High (>10.073)	24	40.00
		AHFPC members (n <sub>2</sub> =60)	9.717	1.878	Low (<8.777)	14	23.33
					Medium (8.777-10.656)	13	21.67
					High (>10.656)	33	55.00
		Pooled sample (N=60)	9.408	1.929	Low (<8.444)	37	30.83
					Medium (8.444-10.373)	26	21.67
					High (>10.373)	57	47.50
13	Innovative proneness	VHFPC members (n <sub>1</sub> =60)	28.783	4.64	Low (<26.463)	16	26.67
					Medium (26.463-31.103)	23	38.33
					High >31.103	21	35.00
		AHFPC members (n <sub>2</sub> =60)	29.117	4.404	Low <26.915	18	30.00
					Medium 26.915-31.319	22	36.67
					High >31.319	20	33.33
		Pooled sample (N=60)	28.95	4.507	Low <26.696	38	31.66
					Medium 26.696-31.204	41	34.17
					High >31.204	41	34.17
14	Social participation	VHFPC members (n <sub>1</sub> =60)	3.983	1.282	Low <3.342	18	30.00
					Medium 3.342-4.624	29	48.33
					High >4.624	13	21.67
		AHFPC members (n <sub>2</sub> =60)	4.317	1.513	Low <3.560	16	26.67
					Medium 3.560-5.073	26	43.33
					High >5.073	18	30.00
		Pooled sample (N=60)	4.15	1.406	Low <3.447	34	28.33
					Medium 3.447-4.853	51	42.50
					High >4.853	35	29.17
15	Mass media exposure	VHFPC members (n <sub>1</sub> =60)	4.033	1.822	Low <3.122	9	15.00
					Medium 3.122-4.945	26	43.33
					High >4.945	25	41.67
		AHFPC members (n <sub>2</sub> =60)	4.6	2.085	Low <3.558	17	28.33
					Medium 3.558-5.642	23	38.34
					High >5.642	20	33.33
		Pooled sample (N=60)	4.325	1.967	Low <3.342	42	35.00
					Medium 3.342-5.308	44	36.67
					High >5.308	34	28.33
16	Participation in activities of FPO	VHFPC members (n <sub>1</sub> =60)	3.683	1.6	Low <2.883	14	23.33
					Medium 2.883-4.483	26	43.34
					High >4.483	20	33.33
		AHFPC members (n <sub>2</sub> =60)	4.333	1.374	Low <3.646	21	35.00
					Medium 3.646-5.020	24	40.00
					High >5.020	15	25.00
		Pooled sample (N=60)	4.008	1.52	Low <3.248	24	20.00
					Medium 3.248-4.768	44	36.67
					High >4.768	52	43.33
17	Training received	VHFPC members (n <sub>1</sub> =60)	15.917	4.552	Low (<13.641)	14	23.33
					Medium (13.641-18.193)	28	46.67
					High (>18.193)	18	30.00
		AHFPC members (n <sub>2</sub> =60)	13.283	2.552	Low (<12.007)	24	40.00
					Medium (12.07-14.559)	11	18.33
					High (>14.559)	25	41.67
		Pooled sample (N=60)	14.6	3.905	Low (<12.647)	37	30.83
					Medium (12.647-16.553)	53	44.17
					High (>16.553)	30	25.00
18	Extension contact	VHFPC members (n <sub>1</sub> =60)	7.833	2.38	Low <6.643	14	23.33
					Medium 6.643-9.024	36	60.00
					High >9.024	10	16.67
		AHFPC members (n <sub>2</sub> =60)	5.833	3.093	Low <4.287	18	30.00
					Medium 4.287-7.380	32	53.33
					High >7.380	10	16.67
		Pooled sample (N=60)	6.833	2.926	Low <5.370	44	36.67
					Medium 5.370-8.296	49	40.83
					High >8.296	27	22.50
19	Extension participation	VHFPC members (n <sub>1</sub> =60)	7.5	3.286	Low <5.857	18	30.00
					Medium 5.857-9.143	26	43.33
					High >9.143	16	26.67
		AHFPC members (n <sub>2</sub> =60)	8.083	3.868	Low <6.149	22	36.68
					Medium 6.149-10.017	19	31.66
					High >10.017	19	31.66
		Pooled sample (N=60)	7.792	3.585	Low <5.999	34	28.33
					Medium 5.999-9.584	44	36.67
					High >9.584	42	35.00

\*VHFPC- Varuna Horticulture Farmer Producer Company Limited; AHFPC-Arkeshwara Horticulture Farmer Producer Company Limited

**Management orientation**

It is very interesting to know from the [Table-1] that, nearly half (46.67 %) of the VHFPC members had high level of management orientation followed by low (28.33 %) and medium (25.00 %) level of management orientation.

It is also very interesting to know from the same table that, 45.00 percent of the AHFPC members had high level of management orientation, followed by medium (30.00 %) and low (25.00 %) level of management orientation.

The pooled data shows that, 45.83 percent of the respondents were having high level of management orientation, followed by medium (27.50 %) and low (26.67 %) level of management orientation. The reasons for majority of the respondents belonging to high level of management orientation are that all the respondents are FPO members and they have good extension contacts and communication with field extension personnel. This helps them to re-orienting their current management practices to plan and implement of the production practices accordingly for the benefit. The personal exposure of farmers to various professional situations like extension meeting, exhibitions, field days, Krishimela etc., also might have contributed to develop certain level of management orientation as compared to other farmers. The study is in line with the results of the study conducted by Shankara (2019) [13] and Shanabhoga *et al.*, (2017) [14].

#### Economic motivation

The data shown in the [Table-1] revealed that, over one third (38.33 %) of the VHFPC members were having medium level of economic motivation, followed by low (35.00 %) and high level (26.67 %) of economic motivation. Whereas, 40.00 percent of the AHFPC members were having medium level of economic motivation, followed by low level (38.33 %) and high level (21.67 %) economic motivation. With respect to pooled data, 39.16 percent of the respondents were having medium level economic motivation followed by low level (36.67 %) and high (24.17 %) level economic motivation.

Every farmer will have an urge to increase his farm income by increasing farming efficiency in terms of B: C ratio by adopting better production practices. In this case, the FPOs are involved in providing better production techniques to VHFPC members and AHFPC members. In spite of it the members are not able to realize better price for their produce in the market because of extreme price fluctuations. Hence, majority of the respondents are exhibiting medium to low level of economic motivation. However, the FPOs can plan and provide guidance in market-oriented issues to members for their sustainable income. The similar results can be seen in the study conducted by Lavanya (2010) [15].

#### Risk orientation

It is clear from the [Table-1] that, forty percent of the VHFPC members had high level of risk orientation, followed by 38.33 and 21.67 percent of the VHFPC members were having low and medium level of risk orientation respectively. However, 55.00 percent of the AHFPC members had high level of risk orientation, followed by 23.33 and 21.67 percent of them had low and medium level of risk orientation, respectively. The pooled data revealed that, nearly half (47.50 %) of the respondents were having high level, followed by low (30.83 %) and medium (21.67 %) level of risk orientation.

Majority of the VHFPC members and AHFPC members are young to middle age group and have good education. Factors like land holding and other psychological characters of the farmer's also influences on their risk-taking behavior in farming situation. Though the farming experience of the respondents is high, the guidance and advices from the FPOs is helping them to analyze the situation to take risk and better decisions. The risk bearing ability of the respondents will play a vital role in adopting the improved cultivation practices and to take decisions on market of the produce. The results are in line with the study of Shanabhoga *et al.*, (2017).

#### Innovative proneness

The data in [Table-1] showed that, 38.33 percent of the VHFPC members were having medium level of innovative proneness and 35.00 and 26.67 percent of the VHFPC members were having high and low level of innovative proneness, respectively. Whereas, over one-third of the AHFPC members (36.67 %) had medium level of innovative proneness and 33.33 and 30.00 percent of the AHFPC members were having high and low levels of innovative proneness respectively.

The pooled data depicted that, equal percent (34.17 % each) of the respondents were having high and medium level of innovative proneness and 31.66 percent of the respondents were having low level of innovative proneness. Majority of the respondents belonged to medium and high level of innovativeness. Innovativeness plays a greater role in the individuals' personality. The person with higher innovativeness can do things rapidly and more precisely than others. This

also may be attributed to the fact that majority of the respondents had high schooling and pre university/diploma. Generally, higher the formal education level, higher the attitude towards innovations. In such conditions, the members of the FPOs try to seek more information and try out new ideas and technologies within their budget and limits and members who are prone to innovations will try to gather information regarding the new technology from various specialists from the training or the advice given from the FPO, they wanted to learn new ways of farming, improved cultivation practices and adopt those technologies at faster rate with maximum accuracy. These results are in line with the study conducted by Gopala (2010) and Yavana Priya (2010) [16].

#### Social participation

The data from [Table-1] depicts that, nearly half (48.33 %) of the VHFPC members had medium level of social participation, followed by low (30.00 %) and high level (21.67 %) of social participation. Whereas, nearly half (43.33 %) of the AHFPC members were having medium level of social participation, followed by high (30.00 %) and low (26.67 %) level of social participation. The pooled data revealed that 42.50 percent of the respondents were belonged to medium level of social participation category, followed by high (29.17 %) and low (28.33 %) level category. The presence of Farmer producer organizations in the village and members involvement in the organizational activities directly or indirectly provides them social contact, which greatly influences in adopting various new agricultural practices as well as help them share the views and ideas on various farming aspects of banana and tomato. Also, the initiation of different programmes and schemes from the Government as well as from line departments were contributing towards active participation of the respondents in social activities. The study is in line with the results of the study conducted by Lavanya (2010).

#### Mass media exposure

It is seen from the [Table-1] that, 43.33 percent of the VHFPC members had medium level of mass media exposure followed by high (41.67 %) and low level (15.00 %) of mass media exposure. Whereas, 38.34 percent of the AHFPC members had medium level of mass media exposure and 33.33 percent of the AHFPC members belonged to high level, followed by 28.33 percent of them belonged to low level of mass media exposure. In the pooled data, a little more than one third (36.67 %) of the respondents were having medium level of mass media exposure, followed by low (35.00 %) and high (28.33 %) level of mass media exposure.

Mass media plays major role in disseminating information effectively. Farmers who are members in the FPOs are more accessible to the mass media such as television, radio, newspaper and smart phones. High level of mass media utilization explains respondents are very much dependent on mass media not only as a source of information but also as a source of entertainment. Mass media helps the members of the FPO to get the updates on the latest developments which are a good sign for the interest of farmers. The members in the FPO use social media platforms like WhatsApp and Facebook group to disseminate the information among them. Thereby the respondents can be aware of the things, which are happening in day-to-day life. The study depicts that the respondents having medium level of mass media exposure have greater influence in adopting new agricultural technologies. The obtained results are in line with the study conducted Lavanya (2010).

#### Participation in activities of FPO

It is depicted from the [Table-1] that, 43.34 percent of the VHFPC members had medium level of participation in the activities of FPO followed by high (33.33 %) and low level (23.33 %) of participation in the activities of FPO. Whereas, 40.00 percent of the AHFPC members had medium level of participation in the activities of FPO and 35.00 percent of the AHFPC members belonged to high level, followed by 25.00 percent of them belonged to low level of participation in the activities of FPO. In the pooled data, 43.33 percent of the respondents were having high level participation in the activities of FPO, followed by medium (36.67 %) and low (20.00 %) level participation in the activities of FPO. The members of the FPO are educated and majority belong to medium to high innovative S.

proneness category, hence the members are much interest in farming as well as to know different aspects of new agricultural technologies developed in banana as well as tomato cultivation. This shows that they show much interest in the participation of various activities of the FPO, which in turn help them to increase the yield and which also help them to increase the income level to lead a better standard of living. The results are in line with the study conducted by Gopala (2015).

#### Training received

It is depicted from the [Table-1] that, nearly half (46.67 %) of the VHFPC members had medium level of training received followed by high (30.00 %) and low level (23.33 %) training received. Whereas, 41.67 percent of the AHFPC members had high level of training received and 40.00 percent of the AHFPC members belonged to low level, followed by 18.33 percent of them belonged to medium level of training received.

In the pooled data, 44.17 percent of the respondents were having medium level of training, followed by low (30.83 %) and high (25.00 %) level of training received.

The members of the FPO are much interested to know about the cultivation practices of banana and tomato, thus they attain various training programmes conducted by the FPO, training provides an opportunity to farmers to know about the improved farming practices, marketing linkages etc., the results are similar to the study conducted by Narayanaswamy (2005) [17] and Gopala (2015).

#### Extension contacts

The data in [Table-1] revealed that 60.00 percent of the VHFPC members had medium level of extension contact, followed by 23.33 percent having low level and 16.67 percent of them having high level of extension contact. Whereas, a little more than half (53.33 %) of the AHFPC members had medium level of extension contact and interestingly 30.00 percent of the AHFPC members belonged to low level of extension contact, followed by 16.67 percent of them belonging to high level of extension contact. The pooled data depicts that 40.83 percent of the respondents were having medium level extension contact, followed by low (36.67 %) and high (22.50 %) level of extension contact. Extension contact results in purposeful action which is largely contingent upon an individual's belief in his ability to perform the action correctly and effectively and thus he frequently contacts various departmental officials to seek more information and to clarify the doubts pertaining to the latest and improved crop production practices on banana and tomato. The present study depicts that medium level of extension contact help the respondents in gathering more information from the extension personnel regarding various aspects of scientific cultivation of banana and tomato. The study is in line with the results of the study conducted by Karla *et al.* (2013) [18].

#### Extension participation

The data in [Table-1] depicts that, 43.33 percent of the VHFPC members were having medium level of extension participation followed by low (30.00 %) and high level (26.67 %) of extension participation. It can also be observed from the Table 4.1 that, 36.68 percent of the AHFPC members were having low level of extension participation, followed by an equal percent (31.66 %) each of the AHFPC members belonged to medium and high level of extension participation. From the pooled data it can be visualized that one third (36.67 %) of the respondents were having medium level of extension participation, followed by high (35.00 %) and low (28.33 %) level of extension participation [19-22]. The study is in line with the results of the study conducted by Karla *et al.* (2013) and Gopala (2015).

**Application of research:** Participation in the extension activities provides opportunities for contrived experiences and sources of improved agricultural production technologies prevailing in the region or locality. The extension activities conducted by FPOs were according to the needs and interest of the farmers, which has motivated its members to take up cultivation of banana and tomato in a better manner with improved technologies. The results obtained may be due to eagerness of the respondents in solving their problems with extension workers, also the interest in extension activities to gather recent information about banana and tomato cultivation practices

**Research Category:** Farmer Producer Organizations (FPOs)

**Abbreviations:** VHFPC- Varuna Horticulture Farmer Producer Company Limited, AHFPC-Arkeshwara Horticulture Farmer Producer Company Limited, FPOs- Farmer Producer Organizations

**Acknowledgement / Funding:** Authors are thankful to the Varuna Horticulture Farmer Producer Company Limited (VHFPC) and Arkeshwara Horticulture Farmer Producer Company Limited (AHFPC) of Mysuru district for the kind co-operation during my data collection. Authors are also thankful to the Department of Agricultural Extension, University of Agricultural Sciences, Bengaluru, 560065, Karnataka, India

**\*\*Research Guide or Chairperson of research: Dr. B. Krishnamurthy**  
University: University of Agricultural Sciences, Bengaluru, 560065, India  
Research project name or number: PhD Thesis

**Author Contributions:** All authors equally contributed

**Author statement:** All authors read, reviewed, agreed and approved the final manuscript. Note-All authors agreed that- Written informed consent was obtained from all participants prior to publish / enrolment

**Study area / Sample Collection:** Members of two Farmer Producer Organizations from Mysuru district of Karnataka state

**Cultivar / Variety / Breed name:**

**Conflict of Interest:** None declared

**Ethical approval:** This article does not contain any studies with human participants or animals performed by any of the authors.  
Ethical Committee Approval Number: Nil

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Original Research Article

<https://doi.org/10.20546/ijcmas.2020.911.444>

## Development of the Scale to Measure the Attitude of Farmers towards Farmer Producer Organizations (FPOs)

Shivani Dechamma\*, B. Krishnamurthy, M. T. Lakshminarayan and M. Shivamurthy

Department of Agricultural Extension, University of Agricultural Sciences,  
GKVK, Bengaluru, Karnataka, India

\*Corresponding author

### ABSTRACT

#### Keywords

Relevancy,  
Reliability,  
Validity, Attitude,  
Farmer producer  
organizations

#### Article Info

Accepted:  
24 October 2020  
Available Online:  
10 November 2020

Farmer Producer Organizations (FPOs) are being established so that it can help farmers in earning more returns through collective input purchase, collective marketing, processing, increasing productivity through procuring better inputs, augmenting knowledge of farmers in better management practices and ensuring quality. An attempt was made to develop a standardized scale to analyze the attitude of members towards Farmer Producer Organization (FPO) using summated rating methods suggested by Likert and Edwards. The attitude scale developed was found to be highly reliable and valid. The final attitude scale consisted of 22 statements and this scale was administered to 30 farmers in Doddabalapura district in Karnataka during 2019-2020 to analyse their attitude of members towards Farmer Producer Organization (FPO). These farmers were personally interviewed using schedule. The results revealed that a vast majority of farmers (73.33%) had favourable to more favourable attitude towards Farmer Producer Organization (FPO). The possible reason is that large number of members of FPO is small and marginal farmers in the project area. They felt the necessity of associations are more essential for their sustained development than large farmers, hence the results.

### Introduction

Farmer Producer Organizations (FPOs) are being established so that it can help farmers in earning more returns through collective input purchase, collective marketing, processing, increasing productivity through procuring better inputs, augmenting knowledge of farmers in better management practices and ensuring quality. Member based FPOs offer a proven pathway to successfully deal with a range of challenges that confront farmers

today, especially small producers. Overcoming the constraints imposed by the small size of their individual farms, FPO members are able to leverage collective strength and bargaining power to access financial and non- financial inputs, services and appropriate technologies, reduce transaction costs, tap high value markets and enter into partnership with private entities on more equitable terms. With fragmentation of the holdings due to generational transfer unlikely to abate, FPOs offer a form of

aggregation irrespective of land titles with individual producers and uses the strength of collective planning for production, procurement and marketing to add value to member's produce. International and national experience in the performance of FPOs makes a strong case for policy support to member-based farmer bodies, to significantly increase their power in the market place, reduce risks and help them move up in the agri value chain.

Farmers Organization are essential institutions for the empowerment, poverty alleviation and advancement of farmers and also the rural poor. Politically, Farmers Organization strengthens the political power of farmers, by increasing the likelihood that their necessity and opinions are heard by policy makers and the public. Economically, Farmers Organizations can help to farmers gain skills, access inputs, form enterprises, process and market their products more effectively to generate higher incomes. By organizing, farmers can access information needed to. Produce, add value, market their commodities and develop effective linkages with input agencies such as financial service providers, as well as output markets. Farmers Organizations can achieve economies of scale, thereby lowering the costs and facilitating the processing and marketing of agricultural commodities for individual farmers. Marketing-oriented Farmer Organizations can assist their members to purchase necessary inputs and equipment, meet quality standards and manage the drying, storage, grading, cleaning, processing, packing, and branding, collection and transportation of produce. In this way Farmer Organizations provide a more reliable supply to buyers and sell larger quantities at higher prices. Organized farmers have greater bargaining power than individuals and are better able to negotiate with other more powerful market players to ultimately

increase the profits that accrue to farmers rather than intermediaries and buyers. Collectivization of farmer producers, especially small and marginal farmers, into producer organizations has emerged as one of the most effective pathways to address the many challenges of agriculture. Most importantly, role of FPO in improved access to investments, technology, inputs and markets. It is found to be one of the most appropriate institutional forms for bringing about mobilization and capacity building of farmers in order to leverage their production and marketing strength. The agricultural marketing continues to be the main stay of life for majority of the Indian population, as more than 58 per cent of the population depends on agriculture.

### **Materials and Methods**

The study was carried out in Doddaballapura district of the Karnataka State. One non-sample farmer producer organization was selected for the study. Thus, study was conducted on non-sample farmer producer organization. This pilot study was carried out in Doddaballapura district with the 30 members of the Rajaghatta Horticulture Farmer Producer Company Ltd in a systematic way and by organizing Focused Group Discussion (FGD) to discuss all the relevant aspects of farmer producer organization. During this study, following tasks have been completed:

- Item analysis of the selected items for 'Attitude scale'.
- Reliability test of statements of 'Attitude scale' was carried out.
- Thirty members of the Farmer Producer Organization (FPO) were personally interviewed using the scale developed to measure their attitude towards the organization.

The collected data was scored and analysed using frequency and percentage.

## **Results and Discussion**

### **Development of scale to measure the attitude of farmers towards Farmer Producer Organization**

Attitude is the degree of positive or negative affect associated with some psychological object, person, ideas, institution or a phenomenon (Thurstone, 1946). Attitude was operationally defined as the degree of positive or negative feelings or affect of members towards Farmer Producer Organization. The method suggested by Likert (1932) and Edwards (1969) in developing summated rating scale was followed in the construction of the scale to measure the attitude of farmers towards Farmer Producer Organizations.

### **Procedure followed for development of scale**

**Collection of items/ statements:** The items have been carefully edited and selected in accordance with set criteria as the items in any psychological test. The first step in the construction of attitude scale was to collect exhaustive statements/ items pertaining to the FPOs each expressing some opinion about the psychological object under the study. A large number of items were collected from literature, informal discussions with agriculture extension experts, the other experts from the selected areas and informal interviews with the members of FPOs and director and members of the center of Excellence for FPOs. Tentative list of 82 statements pertaining to the attitude of members towards the FPOs was prepared.

**Editing of the items:** The statements were carefully edited, revised and restructured based on the 14 criteria enunciated by

Edwards (1969) and Thurstone and Chave (1929). As a consequence, 27 statements were eliminated. The remaining 55 attitude statements were included for further analysis.

**Relevancy analysis:** The selected items were then subjected to scrutiny by an expert panel of judges to determine their relevancy and subsequent screening of items for their inclusion in the final scale. In this context, 55 statements were mailed to 110 experts in the field of social sciences working in State Agricultural Universities, Indian Council of Agricultural Research Institutes and MANAGE, to critically evaluate the relevancy of each statement viz. Most Relevant (MR), Relevant (R), Somewhat Relevant (SWR), Less Relevant (LR) and Not Relevant (NR) with the score of 5,4,3,2 and 1, respectively. The judges were also requested to make necessary modifications and additions or deletion of statements, if they desired to. A total of 80 (72.73%) judges returned the questionnaires duly completed and these were considered for further processing. From the data gathered, 'relevancy percentage' and mean relevancy score' were worked out for all the 55 statements. Using these criteria, individual statements were screened for relevancies using the following formulae:

$$R.P. = \frac{MR \times 5 + R \times 4 + SWR \times 3 + LR \times 2 + NR \times 1}{\text{Maximum possible score}} \times 100$$

$$M.R.S. = \frac{MR \times 5 + R \times 4 + SWR \times 3 + LR \times 2 + NR \times 1}{\text{No. of judges responded}}$$

Accordingly, statements having 'relevancy percentage' of 75 per cent and above and mean relevancy score of 3.75 and above were considered for final selection. 32 attitude statements were retained after relevancy test and these statements were suitably modified and written as per the comments of the judges wherever applicable.

**Item analysis:** To delineate the items based on the extent to which they can differentiate the attitude items about FPOs as favourable or unfavourable. Item analysis was carried out on the items selected in the first stage. 32 statements were subjected for 't test' to know the difference in highest and lowest responses for the relevancy. Based upon the total scores, the judges were arranged in descending order. The top 25 per cent of the respondents with their total scores were considered as high group and the bottom 25 per cent as the low group so that these two groups provided the criterion groups in terms of evaluating the individual statements. Thus, out of 30 members of Rajaghatta Horticulture Farmer Producer company Ltd to whom the items were administered for item analysis, eight members with highest and eight members with lowest scores were used as criterion groups to evaluate individual items. The critical ratio, that is, the 't' value which analyses the extent to which a given statement differentiates between the better and poor groups of respondents for each statement, was calculated by using the following formula:

$$t = \frac{\bar{X}_H - \bar{X}_L}{\sqrt{\frac{\sum X_H^2 - \frac{(\sum X_H)^2}{n} \times \sum X_L^2 - \frac{(\sum X_L)^2}{n}}{n(n-1)}}$$

Where,

$\bar{X}_H$  = The mean score on given statement of the high group

$\bar{X}_L$  = The mean score on given statement of the low group

$\sum X_H^2$  = Sum of squares of the individual score on a given statement for high group

$\sum X_L^2$  = Sum of squares of the individual score on a given statement for low group

n = Number of respondents in each group  
 $\sum$  = Summation

t = The extent to which a given statement differentiates between the high and low groups.

After computing the 't' value for all the 32 statements, 22 attitude statements with 't' value equal to or greater than 1.645 were finally selected and included in the final attitude scale. Ten statements were non-significant. 14 statements were significant at one per cent level and the remaining 6 statements were significant at five per cent level. Out of the remaining 22 statements, it contains 10 negative statements and 12 positive statements.

### Standardization of scale

The reliability and validity were ascertained for the standardization of the scale.

### Reliability of the scale developed

The split-half method was employed to test the reliability of the attitude scale. The value of correlation coefficient was 0.5716 and this was further corrected by using Spearman Brown formula to obtain the reliability coefficient of the whole set. The 'r' value of the scale was 0.7274, which was significant at one per cent level indicating the high reliability of the scale. It was concluded that the attitude scale constructed was reliable.

### Half test reliability formula

$$r_{1/2} = \frac{N(\sum XY - (\sum X)(\sum Y))}{\sqrt{(N\sum X^2 - (\sum X)^2)(N\sum Y^2 - (\sum Y)^2)}}$$

Where,

$\sum X$  = sum of the scores of the odd number items

$\sum Y$  =sum of the scores of the even numbers items

$\sum X^2$  = sum of the squares of the odd number items

$\sum Y^2$  = sum of the squares of the even number items

**Test reliability formula**

$$r_{11} = \frac{r_{1/2}}{1+r_{1/2}}$$

Where,

$r_{1/2}$  = Half test reliability

**Validity of the scale:** The data was subjected to statistical validity, which was found to be 0.8528 for scale which is greater than the standard requirement of 0.70. Hence, the validity coefficient was also found to be

appropriate and suitable for the tool developed. Thus, the developed scale to measure the attitude of members towards FPOs was found feasible and appropriate.

**Validity of the scale**

Validity formula

$$V = \sqrt{r}$$

**Administration of the scale**

The final scale consists of 22 statements for determining the attitude of members towards FPOs. The response was collected on a five-point continuum, namely, Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (DA), and Strongly Disagree (SDA) with assigned score of 5, 4, 3, 2 and 1 respectively for positive statements and reverse scoring for negative statements.

**Table.1** Scale to measure the attitude of members towards the Farmer Producer Organization (FPO)

Sl. No.	Attitude statements	RP	MRS	t-value
1.	FPOs help in increasing confidence among farmers	93.75	4.69	2.21**
2.	FPOs provide needful information on improved agricultural practices	89.25	4.46	2.19**
3.	FPOs is not a long- term solution to the problems of price inflation	86.00	4.30	2.11**
4.	FPOs is a boon for farmers	86.25	4.31	2.13**
5.	FPOs mismanages the local resources			
6.	Much is talked about FPOs but little work is done	77.50	3.88	1.78*
7.	Organizing farmers into groups is waste of money	83.50	4.18	2.03**
8.	FPOs have created more problems for members than solving	81.25	4.06	2.00**
9.	Attending FPOs work is time consuming for the members	83.25	4.16	2.02**
10.	Activities of FPOs are not as per members needs	80.00	4.00	1.90*
11.	I feel that FPOs is a prospective system to empower farmers	78.00	3.90	1.80*
12.	FPOs are not potential enough to bring about agricultural	87.25	4.36	

	development			2.14**
13.	I endorse that FPOs is farmers friendly approach to sale farm products	84.75	4.24	2.07**
14.	FPOs induces cosmopolitness of its members	85.75	4.29	2.11**
15.	FPOs inculcate the decision-making ability among their members	84.75	4.24	2.07**
16.	FPOs work on the principle of democracy	82.50	4.13	2.01**
17.	FPOs provide need-based consultancy services to the members	84.25	4.21	2.06**
18.	FPOs is not rigid as co-operatives	77.75	3.89	1.79*
19.	Administration / management of FPOs involve too much of autocracy	85.25	4.26	2.09**
20.	FPOs increase overhead charges	74.50	3.73	1.76*
21.	Benefits from government / other institutions could be availed by FPOs members	84.50	4.23	2.08**
22.	Peer pressure affects the functioning of Farmers Producer Organization	78.00	3.90	1.81*

**Table.2** Overall attitude of the members towards Farmers Producer Organization (FPO)

Sl. No	Categories	Criteria	Score	Attitude of farmers	
				Number	Percentage
1	Less Favourable	Less than (Mean- ½ SD)	<73.426	8	26.67
2	Favourable	Between (Mean ± ½ SD)	73.426-77.441	12	40.00
3	More Favourable	More than (Mean + ½ SD)	>77.441	10	33.33
<b>Total</b>				<b>30</b>	<b>100.00</b>

Mean= 75.44, SD=4.014

Thus, the minimum and maximum score one could get is 22 and 110, respectively. Higher the attitude score indicates the high favourable of respondents towards FPOs and lesser the attitude score indicates less favourable towards FPOs. The total attitude score for each respondent was obtained by adding the weights of individual responses made to the total scale items (Table 1)

The attitude scale developed was administered to 30 FPO members. Based on the mean and standard deviation, the FPO members were classified into three attitude

categories namely, less favourable, favourable and more favourable.

The result from table 2 shows that 40.00 per cent of the members had favourable attitude towards the farmer Producer Organization, whereas 33.33 and 26.67 per cent of the members possessed more favourable and less favourable attitude towards Farmer Producer Organization (FPO).. it can be inferred that a majority of the members (73.33%) had favourable to more favourable attitude towards Farmer producer Organization(FPO).FPOs helps to enhance the

producer share in the consumer rupee thereby enhancing the confidence among the peasants to continue in agriculture profession, hence a vast majority of the members (73.33%) had favourable to more favourable attitude towards FPO. Similar trend of findings was observed by Jayantha Roy (2011), Gopala (2015) and Lakshmana reddy (2020).

In conclusion the attitude scale is found to be reliable and valid; hence it can be used to analyse the attitude of members towards FPO. On administering the attitude scale to 30 members it was found that more members (40.00%) had favourable attitude towards FPO. The possible reason is that large number of members of FPO is small and marginal farmers in the project area. They felt the necessity of associations are more essential for their sustained development than large farmers, hence the results. FPOs helps to enhance the producer share in the consumer rupee thereby enhancing the confidence among the peasants to continue in agriculture profession. The producer share in the consumer rupee has enhanced greatly and the net income of the farmers has raised to a considerable level.

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### How to cite this article:

Shivani Dechamma, B. Krishnamurthy, M. T. Lakshminarayan and Shivamurthy, M. 2020. Development of the Scale to Measure the Attitude of Farmers towards Farmer Producer Organizations (FPOs). *Int.J.Curr.Microbiol.App.Sci.* 9(11): 3705-3711. doi: <https://doi.org/10.20546/ijemas.2020.911.444>